ORIGINAL PAPER

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Immigration from the CIS countries to Russia in the context of the economic crisis in the Russian Federation

Abstract

Research background: A series of changes towards the greater openness to the influx of foreign labour force made in recent years in the Russian Federation prompts for analysis of immigration to this country as adopted solutions in the field of the migration policy affect other regions of destination (e.g. EU). Liberalisation of access of migrants to the Russian labour market is a part of a wider problem: competition (on an international scale) for an influx of foreign labour force. In this context, it is worth examining how the crisis which affected the Russian economy influenced the scale of immigration to Russia from the main sending countries, i.e. the countries of the Commonwealth of Independent States (CIS).

Purpose of the article: The aim of the article is to show the impact of the crisis which affected the Russian economy in recent years on the scale of immigration from the CIS countries to Russia. The main hypothesis is as follows: the factor explaining immigration from the CIS countries to Russia is the difference in the level of income measured by GDP per capita (PPP) between the sending state and the country of destination. Such studies have not been undertaken so far and, due to the role of factors inherent in the concept of post-imperial migration, it becomes relevant to examine whether the factors shaping migration

(including the differences in the level of income) recognised in the neoclassical theory of migration are important in explaining the flows in this area.

Methods: In order to check the relationship between immigration and the economic crisis in Russia, the analysis of correlation and regression was used.

Findings & Value added: It has been shown that despite the decline in GDP in Russia, immigration from the CIS countries to Russia is not decreasing. Therefore, it is a dependence different from the assumptions of the neoclassical theory according to which the reduction of differences in the level of income between the sending state and the country of destination reduces the scale of international migrations. As it has been shown, the scale of migration to Russia may not be explained by the difference in the level of GDP per capita in all CIS countries and, inter alia, political factors, conflicts or naturalisation processes become more important in shaping the scale of migration to Russia.

Introduction

The Russian economy since 2014 has been affected by a number of difficulties that are linked to the economic crisis, resulting from the occurrence of many factors of both an internal and external (independent) nature. The crisis, on the other hand, affects many areas, both in the economic and social spheres. International migrations may be considered one of them. Due to the fact that Russia is currently one of the main destination countries for international migrants (after USA and Germany), it is an economy that is particularly interesting in terms of the possibility to conduct research on migration factors.

The aim of the article is to show the impact of the crisis that has affected the Russian economy in recent years on the scale of immigration from the countries of the Commonwealth of Independent States (CIS) to Russia. The implementation of such a specific goal required an answer to the question whether immigration from the CIS countries to Russia could be explained on the basis of differences in the level of income between these countries or based on other factors? The main hypothesis is as follows: the factor explaining immigration from the CIS countries to Russia is the difference in the level of income measured by GDP *per capita* (PPP) between the sending state and the country of destination. In the literature, such studies were undertaken, but not in relation to migration in the area of the former USSR.

The article adopts the following structure: in the first part, a literature review concerning the neoclassical theory of migration was made. Next, it was indicated which research method was used in the study. Another part deals with the analysis of the most important factors that have resulted in the current economic crisis in Russia. A regression and correlation analysis were made to verify the proposed hypothesis, followed by the results of the study.

So far, no research has been undertaken on the relationship between immigration to Russia and the difference in income between the country of destination and the sending state. In the light of the current crisis of the Russian economy, questions arise of how much the decline in income in Russia since 2014 affected immigration to this country and whether the decline in GDP resulted in a reduction in immigration. Obtaining the answers to the above questions will first require a static analysis.

Literature review

Migration is a complex phenomenon, determined by economic, political and social factors. One of the reasons for international migrations is the difference in the level of income in the country of origin and the country of destination. This simple statement has a strong theoretical grounding. Already Adam Smith (whose works are considered the beginning of an economic analysis of migration) (Bodvarsson *et al.*, 2015, p. 5), on the basis of observations of migration from the countryside to towns, noted that this mobility is related to the differences in wages between the areas. Over 150 years later, in 1932, this view was confirmed by Hicks. He wrote then that "*the differences in net economic advantages chiefly in wages are the main causes of migration*" (van der Erf & Heering (Eds.), 1995, p. 96).

On the basis of neoclassical theory, one should distinguish the human capital model proposed by Sjaastad in 1962. This model describes the decisions of individuals who, when making a decision on migration, aim to maximise their individual usability. According to Sjaastad, a potential migrant will compare the benefits in the area of destination against the benefits resulting from staying at the place of origin and will chose a place that maximises his or her income (Sjaastad, 1962, pp. 80–93).

A reference to Sjaastad's theory is the push-pull theory proposed in 1966 by E. S. Lee — one of the most influential theories of migration in sociology. The general character of the theory, however, arouses interest in other fields of science, including economics. According to Lee's theory, among the factors taken into account when deciding about migration, push factors, related to the country of origin, as well as pull factors — in the country of destination — can be distinguished. The decision to migrate results from the balance of these factors. What is important, push and pull factors can be chosen freely, depending on the interests of the researcher. Therefore, this theory is used in migration studies of many fields of science. As a part of the economic analysis of migration, the level of wages

(or the level of GDP) or the unemployment rate in the country of origin and the country of destination are considered the main push and pull factors.

The neoclassical theory, within the macroeconomic perspective, links migrations with imbalances on the labour market, when there is a surplus of labour demand on one market and an excess of supply on another market. In such an initial situation, the first labour market will be characterised by high wages, while on the other market wages will be at a relatively lower level. Such a situation is a prerequisite for migration from an area where wages remain low to the area of higher wages.

Considering the above, the model proposed by Borjas within the economic migration analysis should be recalled (Bodvarsson & van den Berg, 2013, p. 40). According to Borjas, the decision about migration is determined by the sign of the index function:

$$I = ln(w_1/(w_0 + C)) \qquad (1)$$

where:
W_0 – wages at the place of origin;
W_1 – wages at the place of destination;
C – migration costs.

If index *I* assumes positive values, then there is a reason to emigrate, because the scale of emigration is the inverse function of income in the sending country, the inverse function of migration costs and the positive function of income in the receiving country (Borjas, 1987, p. 533). Since the works of Borjas, the assumption that a person migrates to maximise his or her usefulness is dominant in the theory of migration.

It follows from the above that the income level in both the sending and receiving countries is one of the factors shaping international migrations. It is also appropriate to adopt a dynamic perspective — migration remains under the influence of changes in income levels in both the sending and receiving countries, and migration can be understood as a reaction of society to a new situation (Zajončkovskaja, 1995, p. 81).
Previous research confirms this relationship. For example, research on emigration from the Philippines, conducted by McKenzie, Theoharides and Yang (2014, pp. 49–75), indicates a significant sensitivity of the number of migrants to the shock of GDP in the receiving country. The research on migration from the CEE countries (Central and Eastern Europe) in 2000–2013 shows a significant correlation between net migration and the GDP growth rate in the previous period (Simionescu *et al*., 2016, p. 166). A significant correlation between the level of GDP *per capita* and migrations

was also noticed by Van Der Gaag and Van Wissen (2008, p. 220), although research was limited to internal migration in Finland, Sweden, the Netherlands, Italy and Spain. Hatton and Williamson examined factors shaping immigration to 80 countries up to 2000 and in the light of their research, an increase in income in the receiving country by 10% *ceteris paribus* increases the immigration rate by 0,12/1000. Similar conclusions follow from research conducted by Mayda which, focused on migration in OECD countries. In light of these studies, the GDP growth *per capita* in the receiving country by 10% increases the rate of migration to this country by 19%. Research including 15 OECD destination countries and 120 sending countries in 1980–2006 confirm that international migration flows are flexible in relation to income *per capita* at the place of destination. In the light of these studies, income *per capita* at the place of destination is a key determinant of migration choices: an increase in *per capita* income by 10% in a specific location is associated with an increase in immigration flows on average by 7.6% (Ortega & Peri, 2013, pp. 47–67). Research conducted for the USA — the main receiving country in the world — by Greenwood and MacDowell suggests that, on average, a 10% increase in wages in countries sending migrants to the USA is accompanied by a drop in emigration to the USA by 7.5%. The research conducted for the USA by Clark, Hatton and Williamson lead to the conclusion that an increase in the income *per capita* in the sending country by 10% results in a drop in emigration to the USA by 4.5% (Bodvarsson & Van der Berg, 2013, pp. 70–72).

The current crisis in the Russian economy

The economy of Russia, after several years of economic stabilisation achieved after the crisis of 2008–2009, in 2014 again found itself in the phase of decline that has been continuing until today. The key reasons for this situation were different than in the case of previous crises. The 1998 financial crisis was mainly due to the lack of fiscal discipline and the so called soft budget constraints. In turn, the crisis of 2008–2009 was on the one hand a consequence of the global crisis, including a drop in global demand for Russia's main export goods, and on the other hand, it was caused by internal factors such as overheating of the economy, too high wages and overestimated exchange rate.

Economic stagnation has been observed in the Russian economy since 2012, which was reflected in a very small increase in the main macroeconomic categories, such as GDP or industrial production (Figure 1). In 2015 there was a deterioration in these figures as compared to the previous year,

although not on such scale as in 2009. The country's GDP in 2015 decreased by 3.7% as compared to the previous year. The biggest decline in the analysed period was marked by investments in the core capital of Russian enterprises which is currently considered the main problem determining the possibilities of economic recovery.

The key feature of the Russian economy in the analysed period was a combination of several crises and problems (Gaidar Institute, 2015, pp. 16-17):

− the structural crisis and the crisis of the economic growth model of Russia, which was based on the increase in demand with the occurrence of unused production capacities and long-term increase in prices for the main export products of the country,
− increased Russian external activity in the political sphere,
− sectoral and financial sanctions imposed by the European Union and the United States,
− drop in oil prices,
− currency crisis,
− cyclical crisis associated with a decline in investment activity of enterprises,
− the demographic crisis which manifests itself in the decline in the working-age population.

The basic factor determining the current economic situation in Russia should be considered the exhaustion of the current economic model of the country and the resulting structural crisis (Gaidar Institute, 2016, pp. 17–18). It results from the exhaustion of the possibility of extensive growth, the decline in domestic demand, and means for Russia a significant reduction in the potential for economic growth which has its base in the middle of the last decade. The problem of the economy is not the abundance of natural resources but the way of using revenues from their exports, supporting unprofitable producers or a bad investment climate.

Another factor having impact on the state of the Russian economy are the economic and financial sanctions imposed on Russia by the United States and the European Union in 2014. As a response to the sanctions, Russia applied an embargo on the import of selected groups of agricultural and food products from the USA, European Union, Canada, Australia and Norway, and also limited purchases of selected imported products for state purposes (mainly light industry products) (Akindinova & Yasin, 2015, p. 11). The embargo of Russia covered those groups of goods for which a significant part of domestic demand was covered by imports from countries included in the restrictions.

The effects of sanctions have already begun to be visible as part of the sectoral sanctions stage. Since the end of summer of 2014, most large enterprises have been affected by restrictions on access to capital, technology and foreign markets as well as problems in cooperation with foreign partners in spheres where sanctions were not directly applied (Afontsev, 2015, pp. 23–24). In 2015 the main financial problems resulting from sanctions were related to the need to regulate foreign liabilities of the corporate sector in conditions of very limited access to foreign financial markets.

The currency crisis which culminated in December 2014 and manifested itself in a two-fold depreciation of the rouble should be added to the deteriorating general economic situation in Russia. In 2015 and at the beginning of 2016 the rouble depreciation was not reversed (it was impossible, *inter alia*, due to limited access to foreign capital as a result of imposing sanctions and speculative attacks) (Akindinova & Yasin, 2015, p. 14). A significant drop in the rouble exchange rate against the background of a drop in oil prices and the introduction of financial sanctions against Russia had a divergent impact on the country's economic situation (Mironov, 2015, pp. 5–6).

The depreciation of the rouble on the one hand, due to a decrease in the inflow of foreign currencies and an increase in inflation, as well as an increase in import prices, resulted in a drop in demand within the economy. It also increased the value of liabilities denominated in foreign currencies. On the other hand, due to the insufficient diversification of Russia's exports, it did not improve its competitiveness.

Research methodology

In order to investigate the relationship between immigration to Russia and the difference in the level of GDP between Russia and particular sending countries, the analysis of correlation and further — regression analysis was used. In the linear regression model, the absolute differences in the level of GDP *per capita* according to the purchasing power parity were used as a measure of the difference in the level of income (explanatory variable) between the sending country and Russia. In this regard, the World Bank data was used. Data on migration (explained variable) refers to the flows of migrants to Russia (stream approach) and was obtained from the database of the Russian statistics office Rosstat.

The analysis of the relationship between change in income differences between Russia and sending countries and migrations is concentrated on 2014–2015. To examine the relationship between migration to Russia and the difference in GDP between Russia and individual sending countries, it

was also reasonable to take into account the longer time perspective. Thus, an analysis was also made for 2001–2015.

Results

In the first place one can notice a high share of immigration from the CIS countries in total immigration to Russia. In 2000 the inflow of immigrants from the CIS countries accounted for 96.5% of the total immigration to Russia, in 2015 this share was at the level of 89.6%, hence it was assumed that the analysis of immigration to Russia can be concentrated only on the CIS countries (Figure 2).

In addition, it can be noted that between 2014 and 2015 immigration to Russia increased both in general terms (taking into account the inflow from all sending countries) and from the CIS countries. The above could indicate that the economic crisis in Russia did not result in a reduction of the immigration to this country. However, it is necessary to stress that the increase in immigration to Russia in 2014–2015 was significantly influenced by the increase in immigration from Ukraine, which in that period amounted to 68% (at the turn of 2013–2014 the increase was at the level of 109.9% respectively). If it were not for this fact, at the turn of 2014 and 2015 there would be a decline in immigration from the CIS countries to Russia.

In addition, one should refer to the push-pull theory and note that immigration to a given country does not only depend on the level and dynamics of the receiving country's GDP but results from differences in the level of GDP between the receiving country and particular sending countries. Examination whether immigration to Russia was in accordance with the neoclassical theory of migration requires taking into account the dynamics of GDP in sending countries.

Most of the CIS countries in 2014 and 2015 recorded an increase in GDP *per capita* (Figure 3). The group of these countries included: Tajikistan, Uzbekistan, Azerbaijan, Armenia, Kazakhstan, Kyrgyzstan, Turkmenistan and Moldova. The decline in GDP was recorded by Belarus and Ukraine. In the case of eight CIS countries there was a reduction in income differences between these countries and Russia. The reduction of differences also occurred between Belarus and Russia as the GDP decline in Belarus was smaller than the decline in GDP in Russia. At the same time, a significant drop in GDP in Ukraine exceeding the decline in GDP in Russia resulted in an increase in income differences between these countries.

In the light of the theory, reducing income differences between the sending and receiving countries should result in a decrease in migration (in-

creasing these differences — increasing migration). How then did the change in income differences between Russia and the CIS sending countries over 2014 and 2015 affect the scale of immigration to Russia from these countries? Was immigration shaped according to the assumptions of the neoclassical theory? In most of the CIS sending countries migration was shaped according to the neoclassical theory of migration (Table 1). In six analysed countries (i.e. Kyrgyzstan, Tajikistan, Armenia, Belarus, Azerbaijan and Uzbekistan) as a result of the decrease in income differences, migration to Russia decreased. Consistent with the neoclassical assumptions was also migration from Ukraine — as a result of increased income differences between this country and Russia, migration to Russia increased. At the same time, in three CIS countries migration to Russia was different from the assumptions of the neoclassical theory of migration: despite the reduction of income differences, these countries (Turkmenistan, Moldova, Kazakhstan) experienced an increase in migration.

The increase in immigration to Russia from Kazakhstan, Turkmenistan and Moldova, despite the reduction of income differences, requires additional comment. As already explained, migration is determined not only by economic factors, but also by political or social ones. In the case of Kazakhstan, the increase in migration to Russia resulted partly from the increase in ethnic emigration of the Russian population living in Kazakhstan. In 2014 about 24 thousand of ethnic Russian population was included in the resettlement programme to Russia. In the first nine months of 2015 Kazakhstan was left by another 19 thousand of Russians. In addition, 2015 brought significant changes in the area of work permits in Russia. The obligation to obtain them for citizens from the so-called visa-free countries (belonging mainly to the Eurasian Economic Union), including Kazakhstan, was abolished (Gaidar Institute, 2016, p. 325–330).

The growing emigration from Turkmenistan to Russia at the turn of 2014 and 2015 should be associated with an instability in the region and growing religious extremism (OSW, 2015). At that time, there was a significant deterioration of the situation on the border between Turkmenistan and Afghanistan, where forces related to the Islamic State appeared. One of the reasons for emigration of people with dual citizenship from Turkmenistan was the terrorist threat from Islamic radical organisations operating in the region.

In the case of Moldova, it is difficult to indicate a special circumstance that would explain the increase in migration at the turn of 2014 and 2015, despite the reduction of differences in the GDP levels compared to Russia. It is worth noting, however, that the phenomenon of migration from Moldova (not only to Russia) is massive due to the very difficult economic

situation in this country. Emigration is also facilitated by the fact that a significant part of Moldovan citizens has a second passport — about 140 thousand Russian speaking citizens of Moldova have Russian passports (OSW, 2016, pp. 55–67).

The analysis of the relationship between change in income differences between Russia and sending countries and migrations in 2014–2015 shows that in this period migrations in not all CIS countries were in line with the assumptions of the neoclassical theory, i.e. despite the reduction of difference in the level of income there was no decrease in migration. Therefore, it is necessary to examine the relationship between migration to Russia and the difference in GDP between Russia and individual sending countries. To show this dependency, it is reasonable to take into account the longer time perspective. The analysis will be based on the study of the correlation coefficient and the linear regression function. The results of the analysis are included in Figure 4.

According to the correlation analysis, in eight of the ten CIS sending countries, between the difference in GDP *per capita* (between a given country and Russia) and migration to Russia there was a positive correlation (the Pearson correlation coefficient *r* takes positive values). In the group of these countries — i.e. in Armenia, Kyrgyzstan, Tajikistan, Moldova, Uzbekistan and Azerbaijan, Belarus, Ukraine, the higher level of differences in the level of income between a given country and Russia is connected with a higher migration from a given country to Russia. On the basis of the r-value it can be stated that the correlation is strong in the case of Armenia, Kyrgyzstan and Tajikistan, very high in relation to Moldova and Uzbekistan and high in the case of Azerbaijan, Belarus and Ukraine. In the case of Turkmenistan and Kazakhstan the correlation analysis showed a low negative correlation. The sign of the Pearson correlation coefficient indicates that with the decrease of differences in the level of GDP in these countries (in comparison to Russia), migrations grew. The low r-value indicates, however, that this relationship is weak, hence migrations from these countries to Russia cannot be explained by different levels of income.

The above conclusions are extended by linear regression analysis. Figure 4 presents scatterplots together with the model quality measures for each CIS country separately. The coefficient of determination R^2 in most of the analysed countries confirms that in a large part the volatility of migration can be explained within the model by differences in the level of GDP *per capita* between the sending and receiving countries. In the case of Armenia and Kyrgyzstan, the applied regression equation explains in more than 80% the variability of the explained variable. In the case of another three countries, i.e. Tajikistan, Moldova and Uzbekistan, the value of the R-

square coefficient was also high. This shows that the model describes well the volatility of migration from these countries to Russia. At the same time, in the case of Azerbaijan and Belarus almost half of the migration volatility can be attributed to a change in the differences of income between these countries and Russia. Ukraine is a country where only 32% of migrations can be explained under the model, i.e. the difference in GDP *per capita* between this country and Russia. Only in the case of Turkmenistan and Kazakhstan do the differences in the level of GDP *per capita* compared to Russia not explain the migration processes, hence it is reasonable to look for other factors that shape migrations from these countries to Russia. Regarding migration from Kazakhstan to Russia, such research was undertaken, among others, by An and Becker (2013, pp. 44–66) showing that economic uncertainty is an important factor shaping migration in this direction.

Discussion

As it was shown on the basis of correlation and regression analysis, migrations from the most CIS countries to Russia may be explained by a change in income differences between these countries and Russia. In the case of eight out of ten analysed countries, a high value of the correlation coefficient was obtained and the positive values of this coefficient confirmed that the higher level of differences in the level of income between these countries and Russia is connected with higher migration to Russia. It is, therefore, in line with the assumptions of the neoclassical theory of migration. The regression analysis confirms these conclusions — in the case of five countries more than half of the migration volatility can be explained by the change in GDP *per capita* differences between these countries and Russia. In the case of the next two countries — the volatility of migration is explained in almost 50% by the difference of GDP *per capita*, in the case of another country — Ukraine — in 30% migrations were explained within the model.

Both correlation and regression analysis showed that in the case of only two CIS countries — Turkmenistan and Kazakhstan — migrations cannot be explained by the differences in the level of GDP *per capita* between these countries and Russia. It follows that other factors shape migration from these countries to Russia. Identification of these factors goes beyond the scope of this study and constitutes an incentive for further research.

The above conclusions contribute to explaining why, despite the crisis in Russia, immigration to this country in 2014 and 2015 did not fall. Firstly, not in all CIS countries were migrations to Russia shaped in accordance

with the assumptions of the neoclassical theory, i.e. despite the reduction in differences in the level of income in comparison to Russia there was no decline in migration. Such a situation occurred in Turkmenistan, Moldova and Kazakhstan. Secondly, the lack of decline in migration to Russia despite the crisis in this country can be explained by the simultaneous deterioration of the economic situation in the sending region. Such situation occurred in Ukraine, where the decline in GDP *per capita* was stronger than in Russia. Thus, income differences between Ukraine and Russia increased, and as a result, in accordance with the assumptions of the neoclassical theory of migration, migration from Ukraine to Russia increased. At this point, it should be added that immigration from Ukraine in 2015 constituted 36% of immigration from the CIS countries to Russia, therefore international mobility from Ukraine has a significant impact on the scale of immigration to Russia. Hence, the crisis in Ukraine accompanying the crisis in Russia can be considered as one of the main factors of the growth of immigration to Russia in 2014–2015.

Conclusions

The analysis of migration processes in the CIS countries has its justification, *inter alia*, in the context of competition for the inflow of highly qualified migrants that takes place in the 21st century. While the analysis did not take into account the structure of migrants, but only the scale of the migration phenomenon, it allows to conclude that Russia is an attractive destination for migration from the CIS countries. What is interesting, for migrants from some of the countries (i.e. Turkmenistan, Moldova, Kazakhstan), the attractiveness of the Russian labour market does not decrease even during the economic crisis. Consequences of the above for other destination regions (e.g. EU) depend, however, on the structure of immigrants (*inter alia*, by education). This aspect, however, was not the subject of analysis and constitutes an incentive for further research.

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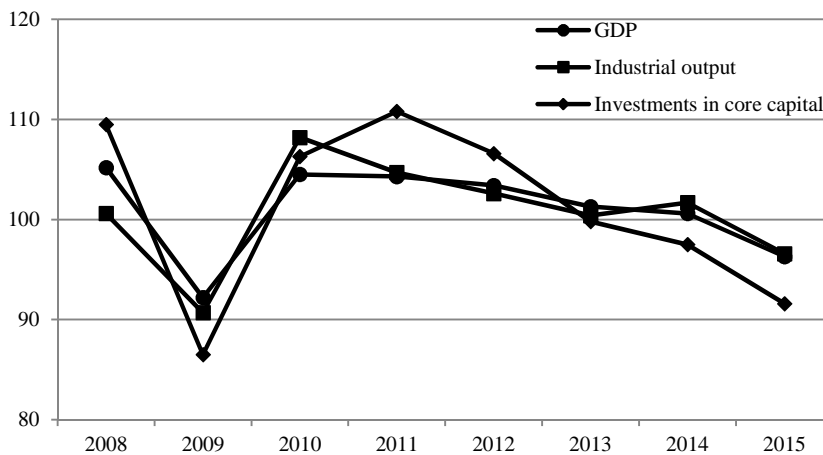
Annex

Table 1. Change in income differences between Russia and sending countries versus migration in 2014–2015

|	Decrease in migration to Russia	Increase in migration to Russia
Decrease in income differences between particular sending country and Russia	Kyrgyzstan Tajikistan Armenia Belarus Azerbaijan Uzbekistan	Turkmenistan Moldova Kazakhstan
Increase in income differences between particular sending country and Russia		Ukraine

Source: own elaboration based on The World Bank Data (2017) and Rosstat (2016b).

Figure 1. Dynamics of selected basic macroeconomic data in Russia in 2008-2015 (in % as compared to the previous year)

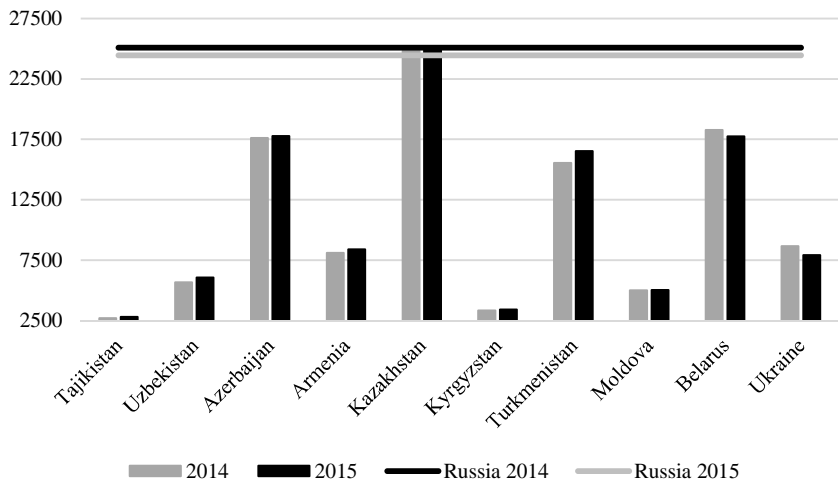Source: own elaboration based on Rosstat (2016a).

Figure 2. Immigration to Russia (inflow) in the years 2000-2015 with the distinction of the CIS countries *
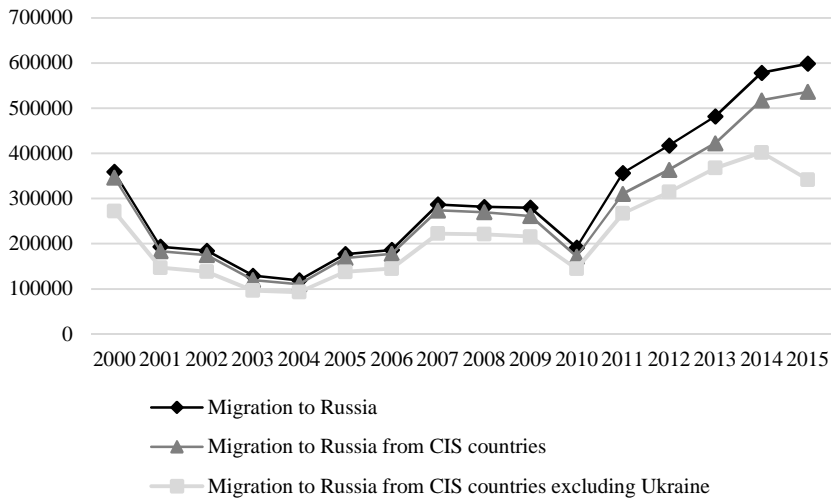
* Taking into account that Georgia exit from the CIS in 2009

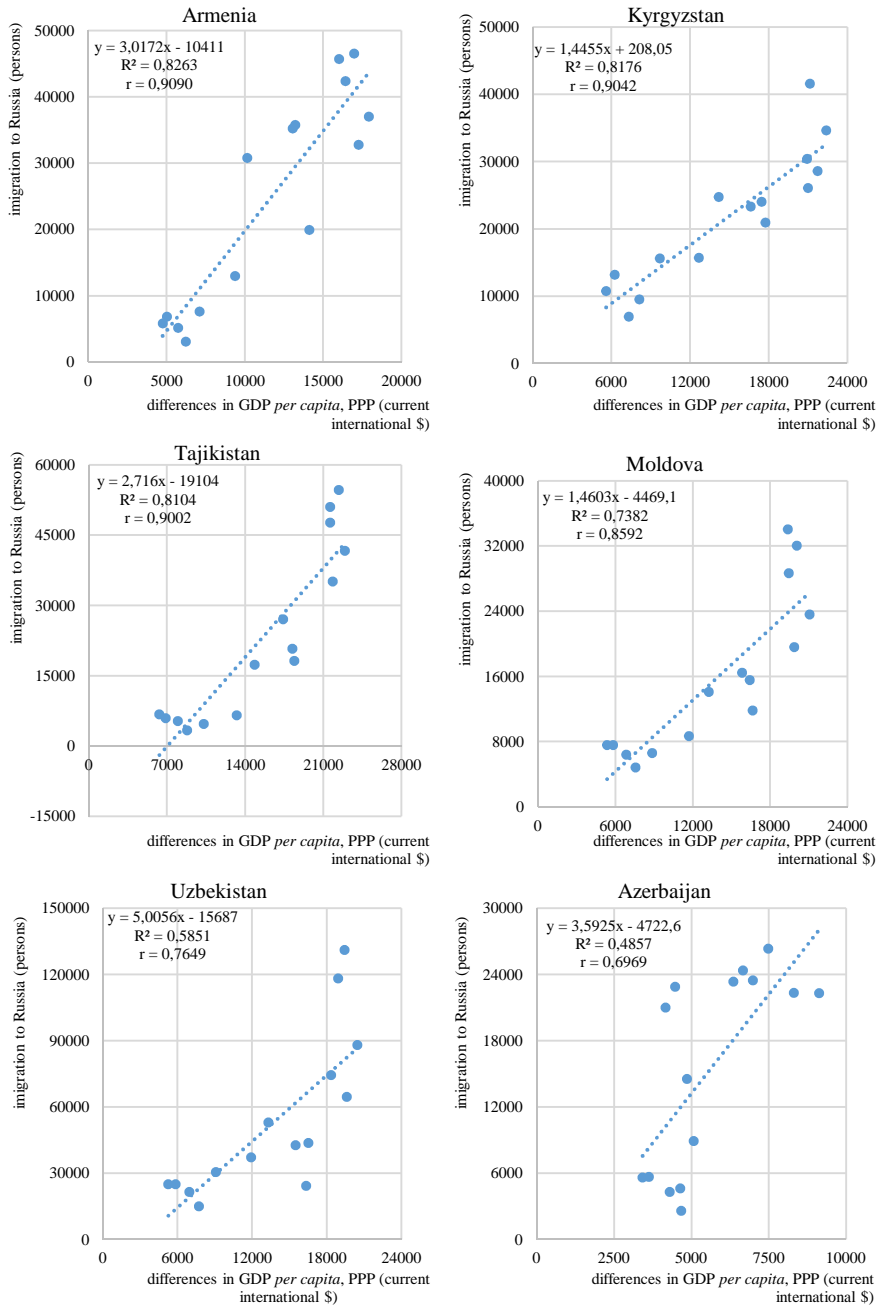Source: own elaboration based on Rosstat (2016b).

Figure 3. GDP *per capita* in the CIS countries in 2014 and 2015 (PPP, current international USD)

Source: own elaboration based on the World Bank Data (2017).

Figure 4. Change in income differences between Russia and sending countries versus migration to Russia in 2001–2015

Figure 4. Continued

Belarus

y = 1,4052x + 2711,4
R² = 0,4501
r = 0,6709

imigration to Russia (persons)

differences in GDP *per capita*, PPP (current international $)

Ukraine

y = 4,7905x + 4697,6
R² = 0,3238
r = 0,5691

imigration to Russia (persons)

differences in GDP *per capita*, PPP (current international $)

Turkmenistan

y = -0,03x + 4925,1
R² = 0,0066
r = -0,0811

imigration to Russia (persons)

differences in GDP *per capita*, PPP (current international $)

Kazakhstan

y = -1,5355x + 45370
R² = 0,0561
r = -0,2368

imigration to Russia (persons)

differences in GDP *per capita*, PPP (current international $)