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Convergence analysis of Russia and Belarus economies in conditions of monetary integration

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Belarusian Economic Research and Outreach Center (BEROC) started its work as joint project of Stockholm Institute of Transition Economics (SITE) and Economics Education and Research Consortium (EERC) in 2008 with financial support from SIDA and USAID. The mission of BEROC is to spread the international academic standards and values through academic and policy research, modern economic education and strengthening of communication and networking with the world academic community.



Abstract

In this paper, I distinguish the main ideas of the theory of Optimal Currency Area (OCA). This work explains the main features, which help to understand the differences between an Optimum Currency Area and Currency Union. The paper also gives some models of optimal currency area and itemizes main benefits and costs for countries when they create a single currency zone. In the framework of research, I carry out a qualitative comparative analysis of the economies of Russia and Belarus and identify the main directions of their economic development. Based on the studied approaches of the Optimal Currency Area theory I draw conclusions about the degree of convergence of the Russia and Belarus economies in case of a currency union.

Keywords: currency and financial integration; currency zone; optimal currency area; currency union; convergence criteria

1. INTRODUCTION

In the past few decades the integration processes in the global economy has accelerated. Strengthening economic relations is justified in view of the fact that in an increasingly international competition is easier to survive the countries that joined together in some form of economic union, rather than those states which are completely independent. In the modern world there are several large economic formations. There are Asian, American and European blocks and the sphere of influence of the Russian Federation.

After the end of the USSR, countries of the Soviet bloc could choose the direction of their development (eastern or western). Countries of Eastern and Central Europe and the Baltic countries decided to make a choice in what economic community they would be integrated. It is impossible to be competitive in the world economy without integrating into one or other of the world economic blocks. Entering the EU, with further integration in EMU, seems a promising alternative. But the majority of the countries of the former USSR try to organize a new economic union of their own. The central role in this formation got the Russia. Belarus is one of the countries with very close economic and historical relations with Russia. From the early 90s Russia and Belarus have tried to creation economic union but this process has seen many difficulties and problems. The Economies of these two countries are still not enough developed and unstable. It will take some times to reach the level of well-developed countries.

At the same time in the middle of 90-th Belarus and Russia created the Union State, which was transformed in Custom Union with Kazakhstan in 2010. For 20 years of their independence these two countries has been gone a long way of economic transformation and reached some level of economic development and economic integration. The tendencies of globalization and financial integration lead to thinking about closed economic integration between countries of former USSR. The main example on post soviet area is political and economic negotiations between Belarus and Russia. According to geographical position, economic structure, historical links with

Russian Federation and future possibilities in the sphere of economic integration it is useful to research economic and currency integration Belarus and Russia. First it is important to understand all pros and cons for Belarus. The Russian economy is too large for suffering from economic problems in Belarus. At the same time, the republic will lose some economic independence in case of currency integration with Russia. In this case, income from currency integration must overhead all costs.

I try to explain main approaches of economic and currency integration for country with small open economy. The paper also analyzes reports and research documents of famous economists in this sphere and different papers of international organizations. One of the author's goals is to show the different views on economic and especially monetary integration process by famous economists.

The last part of the paper shows the comprehensive analysis of economic parameters in Belarus and Russia. According to results author tried to give main recommendations for these countries. It will be very important to know positive and negative moments of such currency union if authorities desired to go to fully fledged economic and currency integration. On the one hand, it is simple to define future result of currency integration of these two countries because the world sees the example of European Monetary Union. On the other hand the integration between Belarus and Russia is new formation where the economy one of the countries is larger others in several times. So the other main goal of the paper is to understand main problems and risks of Belarus and Russia currency integration.

Part 1 Main theories of monetary integration

Despite the fact that some economists were expressed about different pros and cons of monetary union there is a list of the most well-known criteria for monetary integration, which were the basis for a European Monetary Union, and other monetary unions.

It is supposed to use two approaches. The traditional approach points to the essential characteristics that define the borders of an optimum currency area. The approach highlighted certain criteria (economic indicators) that allow to determine the borders of currency area. The other (alternative) approach comes from the fact that each nation and its currency is indivisible currency area. Even a country with a variety of irregularities of its economic regions can be considered as a single indivisible formation in terms of its political and economic interests. The main point here is not obligatory fulfillment of the criteria of convergence, but the balance of costs and benefits from the existence of a single currency area. When testing a monetary zone for optimality is usually not limited to one or two criteria. Scientists approach the problem by employing the maximum number of existing optimality criteria.

In assessing the usefulness of the approach to monetary zones from the perspective of optimality should always bear in mind a few circumstances. First - this is how all the "for" carrying out the integration process in the monetary sphere outweigh any "versus" primarily in terms of intra-national interests of the country, but not from the world globalization processes. Secondly, the appropriateness of monetary integration should be based on not only the basic criteria of optimality, but also on an analysis of costs and benefits of creating a new integration entity. Third, all well-known theory of optimal currency areas compare the single currency regime or rigid fixation group of countries

with free-floating exchange rate system, that is consider the polar variants that are rare in the real world.

However, extrapolation of the main criteria for optimum currency areas to real-world processes of monetary integration for a certain group of countries helps you to find the answers in formation of future monetary system structure for the device specifically for the specifically studied country.

1.1 The traditional approach to determining the optimal currency area

Mobility of production factors

Free movement of labor and capital at constant exchange rates was one of the fundamental criteria of optimality. However, this statement is quite debatable. Following the Mandell theory it will be necessary to form, in terms of labor and capital immobilization, many regional optimum currency areas, that divide a number of countries into regions with their own currencies. It is not good because there are a number of costs in the century of accelerating globalization. On the other hand, if the conduct monetary union on the principle of mobility, it does not mean that the flow of production factors will keep inflation in advanced areas and reduce unemployment in depressed. Thus, Ogrodnik in his study concludes that the devaluation of the currency due to the inflow of foreign investment, reducing the negative balance of payments may not occur. In this case, the freely floating exchange rate leads to balancing the trade balance, with a simultaneous growth of the capital account deficit.

Another point is the analysis of labor migration. Some researchers (Bertolla, 1989) cast doubt on the ability to fully use this factor with the introduction of fixed exchange rates or moving to a single currency. On the one hand, it is necessary to take into account material costs incurred by the worker in moving to a new job out of the region A to region B and return it back in case of an economic shock in the region B. On the other - it is necessary to analyze the intangible costs that are associated with personal, cultural, political and other differences. At the same time, according to the arguments of the famous Ogrodnik researcher, in the result of accelerated development of the technologies, workforce mobility no longer plays a decisive impact on the elimination of depressed areas from the crisis. At the same time the role of capital and technologies are increasing. This allows me to conclude that today most countries in the world are more profitable to engage in currency unions than in the past.

Openness of the economy

The second economic criterion, on the basis of which it is possible to define the territory of an optimum currency area, discovered in the work of McKinnon (1963). One of the main criteria of optimality the author sees in the degree of economy's openness. For determination the level of openness was calculated the ratio of tradable and nontradable goods. In this paper, under the optimum currency area was understood the single currency area, within which the single monetary policy was realized and there was a regime of free fluctuation of the national currency against the currencies of third countries.

If the economy has a high degree of openness, the domestic prices and balance of payments stability in the conditions of floating exchange rate becomes impossible. The more produced tradable goods in the economy, the less becomes effective to use the exchange rate.

The second point, which draws the attention the author, referring to the openness of the economy, *is the apparent absence of money illusion*. In a country where the import share is high, people will certainly take into account the change in the price index for tradable goods when determining the value of real wages. This means that in the open economy, exchange rate fluctuations in the future will cause exactly the same changes in costs.

A third argument in favor of a fixed exchange rate in the country with an open economy is the extent of imports in production costs. The greater the share of imported goods in total output, the more significant changes in prices within the country would exchange fluctuations when adjusting the balance of payments. The above provisions apply in the external sector stability. In the model considered the situation where world prices remain stable and unchanged.

Financial integration

Ingram and Scitovsky determine that one of the important criteria for an optimum currency area should be considered as an international financial integration. The acceptable level of financial market development allows for integrated countries to use fixed exchange rates. Ingram argues that in the absence of close financial integration changes in interest rates appears greater in the long run. The point is that the main part of short-term obligations can be moved from country to country, following change in interest rates. Covering such transactions is provided by a forward market, thereby avoiding the risk of exchange rate changes.

However, these processes lead to instability of the balance of payments, given the unpredictability of fast motion on short-term capital markets. Therefore, just the long-term capital mobility determines the degree of integration of financial markets and defines the possibility of transition to fixed exchange rates.

At the same time, the Ingram concept has undergone some criticism. First, destabilizing capital flows cannot be excluded completely. Second, Ingram and Scitovsky consider the funding mechanism, but not adaptation (adjustment) the balance of payments. These proposals represent a policy of containment and stimulate business activity in the short term. But such recommendations aren't fiscal or monetary policies which are ensured internal and external balance. The current account problems, in a short period, can be adjusted by capital inflows, but such funding cannot eliminate the problems of the real sector, giving rise to this imbalance.

The inflation convergence

Haberler and Fleming (1971), who argued that the equality of the inflation rate is very important factor in creating a single monetary zone, proposed this criterion. It must be stressed that, for the first time, as a criterion of optimality was nominated by the

monetary factor. Before this, emphasis was done on the real characteristics of the convergence.

Inflation, according to the authors, should be taken into account, since the difference in price levels changes the purchasing power of money, which could be adjusted by means of a floating exchange rate. At the same time, the inflation criteria have been criticized. This criterion is to some extent, is at odds with the Phillips curve. Preferable to a single country at this stage would be the minimum level of inflation with substantial unemployment, and for other countries in order to increase the level of employment is allowed a certain increase in prices. Price differences between two countries could be offset by exchange rate fluctuations, which limit the possibility of monetary zone within these countries.

On the other hand, the Phillips curve in the long run has a vertical line. That is, the employment rate does not depend on changes in prices and the countries that join the currency union, may have the same level of inflation at various levels of employment.

However, recent studies have an important role in the emergence of imbalances was withdrawn differentiation of inflation in different countries, and therefore, this leads to a different approach to the management of the national demand. The main reasons for differences in inflation were considered the social preferences, or the dynamics of income growth (Kaldor 1971). In accordance with these statements integrating into the country must not only harmonize, but achieve the unity in the fiscal policy before moving to the single currency.

Political and institutional aspects of the theory of optimum currency area

A special role in the study of optimal currency area is a criterion of political integration. Haberler, Ingram, Tower and Willett argued that by combining a group of countries into a single currency area among the economic factors are unlikely to find at least one, which would compare in importance with the similarity of the political interests of its partners. It should be noted that under the political integration in some works means the possibility of reaching a compromise and the rapid adoption of agreed solutions, but in others - to achieve unity of purposes on the main economic indicators (inflation, unemployment, budget deficits).

On my opinion, the statements about the priority of monetary union on the currency area are right. The desire to become a member of the appropriate monetary union, among other things, has a positive impact on its economic policies. Prerequisite condition for monetary union joining is to achieve a predetermined inflation and the budget deficit. Even if the countries differ from each other significantly by the structure of their economies and asymmetric shocks it will have less impact in terms of monetary union, as the government of the union state will be to optimize their economic actions, knowing that it is impossible to use the exchange rate as a tool.

Another issue in the political and institutional integration is a social policy. Reduction in social spending (if any) will contribute the need to fulfill the convergence criteria. Lobby groups will lose influence on national governments of countries-members, because they, in turn, will not be able to make independent decisions.

Other aspects of the optimum currency area theory

In the literature, there are a lot of formal criteria for optimum currency areas, including "proxy"- criteria, which include the real exchange rate volatility and shocks correlation.

According to the theory of Vobelya (1976), the country's readiness to join the monetary union depends on the volatility of real exchange rate. For example, if the economy as a whole is stable and little exposed to external shocks, which require a corresponding adjustment of the real exchange rate, it is believed that the real exchange rate volatility is low and for country to make sense to join the currency union. These statements have been tested empirically and shown in the work of von Hagen and Neumann (1993).

The next condition for the formation of optimal currency area is the ratio of symmetric and asymmetric shocks integrating states. It makes sense for countries to move to the single currency if the correlation of shocks to their economies is high. In this case, states need a similar set of measures to stabilize the alignment of the economic situation. Therefore, costs associated with the inability to pursue an independent monetary policy and exchange rate used as an economic regulator will be smaller.

Thus, having considered all above-mentioned criteria I can conclude that each of them affect only one aspect of monetary integration. While for efficient monetary union, authorities must apply all indicators, taking into account the extrapolation of scientific developments on the real situation in integrated economies.

1.2 The alternative approach to determining the size of an optimum currency area

An integrated approach and the opportunity to study the integration processes in dynamic doing alternative analysis is much more preferable to the one-criterion assessment. Researcher gets an opportunity to review and assess the dynamics of various economic processes. Engaging in a monetary union and refusing from such an important instrument of monetary policy as the exchange rate limits the ability of government regulation of the economy and decreases economic and political independence.

At the same time, integration processes between different countries develop very rapidly today. It is time to apply this multivalent approach. This approach is based on identifying the key costs and benefits of monetary union.

Part 2 Theoretical vies of currency integration, costs and benefits of single currency adoption

2.1 Main forms of monetary integration

There are a lot of definitions of currency integration. For example, currency integration traditionally is understood as "any form of international cooperation to stabilize and develop foreign exchange and financial markets, as well as the

improvement of cross-border payments, regardless of the form if participating in these events the country's integration grouping or not."¹ But this definition is wide enough.

Other researchers includes in this definition just integration of currency markets or conducting international transactions in one currency at a certain territory. Alternative opinion is that, the currency area suggests irreversibly fixed exchange rate regime, which operates in the area and supports floating exchange rate regime regarding to third countries. Mundell implicitly defined the optimum currency area (OCA) in 1961. He has designated it as a currency zone to which the costs associated with the rejection of the exchange rate as an instrument of internal adjustments (within the zone) will be less than the benefits of introducing a single currency or the establishment of fixed exchange rate regime. Most of the existing literature, which describe an optimal currency area are focusing on the costs of exchange rate changes and much less pay attention to the benefits of such integration. Adequately describes the optimum currency area in the works of authors such as Bofinger (1994), De Grau (2003), Ishiyama (1975), Krugman (1992), Masson and Taylor (1992), Mongella (2002), Tavlas (1993, 1994), Tower and Willet (1976), Viplos (1997), Buiters (1995).

There are several models of currency integration. One of them is establishing the agreements of free national currency circulation throughout the currency formation. This type of currency integration is not very popular because most of existing currencies have no substantial material support. Similar form of monetary zone existed in the United States before the formation of Reserve System. Many American banks have right to print banknotes, which circulated on different territories. The second type of currency area is the introduction of unilateral circulation of foreign currency. This method is often expressed in the form of full dollarization of the economy. The most popular form of monetary integration is adoption the collective monetary unit for use in cross-border settlements. There are a lot of examples of such zones in modern history, such as Special Drawing Right (SDR), the European unit of account (ECU) and Asian currency unit (ACU). The fourth type of currency area is fixed exchange rate of national currency to the currency of the country-anchor. The example of such type of integration is establishing the fixed exchange rate to euro for countries, which wants to join the euro area. The deepest form of currency integration is the introduction of a single currency. The most striking example of such form of currency integration is the European Monetary Union².

2.2 Benefits of Currency Union Construction

According to the recent study conducted by Telisa Aulia Falianty (University of Indonesia), Luca Antonio Ricci (IMF 2008) and some other authors, the main benefits for creating a new currency union or other closed monetary formation are followed:

- More stable price development in case of monetary integration increases macroeconomics stability and growth. Declining inflation processes also provides more wider and easier access to money market, increases external financing

¹ Source : *The low of currency and financial integration: world experience and CIS countries*, Butorina O.V. , *Money and banks*, № 8, 2005

² Classification is based on information from *The low of currency and financial integration: world experience and CIS countries*, Butorina O.V. , *Money and banks*, № 8, 2005

availability and improves reputation for high inflation countries (in the case of integration with countries with low inflation);

- All countries of monetary union will decrease the transactional costs, because the need of their implementation is not necessary inside the monetary union. Moreover, if a single currency is recognized at the international market, the growing part of operations start to be carried out at the union currency.
- Single currency protects from currency speculations. If foreign exchange market is narrow, it allows to influence on the currency fluctuations by financial speculators. The risk of such situation increases, if the country wants to attract foreign investors and abolishes any restrictions on the capital market. If such actions are taken in large economy (such as Russia), there will be no huge fluctuations, but it can have negative consequences for a country with a small open economy (such as Belarus).
- Monetary union may give some advantages like an increase the access to foreign lending and access to international reserves of other union countries. The rate of foreign reserves can be substantially reduced, as countries of the monetary union can lending each other. In relation to third countries will also be significant savings if member states form a reserve pool and will repay external obligations through mutual offsets within a pool.
- Adoption of a single currency also improves the conditions of foreign trade within monetary union. It is also stimulates intensification of regional specialization and cooperation.

2.3 Costs of a Single Currency adoption

Creation of the monetary union may as improve so worsen the macroeconomic situation of the integrating states. Among the main cost of monetary union are the following:

- Monetary integration eliminates the role of national central banks. They lose the opportunity to pursue an independent monetary policy. In this case, the large role begins to play a fiscal adjustment
- If two countries suffer from asymmetric shocks, then join to the monetary union makes the rapid adaptation of the economies to the new conditions impossible because of their different reaction on external impact;
- In case of complete monetary union, national central banks stop to issue money, and lose income from seniorazh.
- Adoption a single currency could trigger additional costs due to the need for change in the legislation of integrated countries, as well as changes in a number of administrative procedures.
- The monetary union increases the economic dependence of union countries from each other. If the economy of one of the union nations begins to have trouble, it is automatically reflected on the economies of other union states.

Part 3. Opportunities of monetary integration for Belarus and Russia

From the mid of 90s there is the process of economic integration between Russia and Belarus. Number of stages of economic integration has been completed or is in the final stages of development. So, In April 1996 the agreement on the formation of Belarus and Russia Community was signed. The agreement on the establishment of Russia-Belarus Union was signed a year later. This treaty defined the political conditions, which

are necessary for the proper formation of institutions of political integration, some kind of political superstructure of the union that can give additional impulse to economic cooperation. In late 1998, agreements were signed in the economic, political and social spheres, which enhance the effect of union. Since January 2000 the official name of the Union became the Union State. It was assumed that the formation is gradually transformed into a soft federation. Since July 2010, there is the Custom Union between Russia, Belarus and Kazakhstan. Since mid-2011 customs controls on the borders of Belarus, Kazakhstan and Russia was abolished. It was moved to the external contour of the borders of Customs Union.

In light of gradual overall economic integration of two countries, there is a question about the necessity of their closer cooperation in the financial sector. Throughout the integration's process, negotiations were conducted about the convergence in monetary sphere up to the transition on the single currency. Although the completion the one stage of economic integration does not mean a move towards more complex integration level, we can assume that the possibility of introducing a single currency will continue to rise.

In this connection, it is necessary to consider the possibility and expediency of the transition to the single currency of Belarus with Russia. In this work, not rising problem of political independence and preservation of state sovereignty and does not consider the structure of monetary union and its management. The author tried to analyze the status and dynamics of the economies of the two states to model the potential economic effects of monetary integration on the basis of the main macroeconomic indicators.

Over the years, monetary union between Russia and Belarus is in the progress of discussion. Initially it was planned that the Russian ruble in Belarus will be introduced in 2005. Then that date was moved to 2007. The question about introducing a single currency (the Russian ruble or supranational units) in the two countries arises from time to time. However, specific negotiations and preparations in this area is not conducted. At the same time in connection with the growing economic integration processes between the two countries, and growing problems in the Belarusian economy it is not right to exclude a single currency area in the territory of Russia and Belarus at all. It does not necessarily consider the option of a one-step transition to single currency. It might be best to test a model of a single payment system or scheme to consider introducing a single unit of account as a transitional stage for creation of a fully-fledged monetary union.

In this regard, it would be justified to conduct ongoing monitoring and comparative analysis of economic trends in Belarus and Russia even at the present time. In this work, carried out a comparative analysis of Russia and Belarus over the past decade to determine the readiness of the economies of both countries to monetary integration. In principle, the formation of a monetary union for Russia would have no significant adverse effects, as the economy of Belarus is disproportionately small compare with the economy of the Russian Federation and, therefore, can not affect it significantly. Belarusian a population is only 6.7% of the population of Russia and the share Belarus GDP in Russian GDP does not exceed 3.5%. The study assumes that Belarus will follow the economic policies of Russia and the emission center (or center of the implementation of monetary policy) will be in Moscow. Therefore, this analysis is

more important for the Republic of Belarus. This research helps to determine the balance of benefits and costs, considering the loss of some economic independence.

By considering the validity of monetary integration of several states, we should pay attention to the standard of living. The country where wages are higher, will attract labor from countries with lower wages.

On the one hand, if you look at growth of real wages its level in Belarus ahead of those in the Russian Federation since 2004. The exception was 2007, when real wages in Russia grew by 17% and in Belarus - 10%.

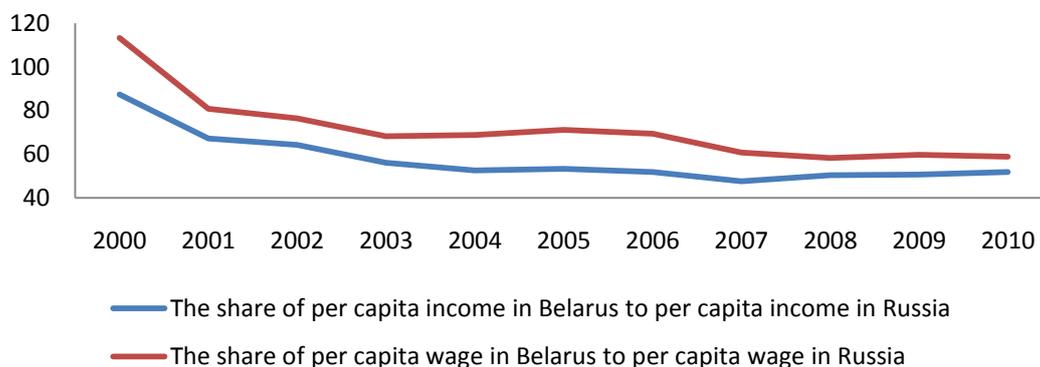
Figure 1. Real wages in Belarus & Russia, %



Source : *Own working on the basis of the National Statistical Committee of the Republic of Belarus and Federal State Statistics Service of Russian Federation data.*

However, despite the positive picture of growth in real wages in Belarus, the ratio of nominal income in Belarus and Russia had the opposite trend in the equivalent of Russian rubles. According to statistics, from 2001 levels of per capita income in the Republic of Belarus compared with incomes in the Russian Federation is at a lower level.

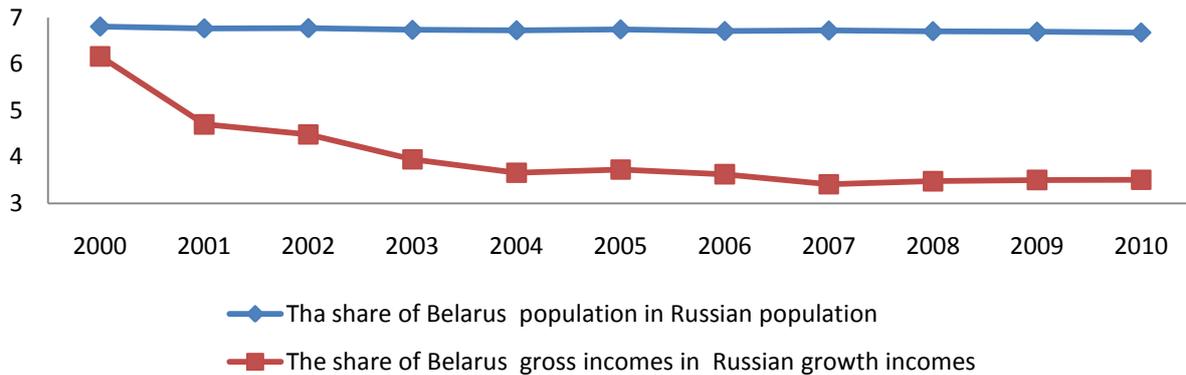
Figure 2. The share of per capita income and wages in Belarus to per capita income and wages in Russia



Source : *Own working on the basis of the National Statistical Committee of the Republic of Belarus and Federal State Statistics Service of Russian Federation data.*

Whereas the proportion ratio of people in Belarus and Russia is approximately the same in the last ten years (this figure has decreased from 6.8% in 2000 to 6.7% in 2010), *Sustainable economic growth in Russia and unjustified economic policy in Belarus led to low level of income in Belarus to gross income in Russian Federation. The share was declined from 6.2% in 2000 to 3.5% in 2010. The difference in income levels will rise in the future.*

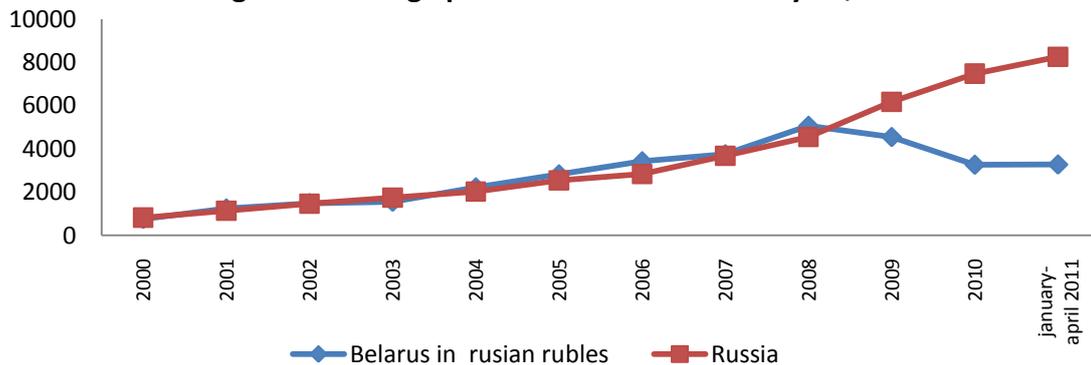
Figure 3. The ratio of income & population in Belarus and Russia



Source: *Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus and Federal State Statistics Service of Russian Federation.*

Other macroeconomic indicators also confirm the difference in the life level in two countries. Therefore, till 2009 the amount of pension payments, as in Russia so in Belarus remained at the same level, since 2009 the growth was ahead of the Russian pensions compare with Belarusian, (if they are calculating in Russian rubles). Changing trends can be explained by devaluation of the Belarusian ruble in early 2009. *This year, the difference in social benefits in Russia and Belarus will also continue to cause of substantial devaluation of the national currency.*

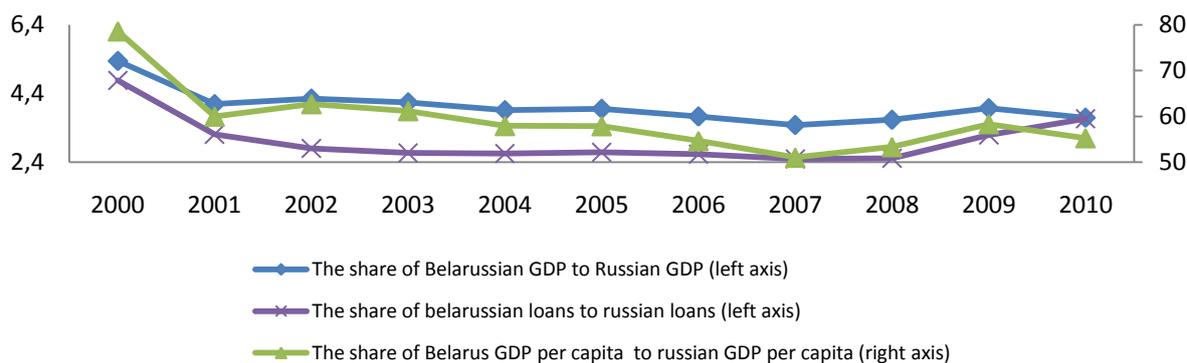
Figure 4. Average pension at the end of the year, in russian rubles



Source: *Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus and Federal State Statistics Service of Russian Federation.*

Another indicator of standard of living is *GDP per capita*. Ten years ago, the value of this indicator in Belarus, in relation to the same index in Russia was approximately 78.6%. In 2010 it decreased to 55.3%. Until 2008, lending in Belarus have declined relative to lending to the economy of Russia also. Then there is a relative increase in these indicators in Belarus compared with Russian situation. This confirms the thesis of maintenance high rates of economic growth in Belarus by money pumping the Belarusian economy. Lending increase does not lead to a similar increase in GDP. After growth in 2008 and 2009, there was decline in GDP of Belarus compare with Russian level in 2010 again. Short-term improvement the situation in Belarus, in relative terms can be explain by the global economic crisis from which the republic was able to come up with better economic performance, including through external borrowing. In 2011, the economic situation in the country deteriorated in the aftermath of a currency crisis, which is now experiencing Belarus. In this case, joining the Russian Federation and gaining access to additional financial resources from various Russian sources, would have a positive effect for Belarus. On the other hand, the monetary union creation, when the economy of one of the Union countries faced with structural problems and demonstrates a high rate of devaluation and inflation, is simply unacceptable. This will negative affect the economies of other states of union and initially determine the dominance of one members of the union over the other.

Figure 5. GDP and size of lloans in Belarus concerning to Russian indicators , in %



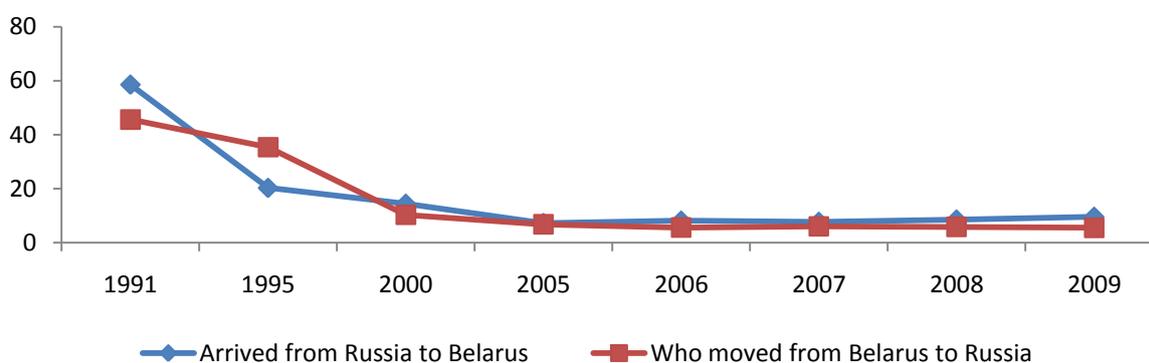
Source: Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus and Federal State Statistics Service of Russian Federation.

Such integration index as the migration of labor cannot reliably be calculated. Free movement the labor between two countries makes counting migration impossible. However, the number of officially migrated for permanent residence is reduced year by year. The highest level of migration was observed in the early '90s. After collapse of the Soviet Union, Belarusians and Russians return to his homeland. However, according to rough estimation, about 300 thousand Belarusians (or 8-9% of the total working population) work in Russian Federation at present. In connection with the currency crisis this percentage may grow in the future. At the same time the single currency of Belarus and Russia will not change substantially the situation. There are no restrictions in terms of employment in the Union State. Agreements in labor sphere were signed several years ago. Today Belarusians have the right to seek work in Russian companies on a par with the Russians. But even today it is necessary to improve the policies for Belarus, because

the existing disparity in income levels may lead to some outflow of skilled workers from Belarus to Russia.

However, *the feature of Belarus is that it is characterized by low levels of migration activity, even within the country.* So, if we consider both Belarus and Russia as a single economic and currency area, it does not mean that the migration of the Belarusians in Russia in the monetary union will become widespread. Currently, the Russian Federation are going to work in the main Belarusian builders, as well as programmers and waiters. The gap in nominal wages makes immobile Belarusians to seek work in another country. In the conditions of monetary union, alignment the level of living in the two countries could attract immigrants from Russia in the republic.

Figure 6. Population migration between Russia and Belarus , thsd.

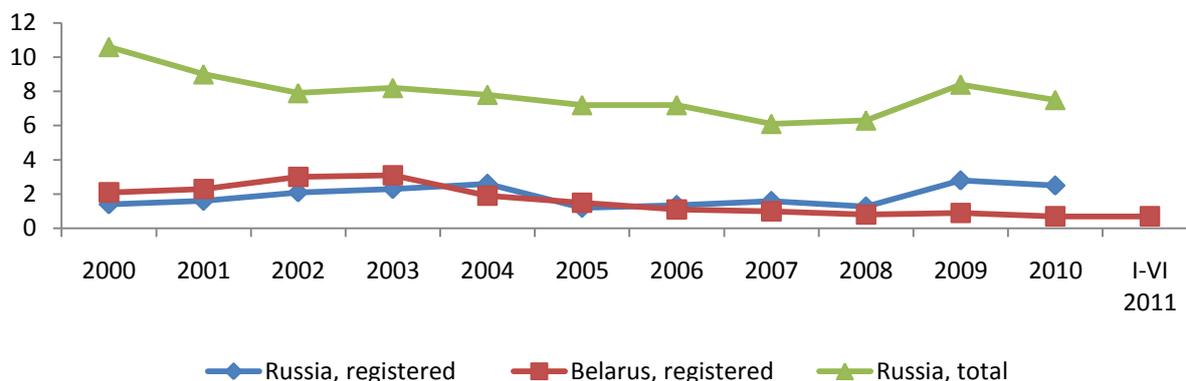


Source: *Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus and Federal State Statistics Service of Russian Federation.*

The migration process affects *the level of employment.* In Belarus, this figure was only 0.7%. To talk about the mass migration with such low unemployment level is not necessary. But in reality, the unemployment rate in Belarus is much higher. In pre-crisis periods in Belarus, total unemployment was approximately within 5-6% of the economically active population. The unemployed in the country are only those who are officially registered at the employment service and receives unemployment compensation at the rate of U.S. \$ 12-15 (84 000 Belarusian Rubles). Since the main part of real unemployed actually are not interested to receive such low income and carry out public works, citizens are simply not registered as unemployed. In addition, some of the workers are on forced leave or part-time employment. This part of the population represents potential migrants.

People will be able to migrate to Russia, as there are no cultural and language differences, but wages and salaries are much higher. From the standpoint of optimal allocation of labor resources, such movement would reduce the real unemployment in the Republic of Belarus. On the other hand, Belarus has a problem of reducing the proportion of working-age population, which means the acceleration of aging process of the nation. *Further economic and monetary integration with the Russian Federation, in case of maintaining the inequality in living standards, will distract from the Belarusian economy highly skilled workers and reduce the income of social insurance funds.*

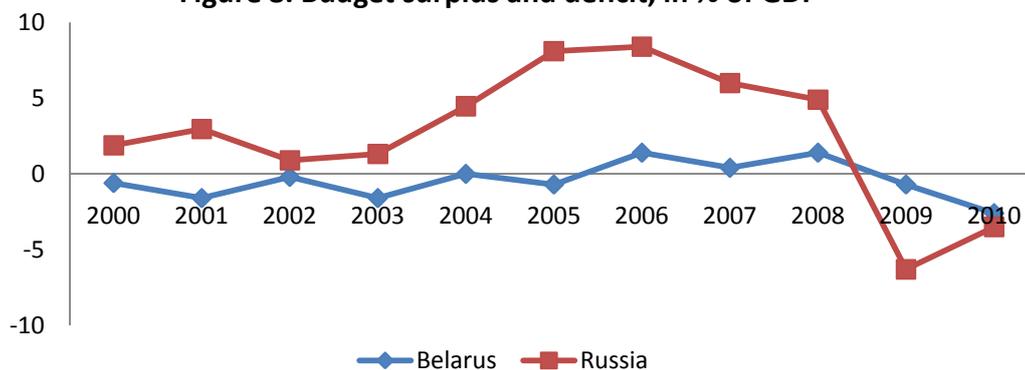
Figure 7. The level of unemployment , %



***Source:** Own working based on the data of the National Statistical Committee of the Republic of Belarus and Federal State Statistics Service of Russian Federation.*

Important indicators of convergence of the two economies are the budget deficit, as well as the size of his income and expenses. In accordance with the convergence of the European Union the deficit of monetary union members should not exceed 3% of GDP.

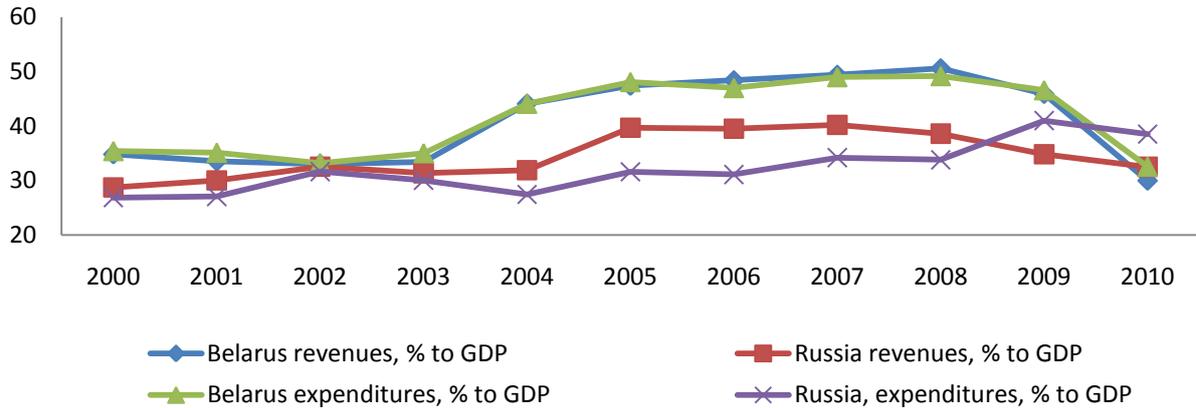
Figure 8. Budget surplus and deficit, in % of GDP



***Source:** Own working based on the data of the National Statistical Committee of the Republic of Belarus and Federal State Statistics Service of Russian Federation.*

As can be seen from the chart, till 2009 the Russian fiscal situation was characterized by the federal budget surplus. Because of crisis in 2008-2009, the situation has worsened. This is due, including the fact, that the main exporters of the oil and gas exports have sharply reduced and got less high windfall profits, some of which went to the Russian budget. In the coming years, if not possible imbalances in the global economy, the situation in public finances in Russia will return to normal. With regard to Belarus, until the global economic crisis the budget deficit has remained at around 3% level (the budget deficit did not exceed 1.5% of GDP). Since 2009, the situation begins to deteriorate and in 2010, the deficit reached 3.5% of GDP. In the current year deficit should not exceed 1.5% of GDP due to strengthened economic policies of the state budget. At the same time, the implementation of this criterion does not mean complete convergence in the field of public finance.

Figure 9. Budget revenues and expenditures



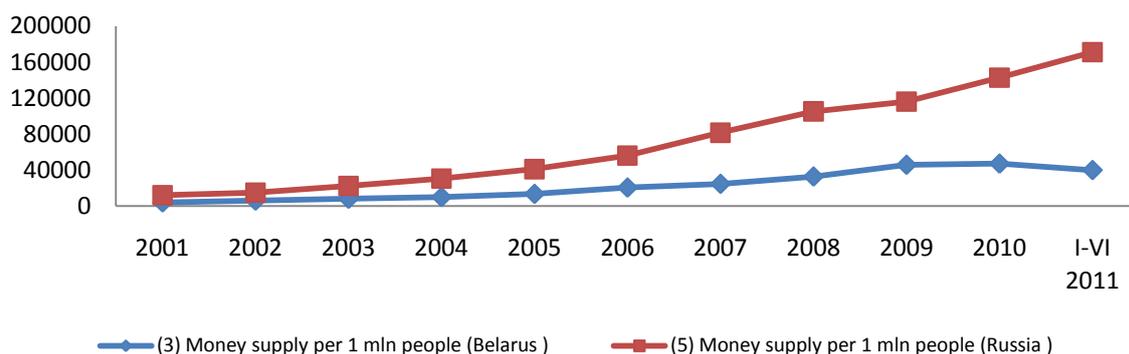
***Source:** Own working based on the data of the National Statistical Committee of the Republic of Belarus and Federal State Statistics Service of Russian Federation.*

As shown from the chart 9, income and expenditure budget of Belarus in the pre-crisis period were higher than 40% of GDP. Fiscal policy in Russia was more restrained. Until 2009 the size of Russia's budget spending does not exceed 35% of GDP. In response to the crisis, the Russian government has increased spending for economy stimulation. At the same time, in 2009 the Belarusian authorities, limited budget spending due to declining revenues and the need to follow the requirements of the IMF. As a result, the level of budget revenues and expenditures, as a percentage of GDP in Russia and Belarus, is almost equal now. In the short term curves revenue and expenditure of two countries could again break up. In Russia, the situation is returning to normal gradually, and will reach pre-crisis level in the nearest future. In Belarus, because of tighter monetary policy, the Ministry of Finance acts as an additional financing tool for the economy. In order to maintain a minimum standard of living and economic status of public enterprises financial regulator will increase the costs of its existing reserves. Due to the fact, that a significant proportion of enterprises are state-owned or controlled by public authorities, the costs will increase the budget of Belarus in the near term.

On the one hand, in the area of fiscal policy, Russia and Belarus fulfill the convergence criterion. On the other hand, the social orientation the Belarusian economy and a significant proportion of public sector determine that approximately half of Belarus's GDP is allocated through the budget. In Russia, the share of public sector is significantly lower, indicating a more market-based fiscal policy. The difference in the principles of management in the public sector will create problems in the field of pricing and competition between business entities.

With regard to the monetary policy, there are different approaches also. In Russia, the money supply by 1 million people for 10 years is 2.5-3 times higher than the money supply (in Russian rubles equivalent) in the Republic of Belarus. In the first half of 2011, this superiority was 4.5 times and it will continue to increase in the short term due to the rapid devaluation of the Belarusian ruble, which occurs because of a structural crisis in Belarus.

Figure 10. Money supply per 1 mln people in Belarus and Russia

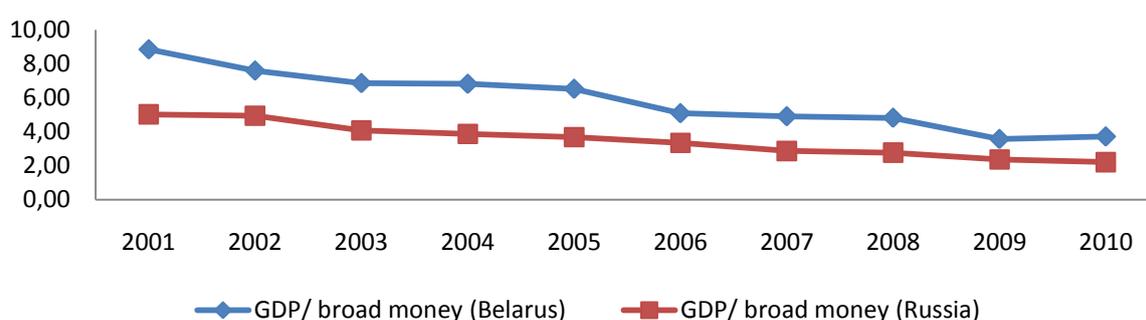


Source: Own working based on the data of the National Bank of the Republic of Belarus and the Central Bank of Russian Federation.

If Russia's money supply growth is not accompanied by bursts of inflation, so for the Republic of Belarus soft monetary policy has led to a currency crisis that provoked the problems in all sectors of the economy.

This suggests that in the nearest future money supply by 1 million people (in Russian rubles) should not grow, and even squeezed in Belarus. Such policy can be explained by the fact that the Belarusian economy is too overheating. In short term, actions of the National Bank and the Ministry of Finance will be directed to limit money supply growth, which would entail a slowdown in economic growth and reduce living standards. At the same time, Russia will demonstrate the opposite trend, which indicates the presence of different directions of economic policy in the countries.

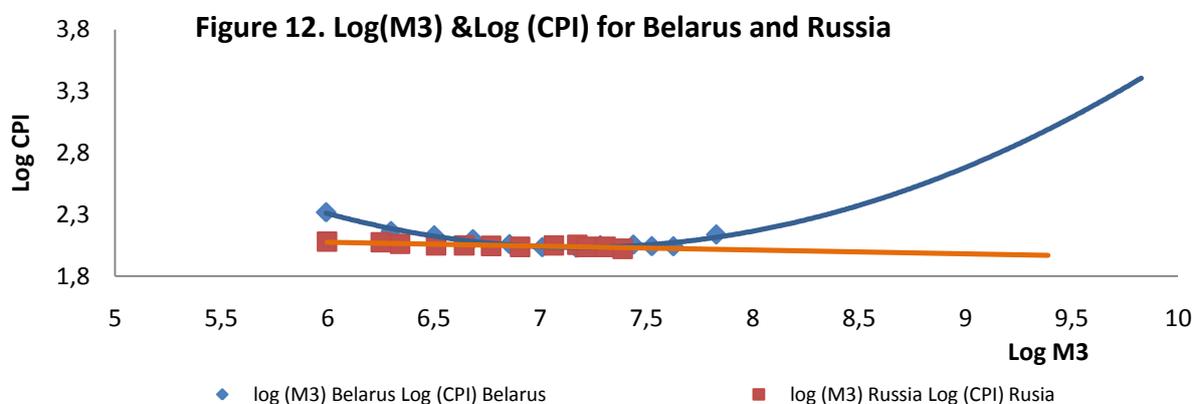
Figure 11. The ratio of GDP to broad money , %



Source: Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus, Federal State Statistics Service of Russian Federation and the Central Bank a Russian Federation.

The reason why the Belarusian economy has become overheated, lies in its efficiency and speed of money circulation. If in 2000 one invested Russian ruble in Belarus was produced 8.8 rubles of GDP, so in 2010 - just 3.7 ruble GDP. At the same time, we can see a reduction in production efficiency in Russia also. If in 2000 one invested ruble in Russia was produced 5 rubles. Of GDP, so in 2010. - only 2.2 rubles. At

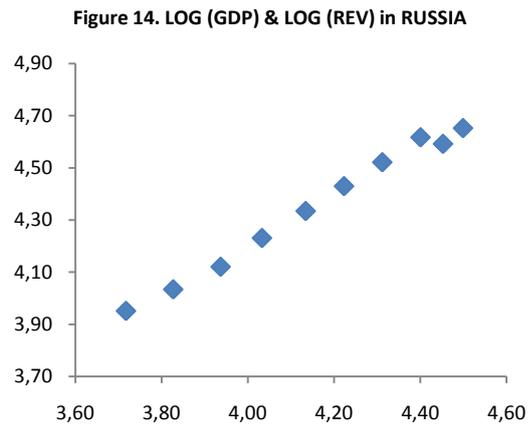
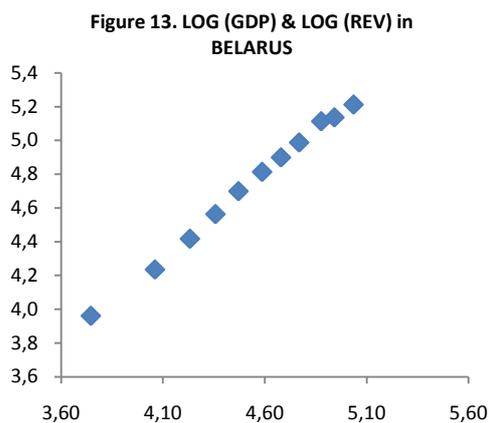
the same time, stability in Russia's economy is supported by the export of raw materials, which will continue to provide economic growth of the country. Belarus does not possess such capabilities. Therefore, approaches to managing the money supply in the two states must be different.



Source: *Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus, Federal State Statistics Service of Russian Federation and the Central Bank a Russian Federation.*

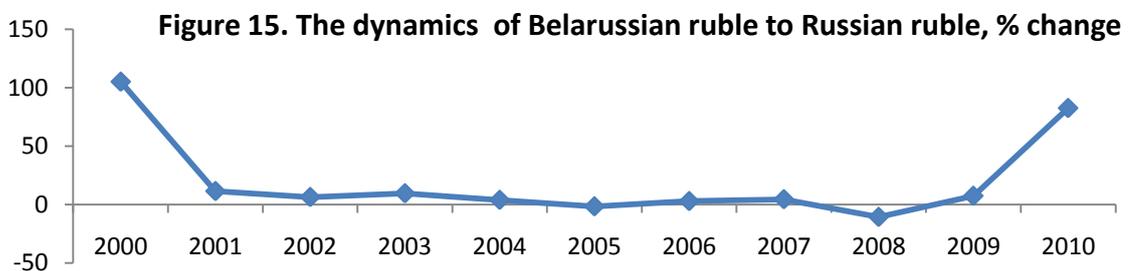
In accordance with the chart, at the beginning of the reporting period in Belarus, monetary growth was accompanied by a slowdown in inflation. At the same time in the past few years a massive issue could no longer serve as an effective tool for economic growth stimulating. It is likely that the continuation of an expansionary monetary and fiscal policy will lead to faster inflation. *Form a monetary union, where a dominant position in the monetary sphere belongs to Russia, and absence any pre-modernization of the Belarusian economy has provoked a deepening economic imbalances. In this case, the acceleration of inflation in one country will cause a disparity in prices in the absence of the exchange rate as a regulator.*

The next point is related with the dependence between the growth of personal income and GDP growth. On the basis of the following graphs, we can mention the presence of a linear relationship between GDP growth and rising incomes in the Republic of Belarus and the Russian Federation. However, the trend in the Republic of Belarus has a steeper slope, which confirms the practice of stimulating the growth of the Belarusian GDP due to revenue growth. This trend takes into account data till 2010, so there is no observed fact of Belarus economy recession in 2011. While keeping the existing economic policy in Russia, the trend will continue, but in Belarus, there will be a negative effect the income on GDP growth.



Source: *Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus and Federal State Statistics Service of Russian Federation.*

As it follows from the world practice, formation of monetary union should precede the convergence of exchange rate fluctuations. In the European monetary union before the country to join the currency zone, fluctuations in the national currency to the euro should not exceed 2% per year for three years. In the case of Belarus and Russia, this indicator of convergence is not performed.

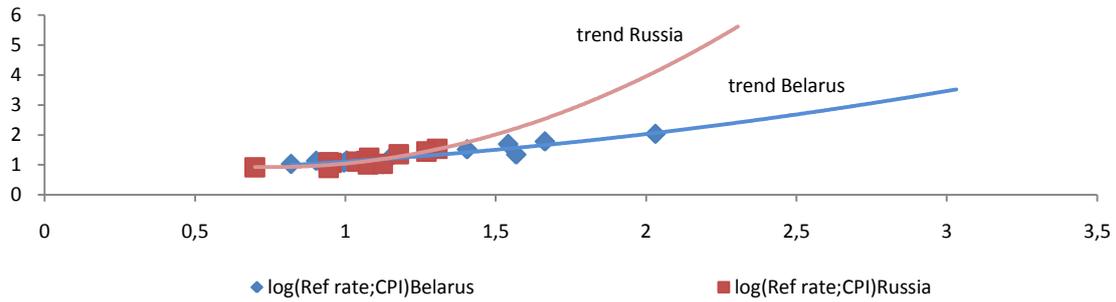


Source: *Own working based on the data of the National Bank of the Republic of Belarus and the Central Bank a Russian Federation.*

The fluctuation of Belarussian and Russian rubles were above 2% threshold throughout almost the entire decade of. Even in years when the Belarussian rouble is officially pegged to the Russian rouble, a deviation within 2% corridor was kept only in 2005. Then the fluctuations of the Belarussian rouble against the Russian again increased.

In the conditions, when the country abandoned the single currency, in addition to the synchronization of inflation processes it is necessary to bring together the interest rate policy.

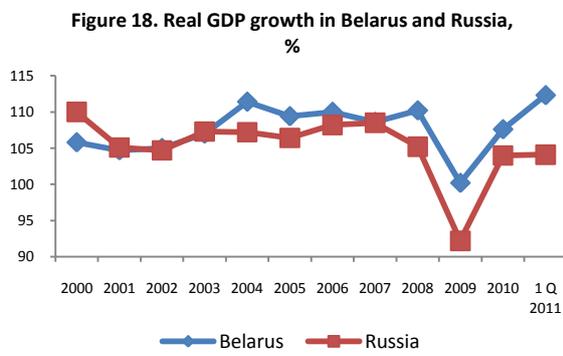
Figure 16. Dependence refinance rate changings from inflation level



Source: Own working based on the data of the National Bank of the Republic of Belarus and the Central Bank of Russian Federation.

As follows from the above chart, interest rate policy in Belarus is less flexible and slower response to changes the inflation in the country. This fact indicates a stronger centralized control in Belarus compare to the Russian Federation. The authorities' response to economic processes going on-for-performance targets and achieving forecast of socio-economic development.

Based on the foregoing it may be noted that the deployment of an inflationary spiral in the Republic of Belarus have contributed such factors as a massive issue and unjustified increase in real incomes, which in turn stimulate domestic consumption and, consequently, contributed to GDP growth.



Source: Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus and Federal State Statistics Service of Russian Federation.

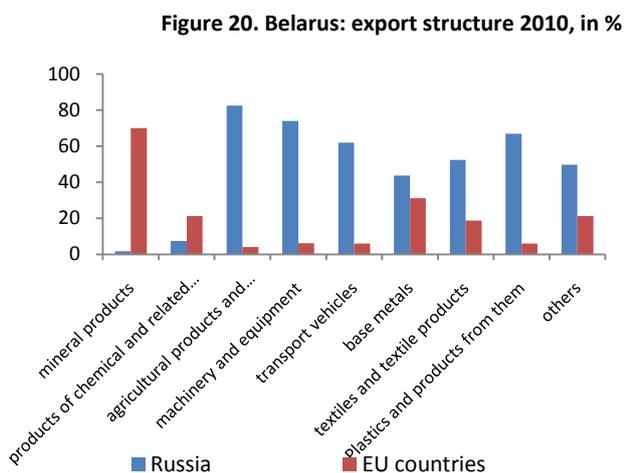
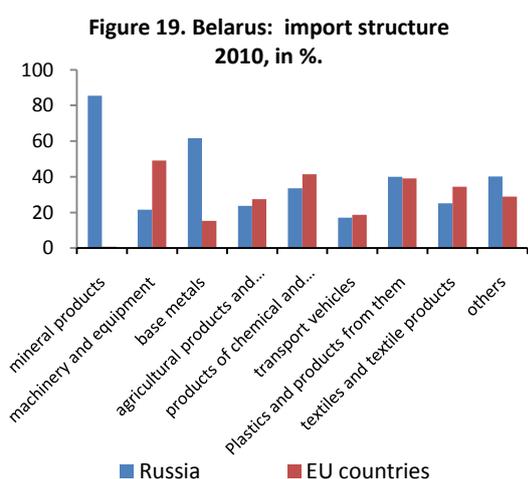
Rapid wage growth and high investment growth forced the Belarusian economy to work on the limit, which was expressed with significant growth of GDP, a rapid buildup of the negative trade balance and an increase in external borrowing by both the state and business entities.

In Russia, the rapid economic take-off was not occurred. At the same time increase the incomes of the population were economically justified. Over recent years, economic growth in Russia has been slower than in Belarus, but also more balanced. Moreover,

Russia has received regular profits from commodity exports. As a result, incomes in nominal terms in Russia are at a higher level compared to Belarus and the country has not experienced significant macroeconomic structural problems. *Integration two countries in the monetary sphere, one of which the last few years developed due to expansionary monetary and fiscal policy, and is currently undergoing a currency crisis, and the other country developed by obtaining the basic income from energy exports, says about a multi-directional movement of the economies and the asymmetry of economic shocks .*

External sector

One of the most important indicators of monetary integration of the two states is an indicator of economic openness. The more trade between the two countries, the greater will be the effect of introducing a single currency, as in this case eliminated a substantial part of transaction costs. On the other hand, the elimination of exchange rate management as a tool of monetary policy, deprives the country of the possibility of cheaper in foreign markets the value of their products due to the devaluation. However, the decline of the exchange rate has a little effect if the share of imports in the finished product - is essential. With regard to Belarus the share of imports in output is large and currency devaluation provoked a sharp prices spike in all products, the prices of which are not regulated. The bulk of Belarus exports and imports has a raw nature. Prices for these goods are regulated by the market and do not depend of national currencies fluctuations. The dimensions of foreign trade between Belarus and Russia are large enough. Import from Russia is mainly represented by commodities. They are paid in U.S. dollars. Creating a single currency union does not mean the transfer of such payments in the currency of monetary union. Consumer and investment goods are mainly exported from Belarus to Russia.



Source: *Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus, Federal State Statistics Service of Russian Federation and the Central Bank of Russian Federation.*

The possibility to decrease the production costs due to exchange rate fluctuations favorably affected in this case on trade. However, the main part of Belarus exporters are

importers. The devaluation of the Belarusian ruble will automatically lead to higher prices of goods. Therefore, the transition to the single currency according to this parameter could be justified. The introduction of a supranational currency may help to balance the trade deficit between two countries, which recently had a tendency to increase. However, it is necessary to take into account what happens when monetary and fiscal policy of the Republic of Belarus will be implemented in coordination with the actions of the Russian Federation authorities.

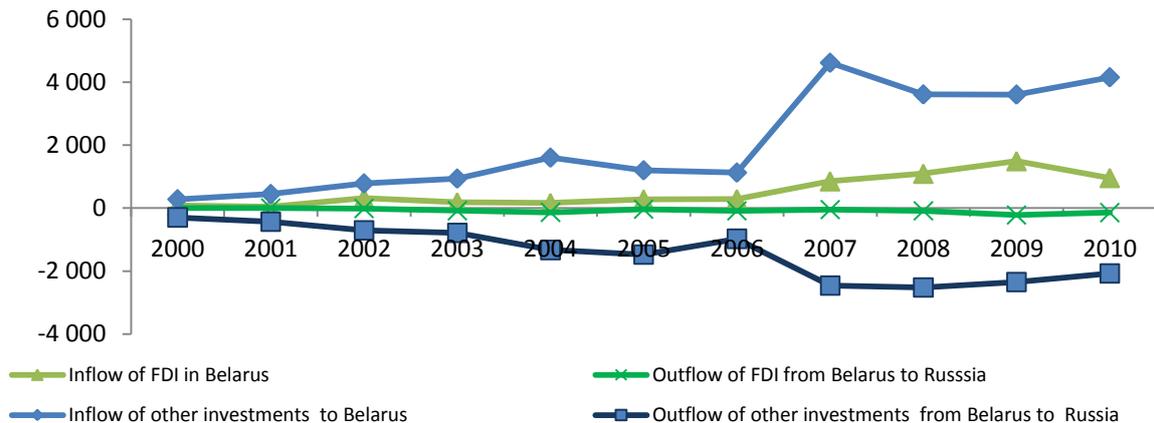


Source: Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus, Federal State Statistics Service of Russian Federation and the Central Bank of Russian Federation.

If you look at the financial account of the Republic of Belarus, the inflow of foreign direct investments from Russia to Belarus does not exceed U.S. \$ 1.4 billion annually. At the same time in 2007-2010, most investment was in the form of payments for Beltransgaz block of shares.

Greater volume of transactions in the financial account came from “other investments”. In other words, the Belarusian legal persons gave and received commercial credits. Moreover, the size of the loan increases over time. We can say that long-term capital flow had no significant scope between two countries. Transactions involving long-term capital from Russia to Belarus were sporadic and often have political leverage movement. As for short-term movements of capital, so the portfolio investment, from Russia to Belarus and back were insignificant until 2010.

Figure 22. Movement of "other investments" and FDI between Belarus and Russia , mln. US dollars



***Source:** Own working based on the data of the National Statistical Committee of the Republic of Belarus, the National Bank of the Republic of Belarus and Federal State Statistics Service of Russian Federation.*

Last year the Ministry of Finance issued first Eurobonds, which were offering on the Russian market. In Belarus, short-term capital flows, as well as long-term were initiated by the state. Thus, the criterion of free movement of capital within the framework of Russia-Belarus poorly executed. It should be borne in mind that due to the high state component in the Belarusian economy, an active flow of private capital is simply impossible. The union of Belarus and the Russian Federation in the financial sector could stimulate the development of the financial environment in the country. At the same time, this process does not require a single currency adoption. It is enough to work in a single payment system, where the basic calculations are made in national currencies. The introduction of the single currency in the absence of free movement, especially long-term capital, limits the possibility of balancing the balance of payments between Belarus and aggravates structural imbalances in the economy. For Russia, this criterion is not essential due to the small size of Belarusian financial market of Belarus and its low level of development.

Conclusions

In this paper there was discussed the main terms and conditions of the theory of optimum currency areas, such as the mobility factor, openness of the economy, the inflation rate in the emerging countries, integration of the financial institutions, as well as political and institutional aspects of monetary integration. It should be noted that the above criteria are essential but not sufficient for the implementation of monetary integration for several states. For proper estimation is necessary to analyze the structure and core processes of every integrating countries economy, to study the response to external shocks. Only then, it is possible to give a formal assessment of monetary convergence.

Forming or joining a monetary union should lead several benefits such as: a. growth of positive trends at the micro level, which means that a single currency can perform the basic functions of money at much larger territory; b. improve

macroeconomic stability; c. growth of external efficiency by reducing transaction costs, improve the stability of currency, etc.

The possibility of currency integration between Russia and Belarus discussed in the mid 90s. At the same time, these states are gradually moving towards economic integration. Belarus and Russia have been under such stages as Union State, a Single Economic Space and a Customs Union.

In the framework of comparative analysis, I considered the main economic dependences between the two countries, the vectors of motion of macroeconomic indicators and tendencies of the economic convergence.

As a result, it was noted that the Belarusian economic potential is much lower than Russian potential. The share of Belarus GDP to GDP in Russia in 2010 amounted only 3.5% at constantly declining ratio of the last ten years. The ratio of Belarus population incomes to the income of the Russian population demonstrated a similar downward trend and the dimension. In terms of monetary integration it means the directly decrease of Belarus economic independence of Belarus, while maintaining the leading role of Russia. Removing all the possible restrictions in the economic sphere and keeping income differences in the two countries will be able to lead to outflow of Belarusian skilled labor force from Belarus to Russia.

As for the fiscal sphere in the republic, Belarus is characterized by greater social orientation of the budget. In Russia, this indicator was less than 35%. Differences in the principles of budgeting, as well as the degree of accountability of all financial flows to the state, in terms of monetary integration, will create problems in the field of pricing and competition between economic entities of both countries.

In Russia, money supply growth was not accompanied by a parallel acceleration of inflation. In Belarus the unjustified money issue provokes price growth. In Russia there was possible to increase the money supply without a corresponding changes in inflation due to a strong export component of GDP growth. If the contribution of net exports to GDP is always negative for Belarus, so for Russia it is a major source of GDP growth.

Monetary integration reduces the possibility of regulating the result of foreign trade due to exchange rate dynamics. However, Belarus' currency devaluation does not mean a substantial reduction in import and export growth, since most companies are exporters-importers. According to this factor the transition to the single currency will have the positive effect for the republic, given that country will have access to Russian financial resources.

Implementation of the model of monetary union between Russia and Belarus requires high capital mobility between two countries. In reality, the main financial flows between Russia and Belarus have trade character. There are payments, based on export-import transactions, or the provision of trade credits and loans. The second largest type of external financial transactions is interstate loans. At such level of capital activity to talk about the possibility of integration in the monetary sphere is not real.

Be aware that the monetary integration of Russia and Belarus assumes the dominant position of Russia in the sphere of monetary policy. In this case, a more

centralized economy of the republic may face problems in structural sphere. Regulation of interest rates dynamics and financial flows is characterized by a strong administrative management in Belarus and market priorities in the Russian Federation.

Combining the two countries in the monetary sphere, one of which (Belarus) developed the last few years due to expansionary monetary and fiscal policy, and is currently undergoing a currency crisis, and the other country (Russia) developed by obtaining the main income from energy exports, says about multi-directional movement of the economies and the asymmetry of economic shocks. Most of the above factors indicate the undesirability of a currency union creation between Belarus and Russia.

References

1. Alesina Alberto and Robert Barro.(2002)"Currency Unions." Quarterly Journal of Economics, 117 (May), 409-30.
2. Alberto Alesina, Silvia Ardagna, Vincenzo Galasso "The Euro and Structural Reforms", Harvard University, IGIER, University, Bocconi, May 2008, 38 p.
3. Artis, Michael, Marion Kohler, and Jacques Melitz, "Trade and the Number of OCA's in the World," European University Institute, 1998, Economics Department, Working Paper ECO No. 98/16.
4. Bayoumi, Tamim and Eichengreen, Barry. "Ever Closer to Heaven? An Optimum Currency Area Index For European Countries," European Economic Review 41, 1997.
5. Barro, Robert, and D. Gordon (1983b). "Rules, Discretion and Reputation in a Model of Monetary Policy," Journal of Monetary Economics," Vol. 12, pp. 101–21. <http://ideas.repec.org/a/eee/moneco/v12y1983i1p101-121.html>
6. Barro, Robert, and Silvana Tenreyro (2007). "Economic Effects of Currency Unions," Economic Inquiry, Vol. 45, No. 1, pp. 1–197. <http://ideas.repec.org/a/bla/ecinqu/v45y2007i1p1-23.html>
7. Babetski, Jan, "EU Enlargement and Endogeneity of OCA Criteria: Evidence from the CEECs", March 2003, University of Paris, mimeo.
8. Buitter, Willem, H., "Macroeconomic Policy During a Transition to Monetary Union," Centre for Economic Policy Research, No. 1222, August 1995.
9. Butorina O.V., Laws of monetary integration: international experience and the CIS, Money and Banking № August 2005
10. Cecchetti, S.G. "Legal Structure, Financial Structure, and the Monetary Policy-Transmission Mechanism," The Monetary Transmission Process, Recent Development and Lessons for Europe, edited by the Deutsche Bundesbank, 2001.
11. Drobyshevsky S.M, Polevoi D.E. The problem of creating a single monetary zone in the CIS countries. - Moscow: EAPP, 2004. p.110
12. Horvath, Julius and Richard Grabowski, "Prospects of African Integration in Light of the Theory of Optimum Currency Areas," , 1997, Volume 12, Number 1, 1-25.
13. Horvath, Julius and Jiri Jonas, "Exchange Rate Regimes in the Transition Economies: Case Study of the Czech Republic: 1990-1997," ZEI University of Bonn, Policy Paper B-11, 1998.
14. Horvath Julius, "Optimum currency area theory: a selective review" BOFIT Discussion Papers 15/2003 25.11.2003, p. 42
15. Ishiyama, I. "The Theory of Optimum Currency Areas : A Survey," IMF Staff Papers, 1975.

16. Kalvinder David Fielding Shields “Is the Franc Zone an Optimal Currency Area?” Department of Economics University of Leicester First Draft: October 1999
17. McKinnon, R.I. “Optimum Currency Areas,” in R.N. Cooper(ed), International Finance : Selected Readings, Harmondsworth : Penguin. First published in American Economic Review, vol. 53, 1963
18. Mongelli, Francesco Paolo. “New Views on the Optimum Currency Area Theory : What is EMU Telling US?” , Preliminary Draft Paper, European Central Bank, January, 2002.
19. Mongelli, F. (2002). “New Views on the Optimum Currency Area Theory,” ECB Working Paper No.138. <http://ideas.repec.org/p/ecb/ecbwps/20020138.html>
20. Masson, P.R., and B.G. Turtelboom (1997). “Characteristics of the Euro, the Demand for Reserves, and Policy Coordination Under EMU,” in EMU and the International Monetary System, ed. by P. R. Masson, T. H. Krueger, and B. G. Turtelboom (Washington: International Monetary Fund). <http://www.imf.org/external/pubs/cat/longres.cfm?sk=2227>
21. Mark De Broeck and Anastasia Guscina, “Government Debt Issuance in the Euro Area: The Impact of the Financial Crisis”, Prepared by, January 2011 p. 30
22. Ogrodnick R. Optimum Currency Areas and The International Monetary System // Journal of International Affairs. 1993.
23. Ricci, Luca A “A Model of an Optimum Currency Area” Research Department, International Monetary Fund, Special Issue "Recent Developments in International Money and Finance" Editor: Ronald MacDonald, March 2008, p.33
24. Ricci, Luca A., and Peter Isard (2002). “EMU, Adjustment and Exchange Rate Variability,” European Economic Review, Vol. 46:2, pp.229-251. <http://ideas.repec.org/p/imf/imfwpa/98-50.html>
25. Rose A., Engel C. Currency Unions and International Integration // NBER Working Paper. 2000. - № 7872.
26. Rose, Andrew. “One Money, One Market : Estimating the Effect of Common Currencies on Trade,” Economic Policy, Vol. 30, 2000.
27. Schwartz (1993) "Currency Boards: Their Past, Present and Possible Future Role", Carnegie-Rochester Series on Public Policy, vol. 39, pp. 147-87
28. Semenov Artur, “Euro – is a child of Mandell?, The theory of Optimal Currency Area. Collection of articles.”, M. 2002.
29. Tavlas, G.S. (1993a). “The ‘New’ Theory of Optimum Currency Areas,” The World Economy, Vol. 16, No. 6.
30. Telisa Aulia Falianty, “Feasibility of forming currency union in ASEAN-5 countries”, Research Laboratory of Economics, Department of Economics Faculty of Economics, University of Indonesia , 28 p.
31. Yuen, Hazel. “Is Asia an Optimum Currency Are ? Shocking Aspects of Output Fluctuations in East Asia,” Department of Economics National University of Singapore, 2000
32. 1.Statistical data of the National Bank of the Republic of Belarus www.nbrb.by
33. Statistical data of the Central bank for the Russian Federation www.cbr.ru
34. Statistical data of the National Statistical Committee of the Republic of Belarus www.belstat.gov.by
35. Federal State Statistics Service of Russian Federation. www.gks.ru