MIGRATION PROCESSES IN FORMING THE EFFICIENT HUMAN CAPITAL OF THE FORMER SOVIET UNION

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Abstract: The scientific study of making the manufacturing more efficient, the use and development of the human capital is getting more and more important over the last decades, which is predetermined by consolidation of the role of knowledge, science and technology in the modern economy. In the global world the human factor of the reproductive-progressive social-economic development is directly a capital, and a substantial part of this capital is formed as a result of the migration. There is planned a dependence of the labor productivity and the human capital level of neighbouring territories, which form a special social and economic system. The purpose of the study stage, which is represented in the article, is an assessment of the migration flow between the counties of the former Soviet Union from 1997 to 2016, with stating the factors determining tendencies of the migration gain, with account taken of the system representation of approaches to the assessment of the human capital use on the basis of indicators of the HDI and the labor productivity, which is calculated with account taken of the able-bodied population, is an important subject of this study. As a result a model was developed, which is based on an assessment of the labor productivity level and the human capital index through analyzing the long time series from 1990 to 2017 for the countries of the former Soviet Union, their grouping and substantiation of the inter-country and in-country migration policy.

Keywords: migration processes, human capital, the former Soviet Union, migration, labor market, reproduction, economic development.

1. INTRODUCTION

The population migration is a complex and varied process, which exerts significant influence upon the labor market, reproduction of the human capital and an economic situation in the country as a whole. The migration flow from foreign countries scarcely ever exerts positive influence on economic and social indicators of the country, which often leads to a higher level of unemployment among the local population, a lower level of the payment for labor and, as a consequence, - to the social tension growth. So, it is especially important to determine a nature of interrelation between migration processes and economic phenomena in the society. The migration flows between the neighbouring territories have specific characteristics. The authors Jun I.S., Chang H.S. (Jun I.S., Chang

H.S.,1986) define such flows as adjacent or non-adjacent, when representing internal (between states) and external migration flows and describing their various influence upon employment in their study.

Global commission on international migration (Global Migration Group – GMG) describes the driving forces of international migration in the terms "3D": development, demography and democracy (Global Migration Group //www.globalmigrationgroup.org/) and says that increase in inequality in incomes, prosperity, human rights and security in the countries is an incitement to the migration. Migration in search for jobs is more and more often getting a strategy of generating livelihoods for both men and women because there are no possibilities for full employment and good jobs in many developing countries. At the same time, the spread of intense economic sectors, the increased demand for skilled workers, the unwillingness of local workers to take up certain low-skilled jobs and the demographic tendencies, such as depopulation and ageing of population are strong factors of migrants' attraction. And each country acts as a country of origin, as a point of destination, as transit or it is characterized by all three positions. Social and economic factors, which cause or determine the migration, are often interrelated, and the most important factors are the salary level, cost of living, age of migrants, situation in the labor market and the state policy. The priority indicator is a difference in the salary between the country of departure and the receiving country. Studies of the regional migration models in the United States showed that, firstly, the salary difference, and secondly, the increase in the minimum salary in the receiving country influences a decision taken about the migration.

The natural population increase, the age structure and the labor force potential influence the formation and the functioning of the labor market and the migration flows in a region too. Demographic problems in Russia against the background of the rapid population growth in some other countries of the former Soviet Union are an important aspect of migration. The researcher S. Makaryan (Makaryan S., 2012), when analyzing the data on migration in the former Soviet Union, concluded that the data about the annual migration are false and there is a great discrepancy between the data of the countries of origin and the receiving countries, which requires the use of alternative methods of study. When using the data from 15 former Soviet republics, the researcher drew some conclusions: the data discrepancy arises because the former Soviet republics have different definitions of the "migrant" category; the population censuses cannot cover temporary migrants; in the developing countries the international emigration is, in the main, related to the temporary (non-certificated working) migration. The author believes that inspection of households is the most valid method.

The researchers have faced the problem of migration of the former Soviet Union countries since the Soviet Union breakup. As long ago as 1996 the collected articles (Azrael, Jeremy R. and Emil A. Payin, 1996) was issued, which represents a detailed analysis of problems, conflicts, partnership, shaping of the migration policy. For all that, even now there is a number of problems, which provided the basis for this study. The study is based on a hypothesis about efficiency of processes of forming the human capital of the former Soviet Union on the terms of neighborhood of territories, which are united by geopolitical, economic, national peculiarities and specific migration flows.

2. MATERIALS AND METHODS

The study is based on a systemic approach, which makes it possible to represent the former Soviet Union as an integral association, a system, which has certain features. Statistical methods of analyzing the time series and the correlation and regression

analysis, which is based on the least-square method, were used to assess the existing tendencies and to determine the migration dependence, the level of the human capital and the labor productivity. The theoretical conclusions were built on the basis of the general scientific methods of didactics, analysis and synthesis.

Systemic representation of the human capital development in the former Soviet Union

Over the first 5 years after the USSR breakup Russia was the center of attraction of migrants from the former republics, which became independent states. According to the estimations of specialists, the labor resources inflow was about 6 million. Later on, the migration flow decreased quantitatively, but even today the centripetal forces are directed to Russia, especially from the Central Asia. According to the experts' estimations, more than 50% of emigrants from the CIS countries chose Russia as a country of destination, in spite of the ongoing economic, and sometimes political crisis.

Table 1
Data about the issued work permits and patents
(Site of information support for Migrants "I am a migrant!")

	In 2011	in 2016*	in 2015
Executed work permits	1200000	149013	214559
Executed patents	900000	1510378	1788201

*Changes in the migration laws

The indicators, which are taken into account by the Russian statistics, include the quantity of arriving and departing people and the migration gain, the migrants' distribution according to the age groups, the education level and the reasons for arrival. Ukraine ranks first among the migrants from the former Soviet Union. It should be noted that, in spite of receiving a right of the visa-free access to the European Union, the Ukrainian citizens continue to actively migrate to Russia to work there. The Ukrainians' share in the total number of migrants from the former Soviet Union makes up 45 %, the citizens of Kazakhstan rank second (14 %). Ukraine and Kazakhstan are followed by the countries, whose share is 4 – 10 %, those are Tajikistan, Uzbekistan, Moldova, Armenia and Kyrgyzstan. In the third group the migrants' share makes up less than 1% in Russia, those people come from Turkmenistan, Georgia, Belarus, Abkhazia, Latvia, Lithuania, South Ossetia and Estonia. The assessment of the migrants' distribution according to the age groups is represented in Table 2. The majority of migrants, who are younger than people at working age, continue to live in Russia, they came from Estonia and Belarus. The migrants at working age came from Asia (Azerbaijan, Turkmenistan, Tajikistan, Georgia), and migrants, who are older than people at working age, came from the Baltic States.

Table 2
Distribution of migrants (migration gain)
(Official site of the International Labour Organization; Official site of the Federal State Statistics Service)

	Including the people who are		
	younger than people at working age	At working age	older than people at working age
Azerbaijan	10.08%	**85.05%**	4.88%
Armenia	17.33%	68.46%	14.21%
Belarus	**23.70%**	56.79%	19.51%
Kazakhstan	16.61%	71.33%	12.06%
Kyrgyz Republic	15.79%	75.85%	8.36%
Moldova	14.10%	77.95%	7.95%
Tajikistan	14.14%	**81.46%**	4.40%
Turkmenistan	8.35%	**80.98%**	10.67%
Uzbekistan	13.97%	70.93%	15.10%
Ukraine	16.14%	69.78%	14.09%
Georgia	8.98%	**84.13%**	6.89%
Latvia	10.76%	56.77%	**32.47%**
Lithuania	4.93%	53.81%	**41.26%**
Estonia	**32.43%**	44.59%	**22.97%**
South Ossetia	1.20%	**84.34%**	14.46%

Unfortunately, it is difficult to analyze the level of education of the migrants, according to Russian Statistics Agency, since, firstly, the data are represented in general terms, without stating the arrival country. Secondly, 21% of migrants did not state their education level. According to the date submitted, approximately equal quantity of migrants have higher (19.80%), secondary (23.73%) and specialized secondary (24.71%) education. Less that 1% of migrants are Candidates and Doctors of Sciences. It should be noted that 10% of migrants did not state the reasons for migration, the stated reasons include: firstly, the personal, family reasons - 43.19% (in connection with the spouse's change of employment – 1.39%, in connection with the marriage - 7.49%, arrival to children - 5.74%, arrival to parents - 4.81%); secondly, the reasons related to jobs - 18.01%; thirdly, the reasons related to the study - 7.12%; other reasons - 11.69%; the worsening of the inter-ethnic relations - 6.14%; the other reasons make up less than 1%. The assessment of the migration flow dynamics from 1997 to 2016, which is represented in Figure 1, is built on the basis of using the interval increase method (3 years) and the same flows include:

- Kazakhstan – sharp decrease in migration in the period from 2003 to 2005, after which the migration level remains unchanged;
- Ukraine – sharp increase in migration in the period from 2015;
- Uzbekistan – sharp decrease in migration in the period from 2013.

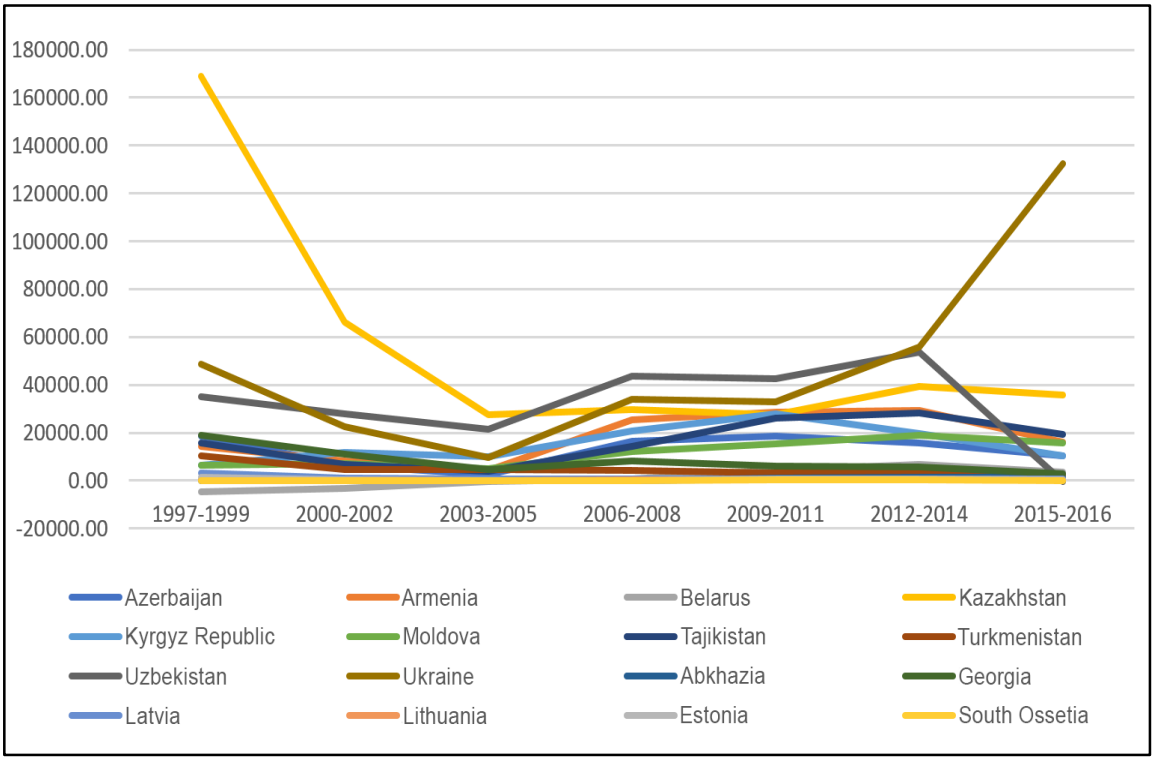

Figure. 1 – Migration flow dynamics (migration gain)

It is necessary to take into account that the migration flow depends not only on the economic and social factors, but it is also caused by legal factors, which are related to the visa-free movements between the Customs Union countries, the quotas established for receiving the work permits, restricted length of their stay in Russia. Imperfect system of control over fulfilling the legal rules determines the scale of illegal employment of foreign labor resources in Russia.

Another factor is a different policy of states in the sphere of migration, which is caused by the demographic situation. The migration policy priorities in some countries are aimed at forming the requirements for permanent residence of foreigners, at creating the preferences for naturalization. Other countries pursue the policy of forming the guarantees of the minimum social support and respect for rights of their citizens, who live abroad as temporary labor migrants. In this case the countries are also interested in money flows from other countries, and in decrease in social tension among their citizens.

The migration flow and the fertility increase make it possible to maintain the rise in labor productivity. As the main source of raising the living standards, the most rational way of overcoming the poverty of the working population and the major factor (and the major measure) of compatibility in the world market, the rise in productivity meets the interests of the state as well as the employees and the working people (Bogomolova I.S., Masych M.A., Zhertovskaya E.V., Zadorozhnyaya E.K., 2015).

Migration processes and human capital development

The human capital is an intangible asset of the organization, which includes all the competences and abilities of the labor force within the organization, or skills, experience, potential. The human capital theory is based on an assumption that the education, training and advantages of the employees raise the labor productivity, which is related to salary and to possible distribution of profits, which considerable improves the employees'

attitude to their work (Blanchflower, D. G., 1991). Becker proposed dividing the human capital (Becker, G.S., 1964/1993) at a micro-level (the level of a firm) into common (movable) and specific (immovable). The common human capital includes theoretical and other universal knowledge, which have a wide area of application and which are acquired in schools, universities and other educational institutions (Bogovolova I.S., Grinenko S.V., Zadarozhnyaya E.K., 2015). The specific human capital (Becker G.S., 1962; Blair M., 2000; Kessler Anke S., Lülfesmann Christoph, 2000; Kapeliushnikov R.I., 2010; Maltseva I.O., 2007) is related to a specific firm: knowledge of the firm, its organization structure and management scheme, specific technologies, peculiarities of the job, clients of the firm.

The human capital is based on the demographic potential, which is determined by the size and the age and sex composition of the population. In connection with globalization of the world economy and the growth of the territorial mobility of population, the interstate and interregional migration processes are of great importance to sustainable development of countries and regions. In the economic theory the migration is often considered as a phenomenon, which has a positive impact on the economy. In the countries witnessing the migratory flow increase, the shortage of labor force is reduced in the sectors with high unemployment (in the sectors requiring a great number of unqualified labor force), the migration makes it possible to increase the manufacturing resources efficiency, decreased the general unemployment and favors the economic growth. However, some negative points appear, for example, social tension can be increased in the country receiving the migrants.

Theoretically economic advantages exist for a country, from which the migration flow is directed, too. The main advantages include the reduction of unemployment. There are models proving that a migrant almost always returns a part of his/her income to the country, from which he/she emigrated, which can stimulate the economic growth too. However, even in this case, the consequences are not definitely positive: the labor force reduction in the country, from which the population emigrates, often leads to reduction of the unemployment only in closer considering the situation (and very unevenly by the economic sectors being analyzed and by separate professions and specialties, which is not taken into account frequently, since the indicator is considered on the whole according to the national economic system) (Yurkov D.V., Malaev V.V., Yakunina R.P., 2015).

Now the migration processes importance in the growth and development of the human capital of territories is often crucial. They influence both the population size and the qualitative characteristics of the human capital of the territories – inflow and outflow of young skilled specialists. The migration flows is the human capital of a territory, which seeks more efficient implementation, the process of redistribution of talented and active people between cities and regions is underway. This is an objective process, which is actively developed in Russia and the future trend of migration processes will be characterized by the growth with the polarized development policy pursued by the Russian government (Gataullin R.F., Safiullin R.G., Komarov A.G., 2014; Safiullin R.G., Safiullina R.M., Ibragimova Z.F., 2015). The labor migration influence upon the country economy is ambiguous. The labor migration with change of permanent residence leads to significant losses of the human capital, while the temporary labor migrants can acquire a new experience and knowledge abroad to use them in Russia on their return. On the one hand, the labor migration to other countries favors the labor force shortage in some Russian economic sectors (Information Technologies, construction), on the other hand this labor migration makes it possible to reduce the level of unemployment and poverty

in the country and improves the balance of payment of Russia in the form of money transfers from the migrants.

Results: Empirical estimation of efficiency of the human capital use

Estimation of the major factors of production is an integral part of the productivity analysis and in the case of a regional analysis the importance of this system of indicators is very high (Asghar N., Danish M.H., Rehman H., 2017).

The dynamics of labor productivity in relation to the human development index requires a detailed assessment with the use of methods of the correlation and regression analysis. It is possible to assess the labor productivity indicator at the level of the former Soviet Union in the dynamics from 1990 to 2016. The following formula will be used to assess the labor productivity of the country:

$$N = \frac{Q}{L};$$

where N is labor productivity (rubles/a person)

Q is gross regional product.

L is a number of people employed in the economy (people)

The data are represented in Table 3 and in Figure 2.

The data by countries are grouped according to the method of increasing the intervals for a more visual representation and determination of the existing development tendency.

Table 3

Aggregate data for calculating the labor productivity of the former Soviet Union (Official site of the World Bank)

Country	Indicator	1990 - 1994	1995 - 1999	2000 - 2004	2005 - 2009	2010 - 2014	2015 - 2017
Armenia	GDP (thousand $)	1622882.94	1465178.64	1370867.12	1444250.11	1582732.76	1688797.46
	Labor force, total	1415883.60	1299912.40	1294361.60	1313903.80	1402526.40	1403674.67
	N	**1139.75**	**1300.44**	**1974.18**	**6208.35**	**7518.54**	**7749.23**
Azerbaijan	GDP (thousand$)	5985697.87	4824590.17	3701466.93	3495738.87	3590412.63	3843909.19
	Labor force, total	3033858.80	3342078.60	3666031.40	4144723.40	4625419.00	4947396.67
	N	**2000.63**	**1146.95**	**1801.49**	**7632.02**	**14582.28**	**8887.01**
Belarus	GDP (thousand$)	17580010.59	16044545.96	15395915.19	14814189.49	14602393.68	14043686.15
	Labor force, total	4695724.00	4736964.80	4870786.00	5010045.80	5105033.60	5093673.00
	N	**3744.42**	**2965.06**	**3305.03**	**8866.49**	**13279.01**	**10380.38**
Estonia	GDP (thousand$)	0.00	874733.03	1823954.98	2837203.07	3960624.92	5106004.51
	Labor force, total	748335.00	689645.40	671811.80	689520.00	682698.80	690212.67
	N ($/labor person)	**0.00**	**7417.06**	**12235.43**	**28102.94**	**34308.84**	**34686.13**

Georgia	GDP (thousand$)	4603299.73	3591345.73	2938805.65	2902848.02	3085311.78	3142542.52
	Labor force, total	2449421.20	2311831.20	2195680.60	2106761.00	2075740.40	2041624.00
	N ($/labor person)	**1893.07**	**1362.32**	**1714.18**	**4556.71**	**7190.68**	**7108.58**
Kazakhstan	GDP (thousand$)	24276134.16	22964449.79	22195294.23	21647092.74	21392336.32	20516331.90
	Labor force, total	8039916.20	7797128.60	7720105.60	8242150.00	8885135.40	9170801.67
	N ($/labor person)	**3020.10**	**2630.63**	**3595.22**	**11865.20**	**22625.08**	**17492.40**
Kyrgyz Republic	GDP (thousand$)	2254139.66	2051543.36	1902890.81	1793151.12	1716684.78	1630295.78
	Labor force, total	1765229.80	1913064.20	2133350.20	2380467.20	2490043.00	2577517.00
	N ($/labor person)	**1281.14**	**855.38**	**805.92**	**1585.22**	**2599.36**	**2722.04**
Latvia	GDP (thousand$)	0.00	1157673.70	2351682.64	3656817.89	5091814.91	6598452.43
	Labor force, total	1248965.00	1160452.60	1098288.80	1121361.20	1033912.00	1005006.00
	N ($/labor person)	**0.00**	**5699.87**	**9458.64**	**23282.07**	**27462.19**	**28140.03**
Lithuania	GDP (thousand$)	0.00	1574156.45	3251178.26	5275233.15	7523305.33	9717881.06
	Labor force, total	1783251.00	1727969.00	1646021.60	1522282.60	1487728.60	1469890.00
	N ($/labor person)	**0.00**	**5631.74**	**9693.83**	**23866.06**	**29374.57**	**29818.61**
Moldova	GDP (thousand$)	0.00	350595.17	689621.26	1075635.54	1403534.98	1637691.99
	Labor force, total	1348090.60	1395281.00	1430545.40	1348698.80	1241363.60	1290596.00
	N ($/labor person)	**0.00**	**1174.93**	**1257.34**	**3340.84**	**5816.32**	**5545.62**
Russia	GDP (thousand$)	465045761.80	440789120.31	415540526.46	404467721.91	371641602.53	331807295.82
	Labor force, total	75386679.00	71775676.20	73835094.20	75956364.40	76645500.20	76043153.00
	N ($/labor person)	**6160.61**	**4632.14**	**5230.72**	**15600.40**	**26479.02**	**18550.89**
Tajikistan	GDP (thousand$)	2013226.09	1733651.68	1435486.20	1238005.50	1172692.11	1120790.67
	Labor force, total	1763285.20	1937224.20	2228692.20	2646602.40	3055681.60	3352672.00
	N ($/labor person)	**1149.13**	**579.13**	**601.94**	**1420.34**	**2445.00**	**2184.54**
Turkmenistan	GDP (thousand$)	3067704.59	2926242.35	2760478.92	2610387.95	2495680.37	2473593.98
	Labor force, total	1448291.80	1688999.60	1907709.60	2137936.80	2400133.40	2567398.67
	N ($/labor person)	**2128.80**	**1466.13**	**2465.71**	**6527.61**	**14067.26**	**14834.31**
Ukraine	GDP (thousand$)	70212366.04	63563755.94	56982459.28	52224092.17	47471028.48	43277245.26
	Labor force, total	24681923.00	23860909.00	22651716.60	21920831.00	21440344.00	20745163.67

	N ($/labor person)	**2845.34**	**1809.31**	**2008.29**	**5790.30**	**7381.89**	**4767.14**
Uzbekistan	GDP (thousand$)	13195539.67	13193511.87	13247765.87	13608427.15	13986418.62	14822280.42
	Labor force, total	7927872.00	9004301.80	10287815.00	11796731.80	13728497.20	15021375.67
	N ($/labor person)	**1667.46**	**1643.51**	**1112.55**	**1965.63**	**3738.84**	**4062.78**

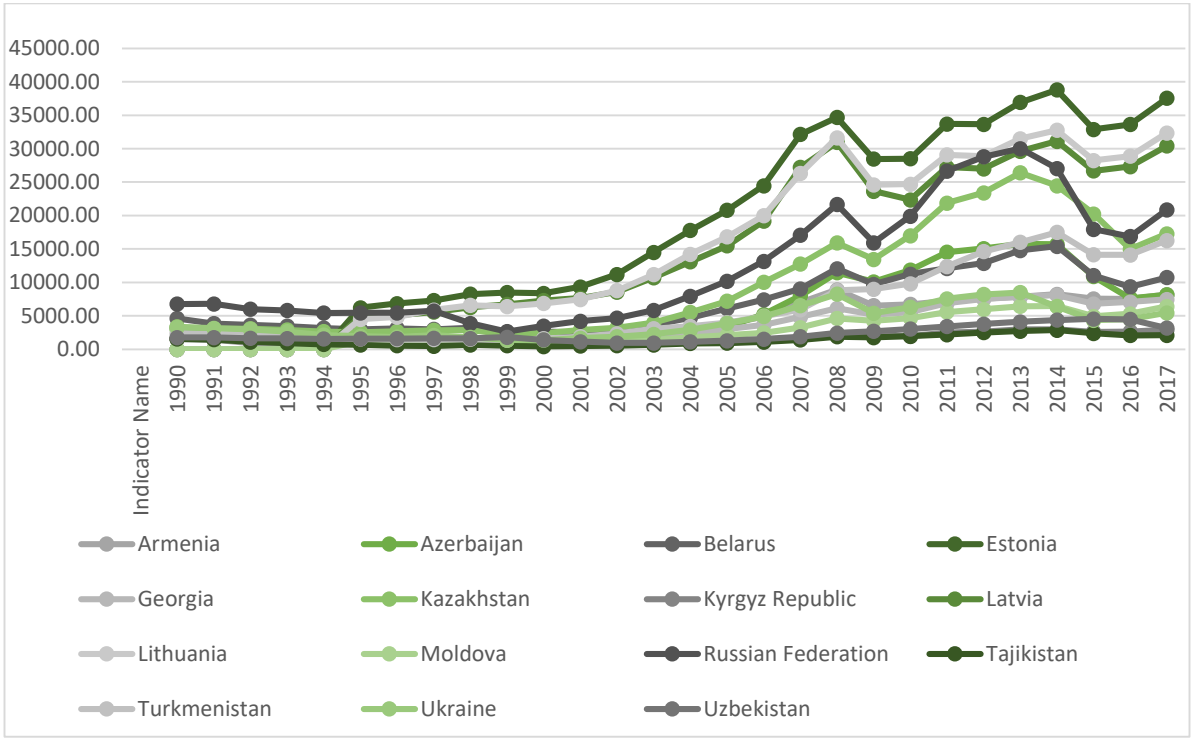

Figure 2 – Dynamics of labor productivity by countries with account taken of size of able-bodied population

According to the data, the countries of the former Soviet Union are divided into four groups:

1 – The Baltic states (Estonia, Latvia, Lithuania), whose labor productivity is highest, the tendency is similar, fall in the level in 2009 (the world financial crisis), in 2015 (imposition of sanctions); the countries belong to the EU and the boundaries for the labor resources flow to foreign countries are opened; the human capital level is also high.

2 – the countries with high indicators of the labor productivity and the human capital are developed in the same way, they are both the recipient countries and the donor countries for different economies; there was a fall in 2009 and in 2015 with the subsequent recovery – Russia, Belarus, Kazakhstan.

3 – the countries with a low standard of living, donors of labor resources, with virtually the same level of the labor productivity over the last 25 years – Armenia, Georgia, Kyrgyzstan, Moldova, Ukraine, Uzbekistan, Tajikistan.

4 – Azerbaijan and Turkmenistan hold an intermediate position between 2 and 3 groups, with a similar tendency of the labor productivity, but with lower indicators of the standard of living and the human capital, with significant labor resources outflow.

Later on let's assess the connection between the human capital index (HDI) and the annual average labor productivity (N) by means of the regressive analysis in dynamics. With account taken of the data by countries the indicators are taken for periods of 1990 – 2015, 1995 – 2015. As the x parameters, let's specify the human capital index (HDI), as the y parameters let's specify the annual average labor productivity (N) – the data are represented in Table 4 in an abridged version for visualization. The correlation and regression analysis is implemented by means of assessing the pair regression in the Excel package.

Table 4
Data for the correlation and regressive analysis
(Official site of the World Bank)

Country	Year	GDP (thousand US$)	Size of the able-bodies population, persons	N, $/persons	HDI
	1990	2256838858	1464480	1541.05	0.634
	2000	1911563665	1285259	1487.30	0.644
	2010	9260284938	1380524	6707.80	0.729
Armenia	2015	10553337673	1398274	7547.40	0.743
	1995	3052467522.36	3247732.00	939.88	0.609
	2000	5272617196.05	3508581.00	1502.78	0.642
	2010	52902703376.11	4472075.00	11829.57	0.741
Azerbaijan	2015	53074370486.04	4873418.00	10890.58	0.759
	1995	13972676840.92	4720885.00	2959.76	0.655
	2000	12736856827.98	4802442.00	2652.16	0.681
	2010	57222490768.71	5092010.00	11237.70	0.787
Belarus	2015	56454734396.58	5113974.00	11039.31	0.796
	1995	4373665145.55	704343.00	6209.57	0.722
	2000	5685774808.81	679287.00	8370.21	0.781
	2010	19490936349.18	683977.00	28496.48	0.838
Estonia	2015	22566956982.23	686173.00	32888.14	0.865
	2000	3057453482.56	2171584.00	1407.94	0.673
	2010	11638536834.43	2087206.00	5576.13	0.742
Georgia	2015	13993546732.47	2058239.00	6798.80	0.769
	1990	26932728898.81	7968799.00	3379.77	0.690
	2000	18291990619.14	7655067.00	2389.53	0.685
	2010	148047348240.64	8719779.00	16978.34	0.766
Kazakhstan	2015	184388432148.72	9109811.00	20240.64	0.794
	1990	2674000000.00	1712383.00	1561.57	0.615
	2000	1369693171.44	2047512.00	668.95	0.593
	2010	4794357795.07	2447362.00	1958.99	0.632
Kyrgyzstan	2015	6678178340.45	2561561.00	2607.07	0.664

Latvia	1995	5788368511.12	1186393.00	4878.96	0.674
	2000	7937758980.30	1090112.00	7281.60	0.728
	2010	23757368290.10	1062906.00	22351.34	0.810
	2015	26972863393.64	1011063.00	26677.73	0.830
Lithuania	1995	7870782260.52	1753890.00	4487.61	0.702
	2000	11539211480.36	1682388.00	6858.83	0.757
	2010	37120517693.86	1503797.00	24684.53	0.826
	2015	41508609232.78	1470307.00	28231.25	0.848
Moldova	1995	1752975841.36	1382780.00	1267.72	0.594
	2000	1288429150.51	1417365.00	909.03	0.597
	2010	5811604051.97	1248999.00	4653.01	0.672
	2015	6512899540.35	1320953.00	4930.46	0.699
Russia	1990	516814274021.96	76378507.00	6766.49	0.733
	2000	259708496267.33	74243259.00	3498.08	0.720
	2010	1524916112078.87	76595377.00	19908.72	0.785
	2015	1368400705491.02	76288744.00	17937.12	0.804
Tajikistan	1990	2629395066.27	1702708.00	1544.24	0.616
	2000	860550305.83	2080372.00	413.65	0.535
	2010	5642178579.58	2901298.00	1944.71	0.608
	2015	7853450374.00	3282832.00	2392.28	0.627
Turkmenistan	2010	22583157894.74	2302348.00	9808.75	0.665
	2015	35799628571.43	2533015.00	14133.21	0.692
Ukraine	1990	81456918678.50	24628384.00	3307.44	0.706
	2000	31261527363.14	23221424.00	1346.24	0.673
	2010	136013155905.04	21659434.00	6279.63	0.734
	2015	91030959454.70	20929698.00	4349.37	0.743
Uzbekistan	2000	13760374487.51	9729110.00	1414.35	0.594
	2010	39332770928.94	12978298.00	3030.66	0.664
	2015	66903804142.54	14721658.00	4544.58	0.701

Results of the regressive analysis are represented in Tables 5 – 7.

Table 5
Regression statistics

Indicators		*Explanation*
Multiple R	0.825737324	expresses a degree of dependence of independent variables (X) and a dependent variable (Y), in the simple linear regression analysis, the multiple R is equal to the Pearson correlation coefficient, in this case it is high – more than 0.8, in other words, the dependence is direct and strong.
R-square	0.681842129	the coefficient of determination also has the name "certainty measure", it characterizes the quality of the obtained regression line. If the value of *R-square* is close to one, it means that the built model explains almost the whole variableness of relevant variables. In this case the coefficient is about 0.7, which indicates a good regression equation, but confirms the multiple relationship of the labor productivity. Of course, this indicator depends on the human capital level as well as on a number of other factors, which are not considered in this study

Normalized R-square	0.680841633	As the normalized R-square is little different from the coefficient of determination, it is possible to draw a conclusion about good quality of the model.
Standard error	4980.24	With account taken of a value of the indicator Y the sample error is much less than 1 %.
Observations	320	Quantity of observations

The regression statistics shows the meaningfulness and correctness of the regression model and the high level of dependence of the labor productivity on the human capital level.

Table 6
Dispersion analysis

	df	*SS*	*MS*	*F*	*Meaninfulness F*
Regression	1	16903251839	16903251839	681.5037967	4.4988
Remainder	318	7887313484	24802872.59		
Total	319	24790565323			

Table 7

	Coefficients	Standard error	t-statistics	P-Value	Lower 95%	Higher 95%
Y-intersection	-57413.664	2518.904	-22.793	7.628	-62369.488	-52457.841
Variable X 1	93348.027	3575.781	26.105	4.498	86312.848	100383.205

As a result of the calculation the following regression model is obtained:

N= -57413.664 + HDI*93348.027

The dispersion analysis shows that there are differences in the system (between-group) variance and the accidental (within-group) variance in the measured data, which is caused by the study of the territory of the former Soviet Union, which unites different countries, which are united (see above) into 4 groups, which is also displayed in the statistics indicators. Thus, it is possible to conclude that the annual average labor productivity and the human capital index are interdependent indicators, which have a direct proportional connection. The labor productivity indicator is an indicator of efficiency of the use of the human capital, which can be used in developing the system of regulating the labor resources flow between neighboring territories in order to implement a joint interstate and intrastate migration policy aimed at harmonization of interests of the states of the former Soviet Union. The economic substantiation of such a migration policy should be caused by the taking into account of the existing legal framework related to the migration regulation and the existing restrictions for labor resources between the territories.

3. DISCUSSION AND CONCLUSIONS

According to the study, the foreign migrants' inflows to Russia are ambiguous for the receiving community. On the one hand, the process of population ageing requires the able-bodied population inflow from foreign countries. On the other hand, for development of innovative, competitive economy, for performing the strategic project "Innovative

Russia – 2020" there is a need for the human resource, which is characterized by the professionalism, competence, the ability to learn quickly during the whole life (Innovative Russia – 2020 (Strategy of Development of the Russian Federation for the period to 2020), 2010). Thus, contradiction is created between quality of professionalism of the arriving migrants, and the requirements of innovation development of the Russian society, since the majority of the arriving labor migrants do not have a necessary set of competences to create an innovation product for the international market. The second contradiction is that any actively developing country tries to reserve the right for the skilled work, and the migrants are offered to fill the niches of low-skilled labor market. Some labor migrants are ready to such conditions to stay in the country, to receive the citizenship, to formalize the Russian pension, which is much higher than the pensions in their native countries.

On the basis of the analysis of the long time series, the regression model of dependence of the migrants' number on the level of the human development index in the country is obtained, which can become the foundation of adopting the management decisions in shaping the migration and social policy in a separate country of the former Soviet Union, and of shaping the policy of a strategic partnership of the area of the former Soviet Union and joint solution of social tasks. Of course, formation and functioning of the former Soviet area, as a specific social and economic system caused the interests to this subject and the researchers Rybakovsky L.L. (Rybakovsky L.L., 2008), Absattarov R.B. (Absattarov R.B., 2014), Vartanova M.L. (Vartanova M.L., 2013), Urunov A.A. (Urunov A.A., 2017) studied the existing social, political and economic problems. The studies mainly emphasized the assessment of the existing labor resources flow and the analysis of possible economic consequences. Unlike the authors mentioned, the studies revealed the relation between the migration and the human development level, and the labor productivity. The authors should note the papers, which also considered the integration prospects of creating the neighboring area, but in the context of the countries of Europe (Dadabaeva Z.A., 2016) and the Azov-Black Sea basin (Grinenko S.V., 2013). Unlike the papers mentioned, this study considers, as a neighboring area, the territory of the former Soviet Union, which enlarges the possibility to disseminate the conclusions and results obtained.

4. CONCLUSIONS

The analysis, which was performed during the study, confirmed the conclusions of some researchers, which are related to determination of specificity of migration processes in the neighboring territories, but the analysis made it possible to determine the dependence of the migration in the former Soviet Union on the economic and geopolitical factors as well as on the influences, which cannot be formalized – ties to family, the Soviet mentality, maintenance of the partnership since the Soviet period, which are more important than certain affections. The authors tried to assess, in the aggregate, the mutual influence of such magnitudes as the human capital level, the labor productivity and the level of migration on the basis of the systemic approach and to carry out the correlation and regression analysis of those indicators. It should be noted that a hypothesis, which is made in the introduction, is confirmed by both the logic conclusions and the analysis of the empiric material.

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