

# **Tajik work migrants in Russia**

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## **1.Introduction**

In 1990s Russia experienced a migrant inflow from the republics of the ex Soviet Union which peaked in 1992-1995. 65% of the migrants were ethnic Russians. In 2000s rapidly recovering from the financial crisis of 1998 Russian economy began to attract temporary labor migrants. The number of the latter quickly exceeded the immigrant flow: according to official statistics the number of labor migrants increased 11 times during the period 1999-2008: from 211 thsd to 2426 thsd. The officially registered migrants make 3.1% of labor force in Russia. In some industries the share of migrants is much higher, for instance, in construction industry it is 16%. Experts estimate illegal migration from 3.2 to 5.2 mln<sup>1</sup>, considering these estimates share of migrants in Russian labor force reaches 4,7–7,7%. According to Federal Migratory Service of Russia (FMS) main donor countries for Russia are Central Asian ex-soviet republics (Tajikistan, Uzbekistan, Kyrgyzstan), Ukrain, China (see table 1). The push factors for labor migrant flow increase are high unemployment and low wages in migrants native countries, while the main pull factor is high demand for low-skill labor in Russia.

Despite migrants are significant group at Russian labor market there have been little economic analysis of migrants performance while this question is extremely important for migration policy decisions. This paper considers the wage differential between migrants and natives in Russia. We find that in 2009 migrants earn 15% less than comparable citizens of Russia. We also make use of our data to describe a profile of migrant in Russia and analyze the selection process. We find evidence for intermediate selection on observable characteristics.

The literature about labor migration in Russia has mostly been demographic and sociologist studies. Demographers view migration as a source of compensation the decreasing work-age population in Russia (e.g., see Vishnevsky, 2010) while sociologists present works that describe the life of migrants in Russia (e.g. see Zayonchkovskaya, Tyuryukanova (2010)). The only paper we are aware of that undertakes economic analysis of migration in Russia is Lazareva(2008) where author exploits natural experiment of immigration from former soviet republics. Lazareva shows that migration

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<sup>1</sup> For description of problems in official migration statistics see experts report at <http://www.indem.ru/Ceprs/Migration/ExSoCoOc.htm>

had equalizing effect on Russian regional labor markets in presence of barriers for internal migration. The limitations on research in this area are due to data unavailability.

Our paper is using migrant flows from Tajikistan to analyze labor migration to Russia. Tajik migrants make 16% of the migrant flow to Russia. Tajik economy is highly dependent of migrant remittances which made 31% of GDP in 2010 according to World Bank. That makes Tajikistan the world top remittance-receiving country as a share of GDP. In case of Tajikistan strong push factors are present: Tajikistan has the lowest wage and GDP per capita among CIS countries.

In this paper we use 2007 and 2009 rounds of World Bank's Tajik Living Standards Survey (TLSS). The survey is a unique source of information about life of Tajik households, including labor migration. As the survey takes place in Tajikistan it avoids problems of refuses to participate in the survey and incentives to misreport information concerning legality and income in Russia. There already exist number of papers that use Tajik Living Standards Survey for analysis of migration: Danzer, Ivaschenko (2010), Kroeger, Meier (2011), Atamanov, van den Berg (2011), Abdulloev, Gang, Landon-Lane (2011). While the above papers consider the households choice of strategy at the labor market, our paper looks at the date from the receiving country point of view. Using TLSS we describe the profile of typical Tajik migrant in Russia. Further, we combine the TLSS with The Russia Longitudinal Monitoring Survey (RLMS) to analyze the wage gap between migrants and natives in Russia. In migrant profile we are interested in such factors as education, knowledge of Russian language, migrant family composition and some other personal characteristics that are unavailable from surveys conducted in Russia. We also describe the migration strategy: the length of stay, legality, earnings, and remittances. To analyze the gap we compare the actual earnings of migrants and earnings predicted using the wage equation for Russian citizens.

The answers to the questions we put in our paper are important for migration policy analysis in Russia. Migration policy in Russia is not selective. The quota system in Russia seems to be ineffective for managing migration flows<sup>2</sup>. Migration streams are rather formed by self-selection procedures in the sending countries which seems to be adverse for Russia: the qualification of migrants has been decreasing in recent years (see

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<sup>2</sup> For detailed analysis of existing migration policy see Zayonchkovskaya, Tyuryukanova and Florinskaya (2011) Karachurina(2011)

Zayonchkovskaya, Tyuryukanova (2010)). Our analysis shows that one of the reasons for deteriorating migrant “quality” could be the position migrants occupy at the receiving country labor market.

The paper is organized as follows. First we briefly describe the literature that that concerns our paper and formulate a simple model of selection into migration. Then we describe the migrant profile. Finally, we estimate the wage gap between migrants and natives in Russia.

## ***2.Literature review***

In the paper the wage gap is defined as difference between the income of migrants and natives of the receiving country that remains after control for such observable characteristics as age, education, experience, marital status, and etc. Two main explanations of such gap exist: migrant discrimination at the receiving country labor and difference in human capital between migrants and native work power.

Several mechanisms of discrimination at labor market based on some observable characteristic (sex, age, ethnicity, etc.) are described in literature. The first mechanism – Becker’s theory of “taste for discrimination”, (Becker (1957)) – supposes discrimination to be the definite property of employer preferences. If sufficient quantity of employers discriminate migrants, wages of the latter will be lower than the wages of native employees with the comparable characteristics. The second approach – “statistical discrimination” (Phelps 1972, Arrow 1972) – appears in the case of incomplete information of employer on employee characteristics. Being not possible to define working efficiency of a worker, an employer fixes the rate of wage on the mean level of working efficiency of employees of the group concerned. If working efficiency of migrants on average was lower than one of the natives any new migrant will get the offer with the wage lower than wages of comparable natives, irrespective of his personal characteristics. The same is the explanation of the difference of отдача на измеримые характеристики работника (education, experience, and etc.) between natives and migrants. The third approach is that entrance to the definite (more profitable) segments of labor market can be closed for the group being discriminated. Empirically such form of discrimination appears as labor market segregation between migrants and not-migrants (see Tomaskovic-Devey, D. (1993)). According to crowding model, suggested in

Bergmann (1974), limitation of transition from one segment of labor market to another for migrants can bring to excessive migrant labor suggestion in available for them segments and corresponding wages reducing.

After control for observable characteristics of the employee migrants can still differ from natives in unobservable characteristics which can become a source of gap. As usual by unobservable characteristics are understood hidden qualities of the person. Hidden qualities influence the efficiency of the cumulative human capital that in the case of migration can manifest itself in more rapid adaptation of migrants in recipient state or in lower migration cost. The gap explainable by unobservable characteristics can be both positive and negative depending on the existing migration self-selection type. Standard neoclassical model of migration Todaro(1970) predict the existence of positive selection. As a rule, the existence of positive selection is explained basing on the model of human capital (e.g., see model formula in Chiswick (2000)). There exist several empirical confirmations of positive selection to migration (e.g., see McKenzie(2010)). The possibility of negative self-selection is forecasted in Borjas(1987). Borjas(1987) shows that differences in wage distribution in donor and recipient countries (различия в отдаче на капитал) brings to selection for migration of such people who obtain definite (unobservable) characteristics. As well, selection can be negative on some definite conditions at labor market of donor country (e.g., see Dustmann(1993)). If there is an unemployment in donor country and probability of getting a job grows with hidden qualities increasing, then selection for migration can be negative too.

There are many empirical papers investigating wage gap between migrants and natives in different countries, different time periods and using different data types. The early empirical papers which analyze this wage gap pay special attention to assimilation. Assimilation is convergence of migrants age/wage profiles to the corresponding profiles of the natives. Chiswick (1978) analyzes USA population census data of 1970 and finds that in spite of the initial gap, wages of migrants rapidly grow and in 10-15 years convergence is reached, afterwards migrants earnings begin exceeding the natives earnings. Such earnings – time in country profile was explained on the basis of human capital. Cultural deficiencies, lack of language knowledge can bring to specificity of accumulated by a migrant human capital for donor country and to loss in migrant's human capital as a result of resettlement. Migrants don't possess human capital specific

to recipient country, hence are at a disadvantage as compared to its population. However, active investments into human capital specific to labor market of recipient country bring the earnings of migrants up to the level of natives' earnings. The author explains positive gap in wages after assimilation period by the existence of positive selection for migration: migration strategy is more advantageous for more gifted persons.

Borjas(1985) и Borjas(1989) oppose Chiswick(1978). In both papers Borjas as opposed to Chiswick uses panel data. Criticism of Borjas consists in the following: effect of duration of stay in host country, detected in cross-section, is explained by worsening of migrants "quality" in the later когортах rather than assimilation. Borjas considers earnings changing in separate emigrants когорты and detects much more slow convergence of natives and migrants income, especially for the later migrants когорт. LaLonde&Topel(1992) test the hypothesis of "migrants quality worsening" comparing migrants and native Americans of one and the same origin происхождения. The authors conclude that "worsening" is connected to the change of migration flows content from the point of view of the sending countries. In the flow originated from one and the same sending country reducing of migrants' qualification is not observed.

The abovementioned empirical investigations concern immigrants. In Dustmann(1993) earnings gap is considered for temporal migrants. The author shows that migrant earnings growth at the expense of additional year at labor market of the recipient country is not higher than the corresponding growth for natives. These means that the gap doesn't reduce for temporal migrants, as opposite to constant migrants (see Chiswick(1978)). Dustmann explains the absence of convergence by the lower incentives for temporal migrants to invest in human capital specific for the recipient country.

### ***3 Simple model of selection into migration***

As motivation for empirical analysis we formulate a simple model of self-selection into migration by observable characteristics. This model was developed in the paper by Chiquiar&Hanson(2005). The question of self-selection is important to predict the success of migrant at the receiving country labor market. The higher is migrant's stock of human capital the better chance he has to adapt to new conditions and thus decrease cost of migration. The importance of human capital for understanding the earnings gap between migrants and natives is underlined in literature (see Chiswick(2000)). We are unable to test the hypothesis about selection on unobservables. Still, depending on the

type of selection on observables we find for Tajik migrants, we will refer to different explanations of the gap.

In the model the citizens of the sending country make decision about migration after comparing benefits and costs of migration, both direct and opportunity costs. The opportunity costs are the wage at home that is defined by the equation (1):

$$\ln(w_0) = \mu_0 + \delta_0 s, \quad (1)$$

where  $w_0$ - wage at home,  $\mu_0$  – base wage at home,  $\delta_0$  – returns to education at home,  $s$  – number of years of education. In the receiving country migrant wage is defined by the equation:

$$\ln(w_1) = \mu_1 + \delta_1 s, \quad (2)$$

where  $w_1$ - wage in the receiving country,  $\mu_1$  – base wage in the receiving country,  $\delta_1$  – returns to education in the receiving country,  $s$  – number of years of education. Because supply of high qualification is lower in the sending country it should be that  $\delta_0 > \delta_1$ . We will check this assumption in the empirical part of the paper for Tajikistan and Russia.  $C$  – are direct costs of migration,  $\pi = C/w_0$  – are the costs of migration in terms of time. For positive migration decision the inequality (3) should hold:

$$\ln(w_1) - \ln(w_0 + C) \approx \ln(w_1) - \ln(w_0) - \pi > 0 \quad (3)$$

The model assumes the costs of migration to decrease with migrant education level:

$$\ln(\pi) = \mu_\pi - \delta_\pi s \quad (4)$$

In case of migration from Tajikistan to Russia there exist procedures of getting work permission and registration that involve paperwork and demand knowledge of Russian. When such skills are absent migrant has to refer to intermediaries which will increase the costs of migration.

Equations (3) and (4) define the level of migrants' education. The lines at Figure 2 show the benefits of migration and staying at home. The line which represents benefits of migration is above the line which represents benefits of staying at home in the interval  $(s_L, s_U)$ . Tajik citizens with education in this interval migrate. Depending on the education distribution in the sending country there could be three types of selection into migration. Negative selection takes place when distribution density of years of education is above  $s_L$ , positive selection takes place when distribution density is below  $s_U$ . The last option is

intermediate selection that takes place when density exists both above  $s_L$  and below  $s_U$ . In this paper we would like to find evidence for one of the types of selection for Tajikistan.

#### **4. Data**

In this paper we use two rounds of Tajik Living Standards Survey that was performed by World Bank in 2007 and 2009. The Survey took place in October – November when most of seasonal migrants come back home for winter. The sample of 2009 is a representative subsample of 2007 sample. In both rounds sample of households is representative on the national and regional levels and on the level of urban/rural population.

The survey of 2009 consists of a single part – a household survey. The questionnaire includes questions about migration, education, health and labor market participation of household members. The 2007 survey contains two additional parts: questionnaire for women and for communities.

Table 1 presents sample characteristics for 2007 and 2009. The number of respondents and number of surveyed households in 2009 sample is about 3 times smaller. Still, both samples contain enough migrants for describing a typical migrant profile.

We are also using 2007 and 2009 rounds of The Russia Longitudinal Monitoring Survey of Higher School of Economics (RLMS-HSE) which is a series of nationally representative surveys. From RLMS-HSE we acquire information about earnings and some personal characteristics of Russian citizens.

#### **5. Migrant portrait**

Low level of income in Tajikistan and high unemployment push the Tajiks into migration as a labor market strategy. According to Agency for Statistics under President of the Republic of Tajikistan 11% of total population and 15% of prime age population were involved in temporary labor migration in 2009. Their data also indicate an increase in migrant outflow by 20% in 2009 in comparison with 2007. Our data also show an increase in migration participation in 2009 (see Table 2). A share of households that have a migrant abroad or recently returned migrant (migrant who returned not earlier than a year ago) increased from 26% to 45%. 15% in 2007 and 28% in 2009 of male population in Tajikistan had some migration experience. These results correspond with results obtained in papers Danzer and Ivaschenko (2010) and



Kroeger and Meier (2011) which show that after 2008 crisis new households started being involved in migration. Figure 2 shows that about 70% of households involved in migration have a single migrant, about 20% - two migrants and all the rest – three or more.

Table 3 presents Tajik household composition. Tajik households are as large and consist of about 8 members, usually they include several generations. Migrant families are larger and not only include more men but also more children, women and elderly. Still in migrant households share of men within prime age members is higher. Probably, this allows households to allocate some labor resources into migration.

Tables 4 and 5 represent the most frequent migration destinations. More than 95% of Tajik migrants go to Russia. The main flow (about 60%) is going Moscow, Yakutsk(15%), Saint Petersburg (about 6%), Yekaterinburg (about 6%) and Tyumen (2-3%). Other cities receive small shares of migrant flow. The earnings of migrants in different cities differ insignificantly.

Tables 6 and 7 let us describe a typical migrant as a married man about 30 years old from rural location in Tajikistan. Also our results dispel the myth that migrants don't speak Russian: actually nearly 80% of migrants do speak Russian. Often migrant is a son of household head (see Table 8) which means that migrant household combines several generations including migrant's parents, wife and children. For developing countries collective decisions about some household members migration are typical<sup>3</sup>. A sharp increase of migrant remittances (from 7% to 80%) could be an evidence of such strategic behavior. Figure 4 compares earnings of Tajik males at home and abroad. Average earnings of migrants in Russia is about 370 USD what is 4 times higher than their expected income in Tajikistan (for a prime age male average wage in 2009 was equal to 90 USD). This difference for sure drives migration from Tajikistan to Russia. Remittances make 60% of migrant earnings abroad. Table 7 shows that time migrants stay abroad decreased in 2009 to 8.8 months from 10 months in 2007. This is also seen in the share of migrants who were at home at the moment of the survey (75% in 2009 and 41% in 2007

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<sup>3</sup>«New economics of migration» is based on collective decision making, see Stark, Bloom(1985) «The New Economics of Labor Migration»

It is interesting to compare our results about legal status of migrants with surveys performed in Russia. According to our results short-term migrants are legal migrants more often than long-term, that is, they have work permit and registration. Интересно сравнить наши данные о легальности нахождения мигрантов в России с другими исследованиями. In our data much less migrants have registration (63% in 2009 sample) than in data from survey performed in Russia by Zayonchkovskaya and Tyuryukanova (2010) who give the number of 79%. This might be signal of a bias in their sample. As for work permits, in 2007 data that include total sample of migrants we have a slightly less legal migrants than Zayonchkovskaya and Tyuryukanova (2010) do: 55% against 63% But comparing these numbers would be incorrect due to reduced quotas in 2008 and 2009 when Zayonchkovskaya and Tyuryukanova (2010) performed their survey.

Table 9 presents the distribution of migrants among age - education level groups in comparison with non-migrant Tajik population and Russian population. In Tajikistan in all age cohorts people with secondary education dominate. For migrants it is even more significant than for non-migrant population. For all age cohorts but 16-25 we observe intermediate selection into migration. In low-skill group (secondary education or below) there exist positive selection: migrants more often have secondary education than non-migrants. In high-skill group (specialized secondary education or higher education) we observe that migrants achieve this level more rare. The only exception is age group of 16-25 where we observe that migrants always have a higher achieved level of education. As for the migrants place in the Russian labor force, migrants fall into the low skill group which makes Russia about 13-14% of its labor force.

In economic literature education is often viewed as main factor to define skill group. To compare migrants and Russian natives' earnings we need education to comparably reflect human capital. If it is not the case there is a problem for wage gap estimation. In our case an average migrant is 30.4 years old, so he probably received primary and sometimes even secondary education in Soviet educational system which was highly standardized. This makes education in Russia and Tajikistan comparable. Finally, let us consider household spending that is depicted on Figure 5. On Y axis we have share of households with migrants in X percentile of amount spending. Migrant households have lower food spending but higher non-food spending. The latter is probably a sign of recent cash inflow. Still, these results should be interpreted not as

result of participation in migration but rather a sign that more poor households participate in migration.

## **6. *The migrant-natives wage gap analysis***

Basic assumption in our model is higher returns to education in Tajikistan than in Russia. The more rare high qualification in Tajikistan should give higher returns. To test this assumption we compare returns to education for three groups: for Tajiks in Tajikistan, for Tajik migrants in Russia and for Russians in Russia. Explanatory variables in all regressions include: dummy variables for four education levels, age, age squared; for Tajik citizens: rural/urban location, region in Tajikistan, marital status, dummy for migration experience; for migrants: dummy variables for Moscow and Saint Petersburg, Ekaterinburg and for other cities with population over 1 mln, migration experience, Russian language; for Russian citizens: dummy variables for Moscow and Saint Petersburg, in Heckman selection equation: dummy variables for four education levels, age, age squared, marital status, number of children and family income.

Regression results are presented in Table 10. Coefficients before education level show what advantage in earnings does have an employee with some level of education over employee with level “below secondary”. In Tajikistan returns to all levels of education are higher in Tajikistan than in Russia for Russian citizens and for migrants. Result we obtained is comparable to previous estimates of returns to education in Russia<sup>4</sup> and to estimates of returns for migrants and natives (see Borjas(1996)), which show that returns for migrants are lower than for natives.

Let us consider distribution densities of log of migrants’ and natives’ earnings in Russia depicted on Figure 6. We see that in 2007 migrants and natives wage distribution are quite close: average income both for migrants and natives is just below 10 000RUR (about 350 USD in 2007) and median is 8 000RUR for natives and 8 990RUR for migrants. The right side of distribution is slightly higher for the natives. In 2009 situation has changed: average for natives is 13 460, while for migrants is 10 500, median for natives is 10 000, while for migrants is 9 124. Higher right side of distribution for natives is more significant. This change is the consequence of two factors. First, there were reforms of wages of state sector employees in 2007-2008 that raised earnings of the low-

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<sup>4</sup> See. Wage in Russia: evolution and differentiation, Moscow, HSE, 2008

income part of distribution. Second, during crisis low-skilled and low-income employees are more likely to loose job. In Butcher and Di Nardo paper they consider change of shape of natives earnings distribution density as an explanation for migrants/natives wage gap dynamics. We expect to see such effect in our data. Figure 7 shows the actual migrant and natives earnings/ age profile. Wage profile for Russians follows typical life cycle of earnings: it is convex with maximum at the age of 37, more steep at the increasing part. For all migrants earnings profile is very different: earnings increase with migrant age. For the group of return migrants, who have lower income, earnings practically don't differ within age group of 25-45, while before 25 income is increasing and after 45 it is decreasing. Thus we expect the gap to be the smallest for age groups before 25 and after 55.

The rest of the paper is devoted to estimation and analysis of migrants-natives wage gap. To compare migrants and natives earnings we estimate a wage equation for Russian male employees. We include only those variables we can also find in Tajik questionnaire: dummy variables for the four education levels, age, age squared, dummy variables for Moscow and Saint Petersburg and dummy variables for the most frequent professions according to ISCO88 classification (712 – building frames workers, 713 – building finishers and 9 – unskilled workers). The regression results presented in Table 11 we use to predict earnings of native with migrant characteristics. Further it is compared to migrant's earnings from the survey. By averaging this difference we obtain the gap. We find difference in logs of 0.66 in 2007 and 0.68 in 2009 or 600 RUR in 2007 and 1800RUR in 2009<sup>5</sup>. With average predicted earnings of 7600 in 2007 and 12 500 in 2009 migrants receive 8% and 15% less than comparable natives. The same gap in logs estimated by propensity score matching is 0.63 and 0.53 in 2007 and 2009 respectively. This method gives smaller numbers because it restricts the control group of natives by those most close to migrants.

Figure 7 depicts the gap between actual and predicted logarithm of migrant earnings. As expected, the gap is the smallest for the youngest and the oldest age groups.

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<sup>5</sup> The Ruble estimate is calculated using Duan's smearing

To explain the gap we use Oaxaca-Blinder decomposition. This method is used to explain the difference between groups in some variable. Method allows to relate the difference in variable to difference in levels or to difference in coefficients. In our case the two groups are migrants and natives and the variable is logarithm of earnings. In Table 13 we see that difference is mainly explained by returns to factors.

What can we infer about the gap? Combining the two sets of evidence: intermediate selection into migration in Tajikistan and attributing the wage gap to returns to factors in Oaxaca-Blinder decomposition in our explanation of wage gap we can hypothesize that migrants discrimination exists. Still, we are not able to determine the nature of this discrimination.

## **7. Conclusion**

We had two aims in this paper. First one is to draw a portrait of a typical Tajik migrant in Russia. We summarize a profile of typical Tajik migrant in Russia to describe the process of selection into migration. The second aim was to compare migrants and natives earnings at Russian labor market. The wage gap if exists is the major determinant of migrants' position at the receiving country labor market.

We found that migrant's household is larger than non-migrant household and the share of male prime age family members is higher. The migrant household combines several generations: migrant is usually the son of household head although he usually has his own family. We should see migration decision as a collective decision of distribution household labor resources. The described family structure allows household to distribute part of its resources to migration.

Analysis of migrant achieved education levels we find evidence for "intermediate" selection into migration for all age groups but 16-25 for which we find positive selection. Russia is the main destination for Tajik migrants. In our data we find that migrants earn in Russia four times more than at home. This is for sure an important driver of Tajik migration outflows. In 2009 80% of migrants sent remittances. An important result is 65% share of registered migrants which is lower than in previous studies.

We find a migrants/natives gap of 600 RUR in 2007 and 1800RUR in 2009. With average predicted earnings of 7600 in 2007 and 12 500 in 2009 migrants receive 8% and 15% less than comparable natives. Our results let us attribute this gap to some kind of

migrants discrimination. Still, we are not able to determine the nature of this discrimination.

## **8. Literature**

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## Figures and Tables

**Table 1.** Sample parameters

	2007	2009
<i>Total sample</i>		
Number of respondents	30 185	10 315
Number of households	4 819	1 503
Number of respondents in working years	18 095	6 412
Number of respondents with migration experience in last 4 years	1 521	964
Number of respondents with migration experience in last 2 years	1 310	780
<i>Panel</i>		
Number of respondents	9 214	10 212
Number of households	1 483	1 483
Number of respondents in working years	5 676	6 359
Number of respondents with migration experience in last 4 years	442	950
Number of respondents with migration experience in last 2 years	380	769

**Table 2.** Participation of Tajiks in migration

	2007	St. Dev.	2009	St. Dev..
<i>Whole sample</i>				
Share of respondents in working years with migration experience in last 4 years	7.92†	0.005	15.02	0.006
Share of respondents male in working years with migration experience in last 4 years	15.11†	0.009	28.11	0.01
Share of households having at least one migrant in last 4 years	29.86†	0.006	54.67	0.006
Share of respondents in working years with migration experience in last 2 years	6.84†	0.005	12.21	0.005
Share of respondents male in working years with migration experience in last 2 years	13.10†	0.009	22.78	0.01
Share of households having at least one migrant in last 2 years	26.22†	0.006	45.15	0.006

\*Note: † means that characteristics of sample of 2007 statistically difference from sample of 2009 at 5% significance level

**Table 3** characteristic of Tajiks households

	2007 migrants households	St. Dev.	2007 household s without migrants	St. Dev.	2009 migrants household s	St. Dev.	2009 household s without migrants	St. Dev.
Number of migrants in household	1.36*	0.735	0	0	1.484*	0.836	0	0
Number of family members (including absent ones)	8.543*	3.278	7.372	2.858	8.878*	3.299	7.522	3.061
Number of retirees	0.485*	0.709	0.416	0.7	0.468	0.712	0.44	0.705
Number of female	2.628*	1.299	2.196†	1.23	2.683*	1.283	2.313	1.236
Number of children	2.627	1.84	2.642	1.782	2.887*	1.847	2.61	1.783

Note: panel data; † means that characteristics of sample of 2007 statistically difference from sample of 2009 at 5% significance level; \* means that characteristics of family with migrants difference from characteristics of family without migrants at 5% significance level

**Таблица 4.** Destinations of migration from Tajikistan , %

	2007	St. Dev.	2009	St. Dev.
Russia	96.069†	0.013	98.305	0.005
Kazakhstan	1.094†	0.007	0.860	0.004
Other Central Asia states	0.382†	0.004	0.067	0.001
Other CIS state	0.080†	0.002	0.215	0.002
German	0.032†	0.001	0.131	0.002
USA	0.013†	0.001	0.026	0.001
Other state differs from CIS	2.329†	0.01	0.396	0.003

\*Note: † means that characteristics of sample of 2007 statistically difference from sample of 2009 at 5% significance level

**Table 5. . Destinations of migration from Tajikistan(Russian cities) , %**

	2007 Mean Wage \$	St.Dav.	2007 Number of migrants	2007 Share of migrants	2009 Mean Wage \$	St.Dev.	2009 Number of migrants	2009 Share of migrants
Moscow	322,7†	192,6	853	55,93%	378,5	313,4	581	61,42%
Yakutsk	345,7	241,2	221	14,49%				0,00%
St. Petersburg	354,8	205,6	105	6,89%	335,6	157,7	56	5,92%
Ekaterinburg	314	185,1	90	5,90%	418,4	585,5	54	5,71%
Tyumen	282,7	139,2	27	1,77%	314,6	192,3	25	2,64%
Samara	285,2	138,8	26	1,70%	379,6	257,9	14	1,48%
Irkutsk	337,4	261,6	19	1,25%	572,6	544,7	13	1,37%
Novosibirsk	325	204,1	18	1,18%	309,2	128	15	1,59%
Krasnodar	210,5	82,8	17	1,11%	266,7	202,1	3	0,32%
Volgograd	369,8†	358,5	14	0,92%	214,3	85,2	8	0,85%
Chelyabinsk	372,1†	272,6	13	0,85%	301,7	80,5	12	1,27%
Kazan	228,0†	112,8	11	0,72%	700		1	0,11%
Perm	290,9	128,1	11	0,72%	430	99	2	0,21%
Tver	400	0	2	0,13%	466,7	233,8	8	0,85%
Orenburg	175,0†	95,7	5	0,33%	375	150	6	0,63%
Other Russian cities	286,1	40,3	93	6,10%	367,7	189	148	15,64%
Total	322,5†	202,5	1525	100%	375,6	317,8	946	100%

\*Note: † means wage of 2007 statistically difference from wage of 2009 at 5% significance level

Table 6. Some characteristics of migrants and non-migrants in Tajikistan

	2007 migrants	St.Dev.	2007 Non migrants	St.Dev.	2009 Migrants	St.Dev.	2009 Non Migrants	St.Dev.
Age	29.106†*	8.858	31.845	13.472	30.354*	8.649	31.7	13.863
Citizen	16.443†*	0.043	22.904†	0.02	17.993*	0.016	24.5	0.012
Married	80.946†*	0.071	60.812†	0.024	75.843*	0.021	60.1	0.013

Note: panel data; means that characteristics of sample of 2007 statistically difference from sample of 2009 at 5% significance level; \* means that migrant characteristic is statistically different from non-migrant characteristic at 5% significance level

Table 7.Characteristics of migrants

	2007	St.Dev.	2009	St.Dev.
Sex	95.365†	0.024	93.497	0.011
Share of migrants at home	41.168†	0.057	75.278	0.018
Time abroad(return migrants)	9.916†	7.051	8.883	8.701
Time abroad (migrant abroad)	25.317†	26.66	34.654	35.249
Earnings in Russia , US\$ (return migrants)	326.696†	241.464	366.013	302.178
Earnings in Russia US\$(migrants abroad)	299.851†	162.584	368.874	225.977
Mean monthly remittance during 12 month from migrants abroad US\$	584.412†	512.274	233.052	202.029
Share of migrants abroad sending remittance	7.586†	0.04	80.89	0.034
Speak Russian	90.689*	0.044	81.638	0.017
Share of migrants with registration	73.404**	0.054	62.896	0.024
Share of migrants with work permission	51.298	0.101	87.162**	0.016

Notr: Panel data;; † means that characteristics of sample of 2007 statistically difference from sample of 2009 at 5% significance level;;\*Only migrants abroad; \*\*only migrants at home

**Table 2** Migrants family relations

	2007	St.Dev.	2009	St.Dev.
Son\Daughter	68,528	0,076	71,342	0,047
Head	16,773	0,061	17,912	0,04
Spouse	6,31	0,04	1,446	0,012
Sister\Brother	3,062	0,028	2,749	0,017
Son\daughter in law	2,286	0,024	3,091	0,018
Other relatives	3,040	0,011	3,460	0,010

**Table 9** Education of migrants v.s. education of non migrants and Russian

Age\Education level	2007		2007		2007		2009		2009		2009	
	Migrants	St.Dev.	Non migrants	St.Dev.	Russian	St. Dev.	Migrants	St.Dev.	Non migrants	St.Dev.	Russian	St. Dev.
<b>16-25</b>												
None, primary or unfinished secondary education	15.78†	0.07	35.88	0.04	0.08	0.08	16.42†	0.03	32.40	0.02	0.42	0.19
Secondary	71.27†	0.09	56.41	0.04	8.39	0.78	68.46†	0.04	56.23	0.02	7.91	0.78
Specialized or technical secondary	7.46†	0.05	3.23	0.02	41.41	1.38	8.54†	0.02	5.99	0.01	37.39	1.40
Higher or PhD	5.49†	0.05	4.48	0.02	50.12	1.40	6.58†	0.02	5.38	0.01	54.29	1.44
<b>25-35</b>												
None, primary or unfinished secondary education	9.41†	0.05	12.49	0.03	0.05	0.05	10.93†	0.02	17.67	0.02	0.05	0.05
Secondary	69.75†	0.08	56.47	0.05	11.67	0.71	61.91†	0.03	54.37	0.03	10.02	0.68
Specialized or technical secondary	7.80†	0.05	13.62	0.03	47.85	1.11	9.18†	0.02	8.43	0.02	45.91	1.12
Higher or PhD	13.04†	0.06	17.41	0.04	40.44	1.09	17.98†	0.02	19.53	0.02	44.03	1.12
<b>35-45</b>												
None, primary or unfinished secondary education	13.39†	0.10	7.33	0.03	0.12	0.08	7.48†	0.03	9.15	0.02	0.00	0.00
Secondary	54.72†	0.15	44.74	0.06	14.26	0.84	50.01†	0.05	48.99	0.04	13.59	0.83
Specialized or technical secondary	24.85†	0.13	28.04	0.06	55.76	1.20	31.24†	0.05	23.23	0.03	53.49	1.21
Higher or PhD	7.04†	0.08	19.89	0.05	29.86	1.10	11.27†	0.03	18.62	0.03	32.92	1.14
<b>&gt;45</b>												
None, primary or unfinished secondary education	13.81†	0.15	12.85	0.03	0.04	0.04	10.04†	0.05	12.69	0.02	0.08	0.06
Secondary	60.14†	0.21	38.46	0.05	18.51	0.76	40.14†	0.07	35.72	0.03	17.26	0.76
Specialized or technical secondary	16.48†	0.16	28.48	0.05	55.34	0.98	31.65†	0.07	28.14	0.03	56.68	1.00
Higher or PhD	9.58†	0.13	20.21	0.04	26.11	0.86	18.17†	0.06	23.45	0.02	25.98	0.89

\*Note:Panel Data; † means that characteristics of sample of 2007 statistically difference from sample of 2009 at 5% significance level.

Table 10. Educational returnings in Russia and Tajikistan

VARIABLES	1 log_earnings in Russia	2 log_earnings migrants in Russia	3 log_earnings in Tajikistan
Age	0.039** [0.020]	0.020 [0.027]	0.044*** [0.017]
age_sq	-0.001** [0.000]	-0.000 [0.000]	-0.001*** [0.000]
Higher education or phd	0.386*** [0.076]	0.292* [0.155]	0.578*** [0.086]
Secondary education	0.087 [0.066]	0.127 [0.125]	0.212*** [0.075]
Specialized secondary or technical secondary education	0.141* [0.078]	0.252* [0.143]	0.265*** [0.087]
Married			-0.067 [0.080]
Moscow	0.536*** [0.076]	0.209** [0.094]	
St Peterburg	0.314** [0.128]	0.171 [0.180]	
Ekaterinburg		0.229 [0.183]	
city with population > 1 mln		-0.016 [0.163]	
In how many of the years did you migrate abroad during 2001- 2009?		0.031 [0.021]	
dushanbe			0.188* [0.099]
gbao			-0.424*** [0.100]
khatlon			-0.201*** [0.065]
sogd			-0.300*** [0.071]
Urban location			0.299*** [0.069]
Did migrate abroad in last 4 years			0.665*** [0.059]
Constant	8.805*** [0.403]	8.385*** [0.447]	4.560*** [0.290]
Observations	1,098	368	1,495
R-squared		0.037	0.181

Standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \*  
p<0.1

Table 11. Wage equation for Russian

VARIABLES	log(earnings)
age	0.049*** [0.010]
age_sq	-0.001*** [0.000]
Higher education or phd	0.414*** [0.054]
Secondary education	0.146*** [0.050]
Specialized secondary or technical secondary education	0.269*** [0.055]
Moscow	0.553*** [0.045]
St Peterburg	0.356*** [0.091]
Building frame worker	0.191*** [0.060]
Building frame finisher	-0.132** [0.062]
Unskilled worker	-0.383*** [0.053]
Constant	8.135*** [0.194]
Observations	1,500
R-squared	0.196

Table 12. Wage gap between Russian and Tajik migrants

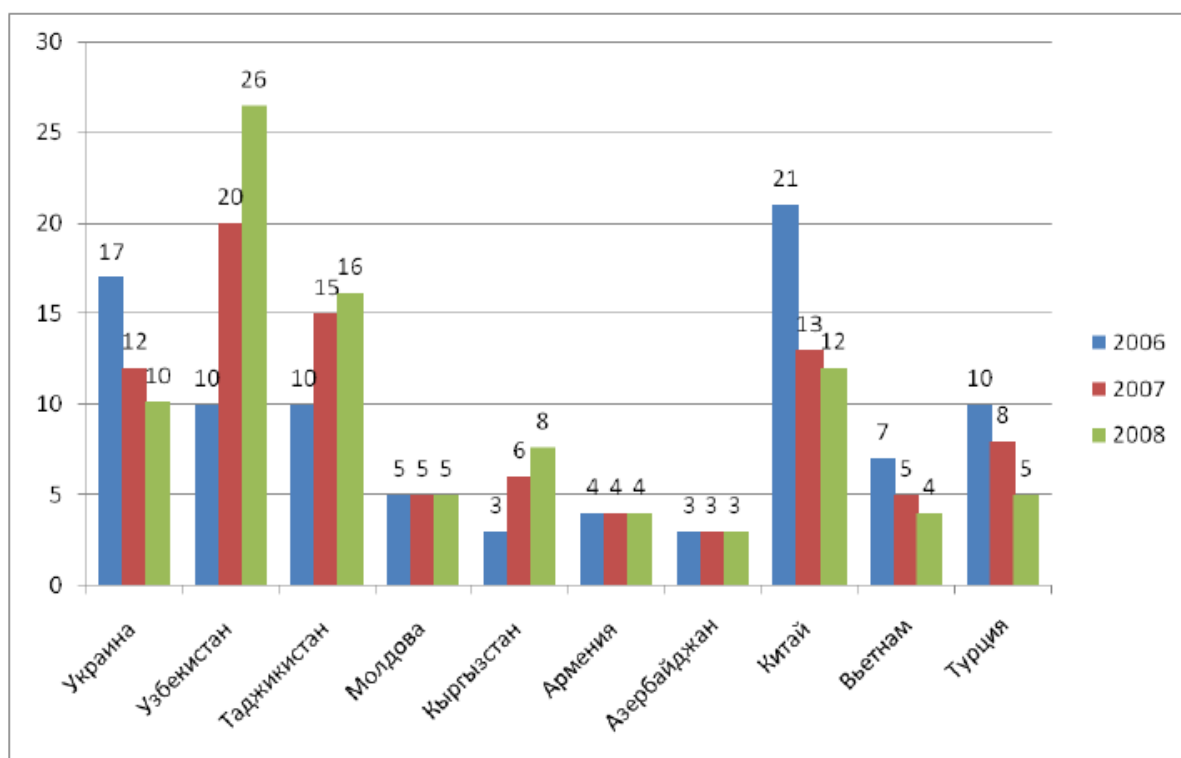
	Gap in logarithm		Gap in Rubbles	
	2007	2009	2007	2009
All migrants, OLS	0.662	0.686	630	1850
Number of observation	1132	650		
All migrants, PSM	0.663	0.538		
Number of observation	1058	609		



Table 13. Oaxaca Blinder decomposition of migrants/natives wage gap

log_earnings	Coef.	Std. Err.	z	P> z
Differential				
Prediction for migrants	8.68	0.03	327.73	0
Prediction for natives	9.14	0.02	536.88	0
Difference	0.46	0.03	14.67	0
Decomposition				
Endowments	0.17	0.04	3.79	0
Coefficients	-0.66	0.06	-10.76	0
Interaction	0.03	0.07	0.46	0.644

Figure 1 The main source countries for Russia 2006-2009..



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Figure 2.

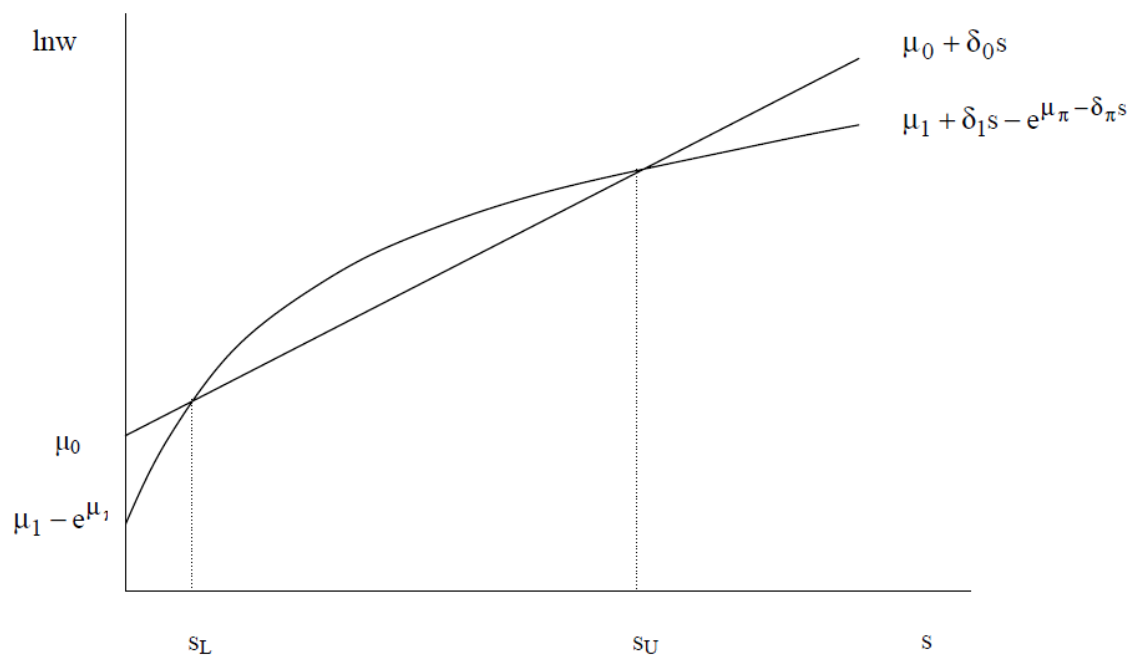


Figure 3. Number of migrants in Tajics Houholdes

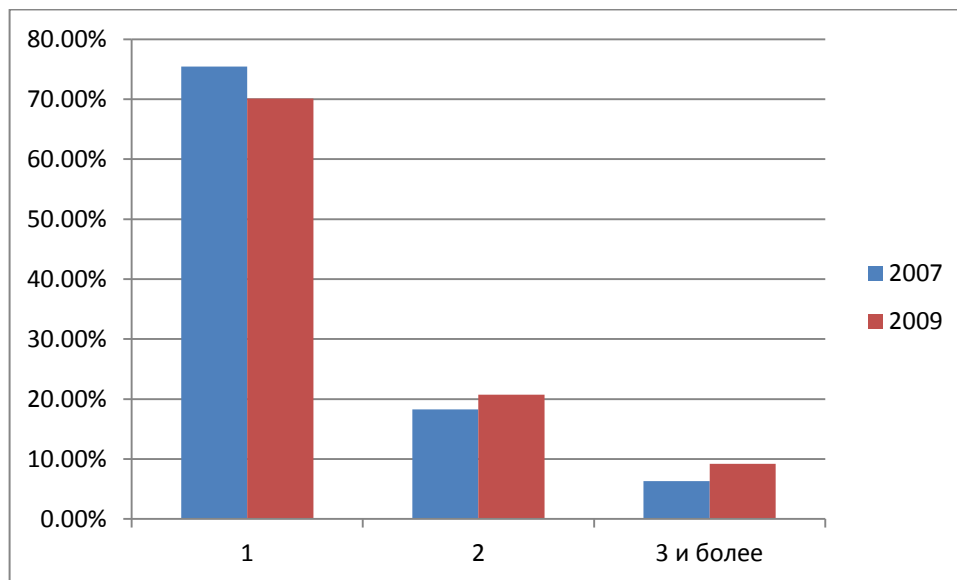


Figure 4. Density of wage of Russian and Tajics( male of working years)



Figure 5. Spending and consumption of Tajiks households vs. draw in migration

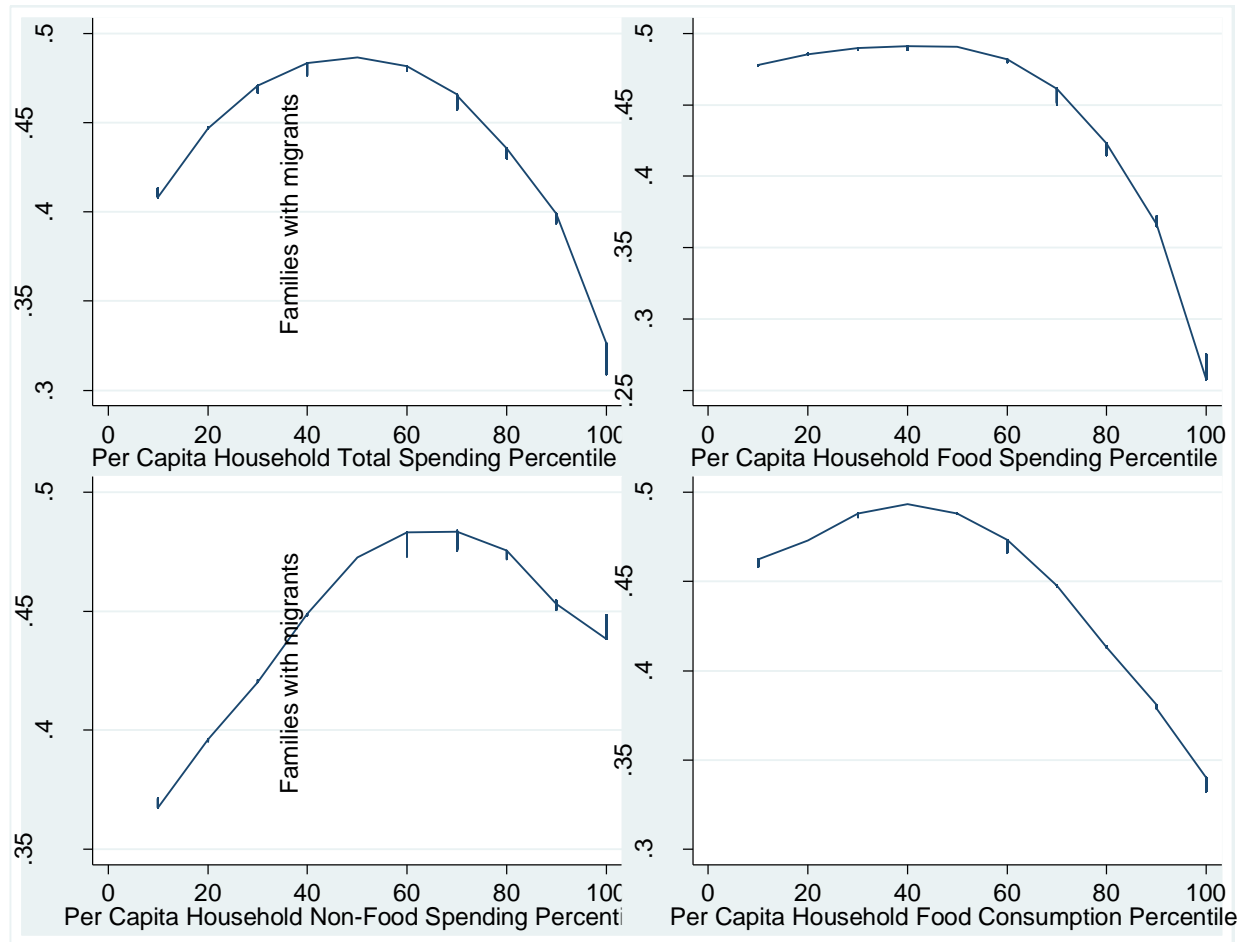


Figure 6. Density of logarithm of wage of Russian and Tajiks(male of working years)

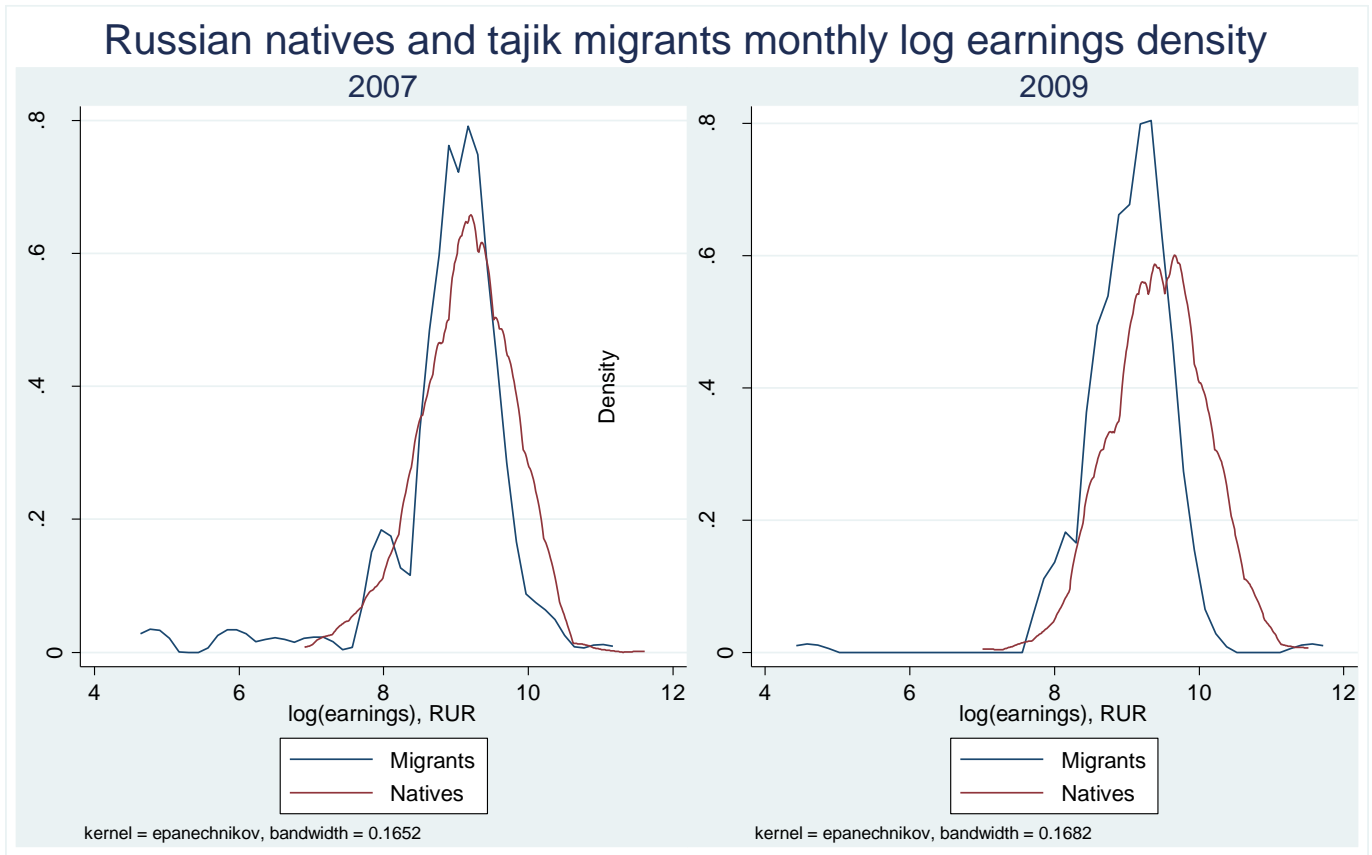


Figure 7. Distribution of earnings of locals and Tajiks migrants vs age

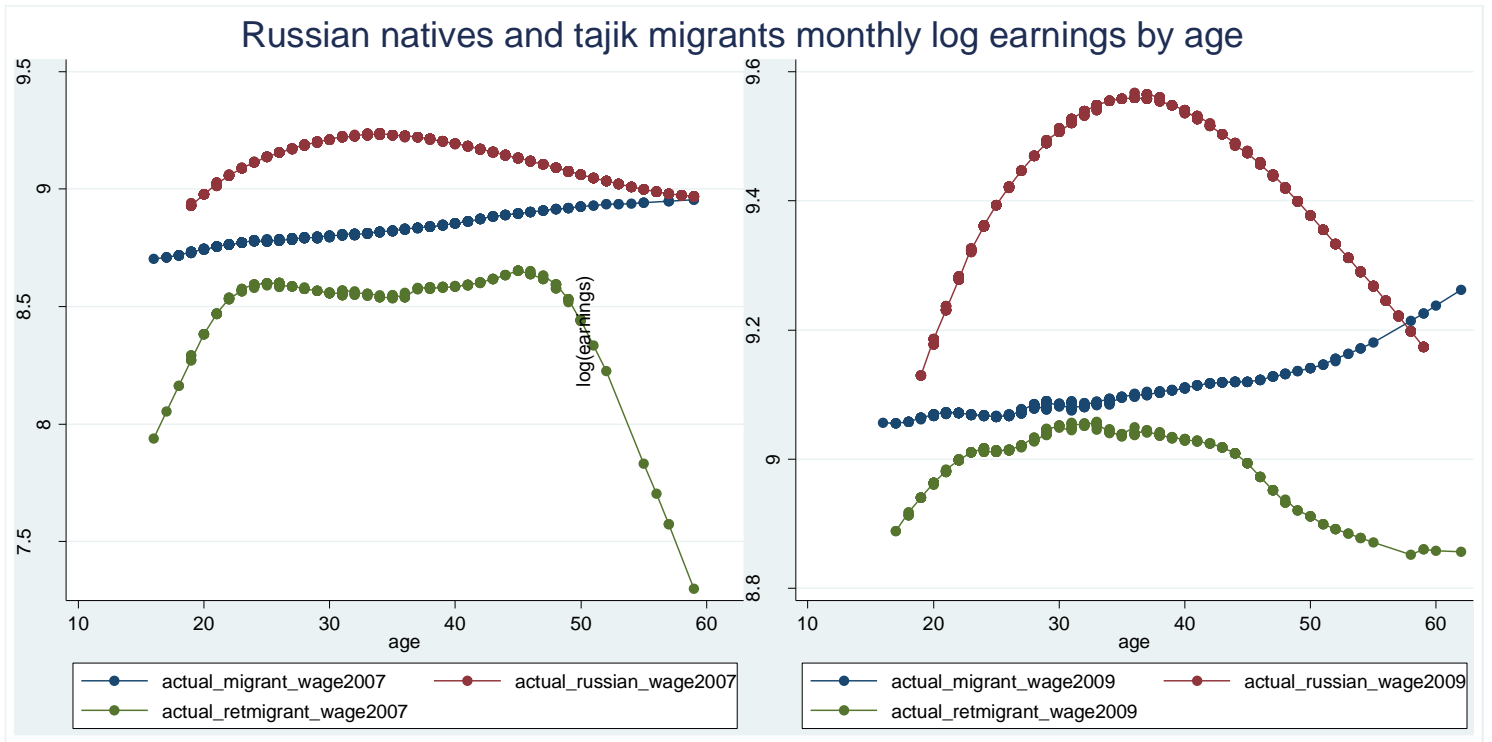


Figure 8. Predicted and real wage of migrants v.s. age

