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Abstract

This paper attempts to look closely at socio-economic consequences of migration and remittance decisions of the Uzbek households. We first draw a portrait of a typical migrant worker, paying special attention to the motives for migration and the skills that the migrants possess. We trace the portrait of the typical migrant worker to see the changes in migration profile over time. We also investigate the impact of migration and remittances on livelihoods of migrant-sending families. Using a unique household survey conducted by the German Agency for International Development (GIZ) office in Tashkent, we show that remittances have significant effect on livelihoods of left-behind households. Our results indicate that financial constraints, especially on non-food and health expenditures, act as a push-factor for migration in Uzbekistan.

Key words: Migration, Remittances, Uzbekistan

JEL Codes: J61, J68

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1. Introduction

Remittances from labor migrants have become an important income source for millions of Uzbek households. In recent years remittances from Russia alone have increased at double-digit rates, and exceeded 6.6 billion U.S. dollars (approximately 12% of GDP) in 2013[3]. The livelihoods of a large portion of the population directly depend on remittances, so a rigorous study that focuses on the socio-economic consequences of this phenomenon is of high policy importance.

In the present research, we will first draw a portrait of a typical Uzbek migrant worker, paying special attention to the motives for migration and the skills that the prospective migrants possess. We trace the portrait of the typical migrant worker to see the changes in migration profile over time. The new portrait of a typical migrant depicted in this research is based on the newest survey data provided by the World Bank and GIZ. Furthermore, the study provides with a brief explanation of why these changes have occurred.

Migration may put a lot of pressure on, and test the strength of, family ties. Earnings by migrants can transform social and family relations, especially in rural communities. Research from other countries indicates that members of families, separated by long distances and borders, are more likely to experience stress in their daily lives. The separation of husbands from their wives and children may also substantially change the role of women role in household decision-making: women might be given greater burden in left-behind families.

The main research question of this paper is the investigation of the impact of migration and remittances on families of migrants in Uzbekistan. For this purpose, we will use a unique household income, and consumption survey data recently collected by the GIZ (German Agency for International Development) office in Tashkent. The GIZ survey covers around 1,500 households from all regions of Uzbekistan and allows us to look into the effects of migration on the families of migrants.

In contrast to the previous research papers, this paper attempts to directly measure the impact of migration and remittances on household expenditures, primarily on food, non-food, health and education. Using an appropriate empirical methodology and the new survey data, we will investigate the link between migration and household expenditures relating to these basic needs. The rest of the paper is organized as follows. Section 2 reviews the general literature on migration. Section 3 focuses on empirical research related to the impact of remittances in Central Asia[4] as well as outside of Central Asia. Section 4 depicts two portraits of a typical migrant from

[3] http://cbr.ru/statistics/print.aspx?file=CrossBorder/C-b_trans_countries_12.htm&pid=svs&sid=TGO_sp

[4] Central Asia for our purposes is defined as 5 former Soviet Union republics - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

Uzbekistan. In section 5, we present our methodology. Section 6 discusses the results of estimations. Finally, section 7 draws conclusions and briefly discusses policy implications.

2. Literature review

Theory of migration

Adam Smith was one of the first scholars to explain the movement of labor in the *Wealth of Nations* (Zlotnik, 2005 cited in Rauhut, 2010). He determined that differences in the supply of and demand for labor, and consequent price differentials in different regions were the main factors stimulating migration (Rauhut, 2010; Piore, 1981; Maresova, 1999). More recently, Todaro (1969) and Harris and Todaro (1970) developed a model on internal rural-urban migration. This neoclassical model assumes that individuals base their decision to migrate on the expected income, taking into consideration the probability of not finding a job in a new location. The aim of migrants is income maximization and if there are no differentials in wages and employment conditions between regions, the migration will not occur (Massey et al., 1993).One of the implications of this model is that the economic development of the migrant-sending country or region matters. At the same time, some assumptions of the model such as migrants are risk-neutral, and there is only labor market, came under some criticism (Zenou, 2006; Massey et al., 1993).

Both the classical and neoclassical models are based on the assumption of an individual choice to migrate, while the new economics of migration views the movement of labor as a household decision (Massey, 1993). Representatives of the new economics of migration (Stark, 1984; Stark, 1985; Stark and Bloom, 1985; Taylor, 1986) propose that income maximization is not the only reason for relocation. Households also pursue ways to differentiate their sources of earnings, thereby minimizing their income risks. Moreover, migrants aim to expand opportunities which they cannot pursue in the home country due to non-labor market failures. Stark and Bloom (1985) in their empirical analysis, support the hypothesis that income incentives determine migration, but migration can take place even in the absence of wage differentials. Based on empirical research on US-Mexico migration, Stark and Taylor (1989) provide grounds for their hypothesis of relative deprivation. This hypothesis states that *"the decision by households to send migrants to foreign labor market is influenced by the initial perceived deprivation within the reference group"*. Their findings indicate that those workers who were in a good position in the labor market in Mexico chose not to migrate to the United States. Thus the same expected income gain would not have the same effect on households with initially different income distribution (Massey et al., 1993). One of the major political implications of the new economics of migration is that changes in income distribution would alter incentives to migrate, so only policies targeting not only labor market but also capital,

insurance, and other non-labor markets are able to affect labor movement (Massey et al., 1993).

The theories discussed above are all micro-level decision models. Piore (1979), the founder of the dual labor market model, argued that international labor migration is demand-based, and is provoked by the economic structure of the developed nations. Doeringer and Piore (1971) considered the case of the American labor market, and described it as being divided into two segments - primary and secondary. The primary sector is characterized by secure jobs with high salaries and the potential for promotion. The secondary sector consists of workplaces with low returns and little or no prospect of internal promotion, and is characterized by short-term employment relationships. Piore (1979) states that migration is caused not by push factors in home countries but by pull factors in the migrant-receiving developed countries which are in constant need of foreign workers in the secondary sector. Native employees are not willing to be employed there, even when unemployed, they look for a job in the primary sector (Maresova, 1999). Piore (1981) proposes that migrants consider *"the entire social, economic and political structure of the advanced societies" (cited in Alonso, 1981, p.527).* However, the wage differential is not a necessary and sufficient determinant for migration. Employers in the secondary sector tend to keep wages low so as not to provoke salary growth in the primary sector. In other words, wages are not responsive to the labor demand and supply changes, due to social and institutional mechanisms (Massey et al, 1993).With regards to political implications, the dual labor market model argues that the government cannot influence migration through changes in wage rates or employment. Major changes in economic organization are required. However, Ashton and Maguire (2007) questioned the practical utility of this model. They based their research on three local markets in Britain and were not able to establish a clear separation of labor markets into two sectors. Relatively few organizations belonged exclusively either to one or another segment.

Another theory which addresses migration from the macroeconomic perspective and rejects the importance of wage differentials is the World Systems theory developed by Wallerstein (1974). The theory states that the structure of the world market is a determinant of the international labor movement: "*International migration is a natural consequence of capitalist market formation in the developing world*" (Massey et al., 1993, p.447). Labor outflows in response to goods and capital inflows. International migration is more likely to exist between former colonial countries and their colonies due to linguistic, cultural, transportation and communication links (Maresova, 1999). Regarding the political corollaries of the model in order to control migration governments should control outflows of goods and services. In addition government should consider that failed political and military interventions in other countries to protect foreign investment or to support foreign governments tend to result in refugee movements (Massey et al., 1993).

Network theory examines migration from the sociological perspective. It argues that migration is a self-sustaining diffusion process. "*Once the number of migrants*

reaches a critical threshold, the expansion of networks reduces the costs and risks of movement, which causes the probability of migration to rise, which causes additional movement which further expands the networks, and so on" (ibid, p.449). According to this theory, migration is pushed by wage differentials or employment opportunities. As networks grow, the inflow of labor becomes less selective and more representative of the migrant-sending country's population, and it becomes more difficult for the government to take control over it (Elrick, 2005). Spittel (1998) tested the network theory by analyzing migration from Mexico to the United States, based on the household data. The author considered four scenarios for father-son pairs who may migrate together or separately or not migrate at all. Spittel's research shows that social networks turn out to be the most significant force factor affecting the risk of migration. In addition, the probability of migrating is higher for those pairs where sons had migrated first. In general, the theory discusses the functioning of networks but neglects their emergence and the motivation of a first migrant to build up a network (Elrick, 2005).

The theory of cumulative causation developed by Myrdal (1957) and elaborated by Massey (1998) unites the majority of theories discussed above. It focuses on micro- and macro- economic and social factors, and networks (Elrick, 2005). The theory of cumulative causation presents migration as a continuously expanding process, but not an indefinite one (Heer, 2002). Myrdal determined a set of explanatory variables of migration (Elrick, 2005). The first determinant is the enlargement of networks, which was discussed by the network theory. The second determinant is the distribution of household income which had been considered by relative deprivation theory before. In addition, Myrdal considers desire to purchase fixed assets to provide for old age as another push factor for labor movement. Common social and communication norms are determined to be a pull factor supporting World Systems theory. The duality of the labor market is also a determinant of migration according to cumulative causation theory. The cumulative causation theory explains the continuous growth of the developed regions and the continuous developmental lagging of poor regions (Fujita, 2004). As soon as a region becomes developed, it attracts highly-skilled, well-educated labor that brings further advances. Meanwhile the backward regions where those people come from suffer from the anti-growth effect. Despite the fact that the cumulative causation theory grasps the explanation of the main push and pull factors of migration, there is still no theory which comprehensively examines the nature, determinants, and consequences of labor migration.

3. Review of empirical research

Since the late 1990s, labor migration and remittances have become a major lifeline for millions of people in Central Asian countries. Kazakhstan has emerged as a major labor migrant recipient country absorbing part of the excess labor. Kyrgyzstan, Tajikistan and Uzbekistan have become the major sources of out-migration.

Turkmenistan, due to the reclusive policy of its government, has not been part of the massive labor movement in the region.

Empirical research focused on countries outside Central Asia.

The existing literature on the impact of remittances is mostly focused on Latin America, Africa and East Asia, where this phenomenon has existed for decades. The common conclusion of these studies is that remittances improve child and household welfare. For instance, Adams and Page (2005) investigate the impact of remittances on poverty, using large cross country data that includes 71 countries. They find that a 10% increase in official remittances decreases the proportion of people living below a poverty threshold ($1 a day) by 3.5%. Adams (2006) additionally reports on three single-country studies, based on household surveys from Lesotho (7680 households: survey year 1986/87), Mexico (1782 households: survey year 2003), and Guatemala (7276 households: survey year 2000), which all declare that remittances reduce poverty and increase household consumption.

Most of the empirical research documents a positive impact of migration on child well-being. For instance, Hildebrandt and McKenzie (2005) report that children in migrant-sending households are less likely to die in rural Mexico, and are more likely to have higher weight compared with households with no member working abroad. Similarly, Calero et al. (2009) use data from a 2005/2006 survey that covers 55,666 individuals from 13581 households in Ecuador, and report that remittances increase school enrolment, especially enrolment of girls in rural areas. Interestingly, Calero et al. (2009) also declare that remittances increase preferences for private over public schools. Finally, they find that remittances and child labor are two consumption-smoothing mechanisms used by households in the case of large negative income shocks.

Another spillover effect that has attracted the attention of researchers is the impact of migration and remittances on local economies. As a result of remittances, the migrant-sending villages and cities are more likely to experience increase in incomes of households, and thus increase in local demand and production. Taylor and Fletcher (2007), for instance, investigate the case of a typical Mexican migrant-sending village, and estimate that every $1.00 of a migrant's remittances generates $1.78 in additional village income.

Empirical research focused on Central Asia

Research on migration in Central Asia has been limited, which reflects overall lack of specific data, as well as the relatively recent emergence of migration as a major source of well-being. Empirical research on Central Asian economies says very little about the socio-economic effects of labor migration. A common problem for researchers is the lack of reliable data on labor migration and left-behind families (Rios, 2006; Marat, 2009). As a result, the studies are mainly descriptive or based on

small-scale surveys, usually with samples unrepresentative of the country as a whole. For example, Radnitz (2006) collected data by interviewing 200 people in Tashkent, Uzbekistan. The International Labor Organization (ILO) (2010) conducted a household survey covering 1,267 households with at least one migrant member in Tajikistan. While almost 80% of households in Tajikistan live in rural areas, the survey mainly covered urban households (18 communities out of 23 are urban), making it not very representative of the population.

The existing studies which investigate the impact of labor migration on economic development in the region agree that labor migration helps to reduce poverty and unemployment, and to neutralize political tensions in the country (Umarov, 2006; Maksakova, 2006). Remittances help migrant families to sustain everyday expenses. In Tajikistan, due to severe economic conditions, 98% of transfers is spent on the everyday living costs of one's own family and close relatives (Marat, 2009; Olimova and Bosc, 2003). In other Central Asian countries, remittances are spent not only on food and clothes, but also on home appliances, purchase of cars, real estate and life-cycle celebrations, for example, weddings (Reeves, 2012; Olimova and Bosc, 2003; Marat, 2009; ILO, 2010). Juraev (2012) notes that in Uzbekistan survival is no longer the main push-factor of labor migration. Recently remittances have been spent mainly on the purchase of luxury goods such as real estate and cars. Nevertheless, during economic downturn, remittances "*substitute for the state by supporting families in rural areas*" (Marat, 2009, p.45) Moreover, they stimulate aggregate demand and filled the gaps in supply of goods (Olimova and Bosc, 2003).

A large volume of remittances has stimulated the development of the financial sector in Tajikistan and Kyrgyzstan (Marat, 2009; Umarov, 2006). In 2004, Tajik banks started processing the transfer of remittances, thus stimulating development of the banks' credit lines, the accumulation of their assets, and the replenishment of hard currency reserves in the country (Ibid). However, the share of remittances in investment is insignificant. The main destination of investment is small business, such as cafés, shops, and cars used as taxis (ibid). Such businesses aim to generate additional income for labor migrants during the off-season. However, they do not employ more than 1-2 additional workers.

Amongst the negative impacts of labor migration on the economy, Olimova and Bosc (2003), and Marat (2009) emphasized the rise of inflation, especially in the real-estate sector. In addition, the outflow of a highly qualified labor force negatively influences the productive potential of the states (Maksakova, 2006; Umarov, 2006).

Many researchers aim to evaluate the social consequences of labor migration (UNICEF, 2011; Laruelle, 2007; Umarov, 2006; Olimova and Bosc, 2003). Contrary to the economic influence, the social effect of labor migration in the Central Asian countries is predominantly negative. A UNICEF (2011) study conducted in four regions of Tajikistan that used data from 240 household interviews, 20 focus-group discussions, and 40 in-depth interviews concentrated on the effect of labor migration

on abandoned children. The findings show that the most negative influence on children was the lack of parental guidance and consequent aggressiveness and depression. In comparison to the children of non-migrant families, abandoned children from migrant families are more prone to illness. Subsequently they tend to miss school more frequently than other children. Juraev (2012) in his research into labor migration in Uzbekistan also highlights the negative psychological effect on the spouses, children and parents of the migrants due to separation for several months. Laruelle (2007) further investigates the effect of labor migration on the role of women in society, finding that due to migration, women gain more authority in household management. They have to perform housekeeping, take care of children, and work to earn additional income. Children in this case are left on their own and family ties tend to deteriorate. Moreover, migrants marry other women in Russia and stop financing families back home. Olimova and Bosc (2003) documented the diminishing role of the nuclear family and growth in the number of large patriarchal families. Umarov's (2006) research points to the negative effect on women's health due to a heavy workload, and the growing number of HIV-positive and AIDs patients due to the sexual promiscuity of migrants abroad. Marat (2009),Olimova and Bosc (2003) for their part, stress the positive effect of labor migration on increased mobility, motivation, and active participation in entrepreneurship and the labor market in general.

To the best of our knowledge, the impact of migration and remittances on the socio-economic situation in Uzbekistan has not been the primary focus of empirical research. Book chapters by Maksakova (2006), Maksakova (2008), and Khajimukhamedov (2008), a report by the Antimonopoly Committee of Uzbekistan (2006), and more recently, Muradova (2009) are the only publicly available publications on migration. Maksakova (2006) investigates the feminization of labor migration and push factors for Uzbek women to search for a job abroad. Maksakova (2008), using a survey that covered 1000 respondents from Tashkent City, and the Kashkadarya and Namangan provinces, discusses the determinants of internal migration. Khajimukhamedov (2008) investigates the determinants of external migration. The report by the Antimonopoly Committee (2006) focuses only on remittances in the context of money transfer services. Juraev (2012) concentrates on alteration of migrants' profiles, push- and pull-factors, and migrants' current working conditions.

The impact of the global economic crisis on migration and remittances in the context of Uzbekistan is investigated by Muradova (2009). Muradova (2009) reports that during the economic crisis (2008 – 2009), remittances significantly decreased and a number of migrants returned to Uzbekistan. The exodus of migrants from Russia to Uzbekistan was short-lived, however: since early 2009, remittances have rebounded and the number of migrants has quickly risen.

4. Portrait of a migrant worker since independence

The early years of Uzbekistan's independence (1992-1997) are characterized by the permanent migration of ethnic minorities, mostly Russians, Ukrainians, and Jews. The outflow of ethnic minorities subsided by the end of the 1990s, while the number of labor migrants increased.

During 2000-2013, the number of labor migrants continued to grow. Table 1 shows the number of work permits issued to Uzbek citizens in Russia. We can see a sharp increase in the number of work permits after 2006, reflecting the fact of job opportunities opening up for Uzbek citizens in Russia.

Table 1. Number of work permits issued in Russia to Uzbek citizens (in thousands)

2006	2007	2008	2009	2010	2011	2012	2013
68.6	281.0	390.3	320.7	289.7	868.9	1,153.1	1,253.9

Source: Population and migration in the Russian Federation. Statistical Yearbook. Moscow: Rosstat; various years. Monitoring of regular international labor migration in Russia; Moscow: Federal Migration Service, various years; [all sources in Russian]

It is estimated that the overall number of Uzbek labor migrants in Russia in the early 2000s was 600,000-700,000 of which 550,000-600,000 migrated to Russia (Ivakhnyuk, 2006). In 2003 remittances constituted 6.9%t of GDP in Uzbekistan (Ivakhnyuk, 2006).

Maksakova (2006) observed the gradual feminization of labor migrants starting in2006. The typical profile of the female Uzbek labor migrant is a 42-year-old woman holding a secondary specialized education qualification, worked in Uzbekistan teaching in a specialized secondary college.

From 2007 onwards, there has been tremendous growth in labor migration due to 'open doors' in Russia and Kazakhstan. Marat (2009, p. 9) observes that "*Uzbekistan's emigrant population is the largest in Central Asia in absolute numbers. Over* 2 *million immigrants from Uzbekistan reportedly reside in Russia, Kazakhstan, Kyrgyzstan, South Korea, the United States, and Europe. These migrants send over $1.3 billion home in remittances annually, making up to* 8 *percent of Uzbekistan's GDP*".

By 2009, the absolute majority of labor migrants — over 90%—were still males. However the number of female migrants has gradually grown. Juraev (2012) states that in 2010, the proportion of women in the number of migrants stood at 15%. The typical Uzbek migrant works seasonally, travelling to Russia and Kazakhstan during the warm months (Marat, 2009).

At the same time, the proportion of younger migrants (less than 29 years of age) had increased to 40% by 2010 (in 2000, it was around 25%). The migrants also became less educated – about 40%did not have vocational training (Florinskaya, 2013).Juraev

(2012) argues that the prevailing majority (87.3% of the respondents) had either secondary or secondary-special education. Only 11.3% were graduates of higher education institutes. The number of migrants fluent in Russian was limited– only 14% of all respondents (ibid).

Florinskaya (2013) notices another growing trend of family migration: about one third of migrants bring their spouse (among female migrants the proportion accompanying their husbands is more than 50%, and about 10-15%bring their children (the majority of laborers bringing their children – 80%— are two-parent families).

Over the years, the seasonal character of labor migration has lessened and migration has become a long-term project. According to Rosstat (2010), in 2010 only 22.5% of migrants worked in Russia for less than six months, another 17% from 6 to 9 months, and more than 60% worked more: for 9 to 12 months. Practically the same results were reported by the polls undertaken by the Center for Migration Research: more than 60%of respondents pursue a long-term migration strategy. About 40% of respondents admitted that they mostly stay in Russia, going home for one to three months only, and 25% declared that they practically reside in Russia and never go home.

Portrait of a migrant worker based on the World Bank/GIZ survey.

In this section we will exclusively rely on data from the World Bank/GIZ survey on jobs, skills and migration, conducted in 2013. This is the first survey in Central Asia that measures cognitive and socio-emotional skills directly. The sample size is 1,500 households with a total of 8,622 individuals. Below is a series of comparative tables showing the specific characteristics of migrants compared with non-migrants in the sample.

Table 2 shows differences between non-migrants and migrants in terms of age, gender and marital status. Interestingly, the average age of migrants is lower than the average age of all respondents, which confirms the widely held belief that primarily people in their 20s and 30s decide to migrate. Out of all migrants, 86% of migrants are male and the rest are female. In terms of marital status, 61% of migrants are married. The proportion of either divorced or widowed is relatively small (2% and 1%, respectively).

Table 2. Age, gender and marital status: non-migrants versus migrants

	Non-migrant	Migrant	Total
Age	34.85	30.63	34.28
	(14.03)	(9.80)	(13.61)
Male	0.44	0.86	0.50
	(0.50)	(0.35)	(0.50)
Children under 15 years	0.01	0.00	0.01
	(0.09)	(0.05)	(0.09)
Married (registered)	0.67	0.61	0.66
	(0.47)	(0.49)	(0.47)
Divorced	0.02	0.02	0.02
	(0.16)	(0.15)	(0.15)
Widow(er)	0.04	0.01	0.03
	(0.19)	(0.09)	(0.18)
Lives alone, but not divorced	0.00	0.01	0.00
	(0.05)	(0.07)	(0.05)
Marriage not registered	0.00	0.00	0.00
	(0.03)	(0.00)	(0.03)
Not married	0.25	0.35	0.27
	(0.44)	(0.48)	(0.44)
Observations	5026	792	5818

Note: mean coefficients; sd in parentheses

Table 3 compares the education, and language skills of the migrants with those of non-migrants. Only 9%of migrants have basic education compared with 15% for non-migrants. The majority of the migrants have either secondary education (41%), or secondary-specialized (38%). Only 7% of migrants have higher education, while the proportion of people with higher education among the non-migrants is 10%. Finally, knowledge of the Russian language and decision to migrate to one of the Russian-speaking countries appears to be positively correlated since 51% of migrants speak Russian fluently or “rather well” compared to only 33% of non-migrants.

Table 3. Education and language skills: non-migrants versus migrants

	Non-migrant	Migrant	Total
None	0.01	0.01	0.01
	(0.12)	(0.08)	(0.11)
Basic (grades 5-8(9))	0.15	0.09	0.14
	(0.36)	(0.28)	(0.35)
Secondary general (grades 9-10(11))	0.38	0.41	0.38
	(0.48)	(0.49)	(0.49)
Secondary special	0.31	0.40	0.32
	(0.46)	(0.49)	(0.47)
Secondary technical	0.04	0.04	0.04
	(0.20)	(0.19)	(0.20)
Higher education	0.10	0.07	0.10
	(0.30)	(0.25)	(0.30)
Graduate school/aspirantura	0.00	0.00	0.00
	(0.02)	(0.00)	(0.02)
Russian - Fluently	0.12	0.17	0.13
	(0.32)	(0.38)	(0.33)
Russian - Rather good	0.21	0.34	0.23
	(0.41)	(0.47)	(0.42)
Russian - Intermediate	0.32	0.31	0.32
	(0.47)	(0.46)	(0.47)
Russian – Poor	0.21	0.09	0.17
	(0.33)	(0.24)	(0.32)
Cannot speak	0.15	0.08	0.14
	(0.35)	(0.27)	(0.35)
Observations	5026	792	5818

Note: mean coefficients; sd in parentheses

Table 4 shows the male-female differences in the number of migration trips. Migrants are asked how many times they have migrated inside and outside the country during the last 10 years. The results show that many migrants have engaged in internal migration first and then gone abroad for work.

Table 4. Gender differences in number of migration trips

	Female	Male	Total
Age	31.78	30.44	30.63
	(10.09)	(9.75)	(9.80)
Has [Name] ever migrated for at least 3 months inside or outside of the country	0.57	0.92	0.87
	(0.50)	(0.28)	(0.34)
How many times did [Name] migrate inside the country in the last 10 years, without changing the official residence papers	0.69	0.84	0.83
	(2.24)	(3.86)	(3.74)
How many times did [Name] migrate outside the country in the last 10 years, with changing the official residence papers	1.98	2.40	2.37
	(1.91)	(2.75)	(2.69)
First decision to migrate out of the country was made ___ years ago	2.60	3.25	3.19
	(3.05)	(3.60)	(3.56)
Observations	111	681	792

Note: mean coefficients; sd in parentheses

Table 5 shows the different reasons for migrating. The need to earn money, having friends and relatives abroad, and having been to the country they are migrating to before, are cited as major reasons behind the migration decision. Women are more likely to migrate if they have friends in the recipient countries, while men cite having relatives as one of the major reasons for migrating to a foreign country.

Table 5. Male-female differences in the reasons to migrate

	Female	Male	Total
Working	0.37	0.49	0.48
	(0.49)	(0.50)	(0.50)
Unemployed	0.46	0.44	0.44
	(0.50)	(0.50)	(0.50)
Student/ Pupil	0.00	0.05	0.04
	(0.00)	(0.21)	(0.20)
Housewife	0.17	0.00	0.02
	(0.38)	(0.04)	(0.13)
Retired	0.00	0.00	0.00
	(0.00)	(0.06)	(0.05)
Handicapped	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)

Military	0.00	0.00	0.00
	(0.00)	(0.07)	(0.07)
Own business	0.00	0.01	0.01
	(0.00)	(0.10)	(0.09)
Observations	111	681	792

Note: mean coefficients; sd in parentheses

Summing up, we can conclude that in 2013 the Uzbek migrant is about 30 years old, evaluates his/her Russian language skills higher than non-migrants, has secondary or secondary-specialized education, is more likely to be married, and to be male. On average, the Uzbek migrant had seen his/her relatives 8 month previously, which shows that the duration between home visits is increasing and migration is becoming less seasonal. Although these characteristics are true for typical Uzbek migrants, we can also see the feminization of migration and family migration as emerging trends.

In general, the changes in the characteristics of a typical Uzbek migrant worker over the years seem to be in line with the predictions of the network theory. The number of migrants from Uzbekistan moving overseas (especially to Russia) has passed a critical mass after which the migrant networks have sufficient capacity to decrease the costs and risks for new migrants. This capacity enhancement has been expanding the migration both in depth (lengthening the duration of stay) and width (including women, children, and different age groups in the migration process).

In the following parts of the paper we will tackle questions on how migration and remittances affect household expenditures on food, non-food, health, and education of the family members left behind.

5. Methodology

There are two ways of identifying the impact of migration and remittances on household well-being. One way is to ask household members directly what remittances are spent on, or for what purpose they are intended. However, this approach is questionable because it does not take into account substitution effect, when remittances might substitute other sources of income, making impact evaluation problematic. Another way is to identify outcome variables first, such as poverty, expenditures on education and healthcare, and compare households who receive remittances with households that do not. Following traditional branch of literature, we assume that all the systematic differences between remittance-receiving and non-remittance-receiving households can be explained by a set of characteristics of the migrant, receiving household, and community, *Xi*. Therefore, the impact of remittances on an outcome of interest could be estimated through the following equation:

$$Outcome_i = \alpha + \beta Remittances_i + \gamma X_i + u_i \quad (1)$$

However, if migration has other impacts on the outcome of interest in addition to its effect through remittances, then the disturbance term contains omitted variables (these other effects of migration) that are correlated with remittances and the outcome variable. As a result, estimates of the effect of remittances may suffer from omitted variable bias. In other words, the coefficient β captures not only the impact of remittances on the outcome variable, but also the impact of other variables that determine migration decisions. This specification can also capture the so-called reverse causation when migration decisions can be caused by destitution of the families in the first place. Finally, decisions to migrate and remit money back to families might be taken simultaneously with other decisions (the so-called simultaneity bias). In the presence of omitted variable bias, reverse causation and simultaneity bias, remittance variable is called endogenous.

Migration - Consumption link

Since migration and remittances increase household income, and all consumption theories predict that marginal propensity to consume is positive, we expect the positive link between migration and consumption. However, we cannot expect that all consumption items will react the same way to increased income due to the remittances. It is possible that some households will decrease consumption of some goods and increase consumption of others. To allow for such possibility, we distinguish between food and non-food consumption and test whether migration and remittances may have different impact on them.

Migration – Education link

We test whether educational outcomes of family members are significantly affected by the migration decisions and remittances. The migration literature is not conclusive about the impact of migration and remittances on education. On the one hand, remittances from a migrant household member might allow the remaining family members invest in education of children more and lift the liquidity constraints. On the other hand, absence of one or both parents might negatively affect childcare and child schooling due to absence of parental supervision. Furthermore, one or both parents' absence may shift the duties of a working-age adult missing from the household to shoulders of children. , thus affecting education of children negatively.

Our outcome variables are spending on formal and informal education. Since secondary education is free and compulsory in Uzbekistan, we test whether migration and remittances increase expenditures on formal and informal (such as private tutoring) in the migrant sending households.

Migration - Health connection

Migration and the consequent remittances may have a direct impact on the well-being of the recipients of remittances by improving their health status. Remittances might allow the households to attend health facilities, purchase medicines and have better nutrition. These positive effects could be especially beneficial for children. Our outcome variable here is health care expenditures. We test whether health expenditures of migrant-sending households significantly differ from those of non-migrant sending households.

Estimation strategy

Because the decision to migrate may depend on unobserved characteristics of a household that also influence outcome variables, we have to find a way to identify the impact of migration and remittances on outcome variables. One popular way to solve the identification issue is to employ the method of instrumental variables (IV) in the estimation. IV method is based on the notion that if we can find a variable that is correlated well with the endogenous variable (in our case, remittances), but not correlated with the outcome variables other than through the endogenous variable, we can use it as an instrument for remittances. In this paper we use distance variable as an instrument and estimate the impact of migration on household well-being through two-stage least squares (2SLS).

Rationale behind using distance from household location to migration destination as an instrument is as follows: since decision to migrate is likely to be caused by credit constraints and thus be endogenous, we need to find an instrument, which is closely correlated with migration, but not directly correlated with household expenditures. Distance is a good candidate for proper instrument, since it does not directly affect household well-being, but closely related to the decision of household to migrate. When it affects a household well-being, it only does so through migration and remittances. Thus we assume that any correlation the distance variable may have with outcome variables goes through migration and remittances. If this assumption holds, it will enable us to estimate a true impact of migration on outcome variables.

For practical purposes, we adopt the following parametric Engel curve specification used in many household consumption models:

$$\ln w_i = \alpha_i + \beta_i R + \delta \ln x_i + \eta_i n + \gamma_i Z + u_i \qquad (2)$$

where w_i is expenditure on particular categories, R is an amount of remittances the household has received from somebody migrated to other countries, x is total expenditures and n is household size. The other factors Z include household and community characteristics. The parameter estimate of household size (n) is indicative of the economies of scale effect.

6. Estimation results

We instrument migration with *distance* variable, derived from the questionnaire. The questionnaire asks several probing questions regarding destinations (country, province, and city) of migrants. We use this information to calculate distance between migrants' hometown and place of destination. For all households, who do not have migrants, we assigned a small positive number in order to be able to take log of the distance variable. Below are the results of estimation of equation (2) by ordinary least squares (OLS) and two-stage least squares (2SLS) estimator.

Table 6. Estimation of outcome variables by OLS estimator

	Food expenditures	Non-food expenditures	Health spending	Education spending
Remittances	0.002	-0.002	0.017	-0.026
	(0.003)	(0.004)	(0.031)	(0.024)
Total expenditures	0.610***	1.383***	3.477***	0.337***
	(0.017)	(0.022)	(0.157)	(0.123)
Rural dummy	-0.189***	0.241***	0.475**	0.311*
	(0.023)	(0.030)	(0.209)	(0.165)
HH female	-0.052**	0.007	0.512**	0.043
	(0.025)	(0.033)	(0.229)	(0.180)
HH age	0.002	-0.001	0.542	-2.443***
	(0.043)	(0.057)	(0.397)	(0.312)
HH education	0.002	0.001	-0.090***	0.028
	(0.003)	(0.004)	(0.030)	(0.023)
Children under 5	-0.032	0.008	0.456**	-2.216***
	(0.020)	(0.026)	(0.181)	(0.143)
Children under 10	0.027*	-0.039**	-0.015	0.290***
	(0.015)	(0.019)	(0.134)	(0.106)
HH size	0.010	0.015*	-0.081	0.603***
	(0.007)	(0.009)	(0.061)	(0.048)
Constant	-0.974***	-4.698***	-29.543***	7.313***

	(0.213)	(0.280)	(1.959)	(1.541)
R squared	0.59	0.77	0.30	0.24
N	1481	1481	1481	1481

Notes: Standard errors in parentheses
**p<0.10, **p<0.05, ***p<0.01*

Total expenditures and rural dummy are statistically significant in all specifications. Total expenditures are positive and statistically significant in all specifications, but its coefficient is less than 1 for food and education, while it is greater than 1 for non-food and health spending. It shows household would increase spending on all categories if their income increases, but relative expenditures on food and education would decrease, while those on non-food and health would increase. In other words, income elasticity of food and education expenditures is negative, while that of non-food and healthcare is positive.

Rural dummy is positive in all specifications except in the food equation. The negative sign of the rural dummy sign probably is caused by the fact that rural dwellers produce significant part of their food themselves and therefore spend much less on food compared to the residents of cities and towns. Since the variable shows the relative difference in spending on respective categories in rural areas compared to urban areas, we can conclude that households in rural areas spend relatively less on food, and spend relatively more on the other items compared to the urban dwellers. Other control variables are not so robust, but are jointly significant, indicating that they should be in the regression.

However, our main variable of interest - remittances - does not seem to have any impact on the outcome variables: none of the estimated βs is statistically different from zero. But knowing high probability that remittance variable is endogenous which can cause bias in the estimated coefficients, we have to take the results with a grain of salt. We turn our attention to the IV estimations in Table 7.

Table 7. Estimation of outcome variables by 2SLS estimator

	Food expenditures	Non-food expenditures	Health spending	Education spending
Remittances	-0.014***	0.015**	0.091**	-0.056
	(0.005)	(0.007)	(0.044)	(0.038)
Total expenditures	0.639***	1.362***	3.408***	0.359***
	(0.017)	(0.022)	(0.154)	(0.120)
Rural dummy	-0.215***	0.270***	0.509**	0.327**

	(0.022)	(0.029)	(0.200)	(0.156)
HH female	-0.064**	0.028	0.554**	0.046
	(0.025)	(0.034)	(0.231)	(0.180)
HH age	-0.019	0.018	0.720*	-2.371***
	(0.044)	(0.057)	(0.396)	(0.309)
HH education	-0.000	0.003	0.085***	0.032
	(0.003)	(0.004)	(0.030)	(0.023)
Children under 5	-0.021	-0.009	0.435**	-2.173***
	(0.020)	(0.027)	(0.184)	(0.144)
Children under 10	0.024	-0.037*	0.018	0.270**
	(0.015)	(0.020)	(0.136)	(0.106)
HH size	0.003	0.022**	-0.102	0.610***
	(0.007)	(0.009)	(0.062)	(0.049)
Constant	-1.018***	-4.750***	-29.683***	6.779***
	(0.215)	(0.283)	(1.951)	(1.523)
R squared	0.57	0.76	0.29	0.22
N	1481	1480	1481	1481

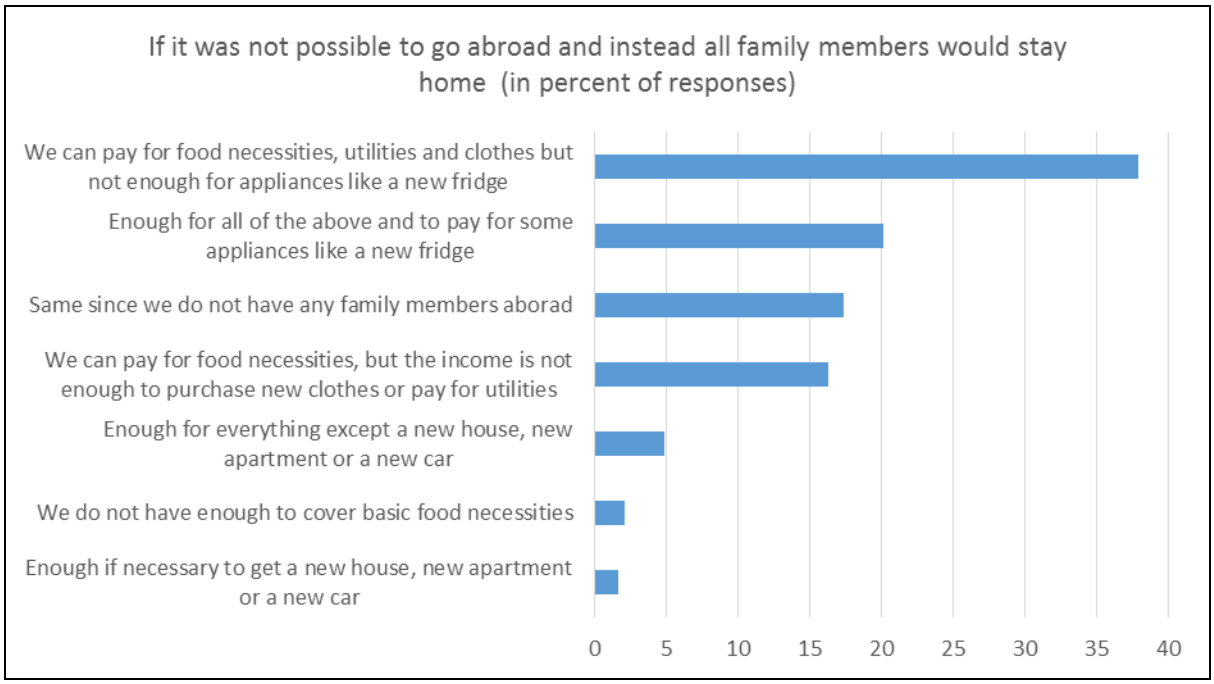
Notes: Standard errors in parentheses
**p<0.10, **p<0.05, ***p<0.01*
Instrumented: Remittances
Instruments: Total expenditures, Rural dummy, HH head female, HH head age, HH head education, Children under 5, Children under 10, HH size, Distance

Our main variable of interest – remittances - is statistically significant for the first 3 specifications at least at 5% level, but displays negative sign for food, and positive sign for non-food and healthcare. This pattern is likely to be a result of substitution effect dominating in the case of food, while strong income effects lead to positive sign in the case of non-food and health expenditures. Household members jointly or individually decide first whether to migrate and remit, and only then make decision on how to spend the increased income. As such, most likely, that the additional income is spent on the most pressing needs of households. In the case of Uzbekistan, given additional income in the form of remittances, households probably would like to decrease spending on food, and increase spending on non-food and healthcare items.

In terms of magnitude, the estimated coefficients are not particularly large. Only in the case of health expenditures we have significant marginal coefficient. It says that 9.1 percent of every additional dollar will be spent for health purposes. Food and non-food coefficients are pretty small, posing certain degree of puzzle in interpretation. Insignificance of education variable can mean that households do not anticipate high returns on education and therefore are not willing to spend remittances on education. Or, alternatively, their other needs such as necessity to spend on health of the household members are more pressing.

Interestingly, the survey questionnaire contains several counterfactual questions: one of them asks what would have been the situation if family members instead of going abroad stayed home. 38% of respondents answered that they would have enough money to pay for food, utilities and clothes, but they would not have enough money to buy appliances like a refrigerator. Only a small percentage of respondents would have found it difficult to pay for basic needs such as food and utilities. The answers of the respondents show that majority of migrant sending families could survive with what they earn inside the country, but the quality of life would definitely be lower without the remittances.

Figure 1.



7. Conclusion and policy implications

Labor migration has affected all spheres of life in Uzbekistan due to its scale and strong socio-economic impact. However, most attention has focused on positive economic impact of migration and remittances, ignoring social costs of migration for left-behind households. According to some estimates, currently over 3 million Uzbek

citizens work in Russia and other countries, sending back remittances in the region of 12-15%t of GDP. However, consequences of labor migration are far from being fully understood. Few existing papers concentrate on the push-factors of migration and spending behavior of families receiving remittances. In addition the massive labor movement is neglected by the state authorities. Migrants do not have any official source of legal support or advice. Their rights abroad are not protected. Left-behind families are also vulnerable without proper state attention. As a result, positive impacts of labor migration diminish while adverse effects aggravate.

Our paper has shown that migrant's profile has significantly changed over the last decade: apart from explosive growth in the number of migrants, migration has significantly feminized and has increasingly become permanent. The migrant portrait we obtained shows that migrants are mainly young males of 30 years old on the average. They come from large families in which the number of underage children is larger than that in non-migrant sending households. In majority of migrant-sending families, education of migrants is limited by secondary general or secondary special school. Approximately half (51%) of labor migrants report that they have a good command of Russian, while the remaining half speaks Russian poorly or does not speak it at all (8% of respondents).

Our empirical results show that labor migration has significant effect on livelihoods of left-behind households, in particular on main social characteristics of households such as health and education expenditures. Our results also demonstrate that financial constraints, especially on non-food and health expenditures, are still the dominating push-factor of labor migration in Uzbekistan. The majority of respondents who decided to migrate chose working opportunities abroad, and cited unemployment at home and lack of funds as the main reasons to move.

Our findings lead to several policy implications. First, it reinforces the notion that the impact of migration on left-behind remittances is complex and not always positive. We need to better understand all pros and cons of migration and develop policy interventions accordingly. We have shown that virtually non-existent migration policy in Uzbekistan hinders positive economic influence and fosters negative social impact. As a result, the rights of Uzbek labor migrants in other countries, primarily in Russia and Kazakhstan, are not protected, leading to the widespread violation of rights. Lately, Russia has undertaken drastic measures to legalize migrant workers, but selective use of migration policies leave the impression that they are used to politically pressurize migrant-sending countries (Marat, 2009).

Second, the Uzbek government needs to create better environment for potential migrants by making advisory and language services accessible and affordable. In close cooperation with International Organization for Migration (IOM), the government could provide better information to potential and actual migrants regarding regulations of other countries, legal status of migrants and ways to obtain legal and consular support in foreign countries. Almost half of actual migrants

reported that they speak no or little Russian, leading to widespread abuses of their rights in Russian-speaking countries. To improve command of foreign languages, the Government could facilitate opening of certified language centers for potential migrants before they migrate.

Third, it is necessary to sign multilateral and bilateral agreements to better protect rights of Uzbek citizens in other countries. In this regard the experience of Tajikistan is interesting: Tajik government started regulating labor migration on bilateral basis by signing agreements with Russia in 2004 and with Kazakhstan in 2006. The agreements have targeted employment protection of Tajik citizens in Russia and Kazakhstan and of Russian and Kazakh citizens in Tajikistan (Umarov, 2006). Tajik government has actively cooperated with international organizations and NGOs. IOM opened an information resource center in Dushanbe where potential migrants can obtain advice on legal, social and financial issues of labor migration. The Organization for Security and Cooperation in Europe (OSCE) funded website which informs migrants on visa requirements, procedures with Russian border officials and police, and provides hotline numbers for Tajik citizens in trouble abroad. As regards impact on left-behind households in 2009 IOM run first nationwide survey of abandoned families and in 2010 launched a project to provide them legal advice and support.

Fourth, the Government could promote small–scale investment opportunities for families receiving remittances by allowing those families to register and run small family businesses without going through cumbersome processes designed for medium and large businesses. It is necessary to allow banks and credit unions to provide small-scale loans without formal collateral and guarantees.

Fifth, support left-behind families in opening bank accounts and saving remittances by offering them attractive tax-free deposit schemes that can be subsequently used for education of children and other pressing needs of the migrant-sending households.

Sixth, it is necessary to lift stigmatization of migrants in the community by fostering benefits and mitigating costs of migration. Many countries have successfully mitigated social costs of migration by better promoting information campaigns and mobilizing communities.

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