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# Remittances and the human capital of children: New evidence from Kyrgyzstan during revolution and financial crisis, 2005–2009

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## ABSTRACT

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We analyze the effect of the receipt of remittances on the education and health of children in Kyrgyzstan during a volatile period of their recent history, 2005–2009. The country experienced revolution in 2005 and the global financial crisis beginning in 2008. Both events impact human capital investment, and the changes vary by region of the country. We use fixed effects estimation and fixed effects, instrumental variables estimation to isolate the effects of remittances and other events on human capital. We find that boys aged 14–18 in remittances' receiving households are less likely to be enrolled in school than other children. We also find that girls in remittances' receiving households are more likely to be malnourished (thin). Both effects are relatively small. Remittances do not improve the human capital of children left behind. However, we do find an overall positive improvement in school enrollment among young children between 2005 and 2009 but a negative trend in enrollment among older boys and girls. Nutrition improves over time. Regional differences are apparent in these trends in nutrition and education. *Journal of Comparative Economics* xxx (xx) (2013) xxx–xxx. The German Institute for Economic Research, DIW-Berlin, Mohrenstraße 58, 10117 Berlin, Germany; Vanderbilt University and Research Associate IZA, CASE, University of Central Asia, Department of Economics, Box 351819, Station B, Nashville, Tennessee 37235-1819, United States.

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## 1. Introduction

The Central Asian region of the former Soviet Union is a laboratory for the study of migration and its social and economic effects on households and communities. Within the region, the small impoverished country of Kyrgyzstan experienced all of the economic, political and social volatility that theory suggests motivates internal and external mobility. For centuries, household mobility among nomadic herders was a defining characteristic of the Kyrgyz ethnic group. This tradition ended during the Soviet era, and ethnic groups settled or moved involuntarily (Anderson and Mirkasimov, 2010; Turdalieva, 2009).

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After the dissolution of the Soviet Union in 1991, labor markets throughout the region transitioned from central planning to more market-orientation (ILO, 2008). Migration was no longer controlled by the central government in Moscow, and many non-native ethnic groups found it in their interest to move back to their original countries (Korobkov, 2007).

The labor market changes that occurred with independence and the reduction in subsidies from the Soviet state in the 1990s led to job losses, widening income inequality, and more uncertainty about the standard of living in Central Asia. Market wages in the countries of Central Asia were relatively low, and unemployment was high in comparison to Russia (National Statistical Committee of the Kyrgyz Republic, 2011). Migration from Central Asia in the 21st century was motivated almost entirely by economics (Davis et al., 2010). Easier entry and exit into Russia facilitated the migration flow from Central Asia (Korobkov, 2007). Today the main motivation for migration is the persistent and large wage gap with Russia, Kazakhstan, and the Middle East. Russians on average earned 462US\$ per month in 2007 in comparison to the Kyrgyzstan average monthly income of 84US\$ in 2007 (ILO, 2012). The economic disparity in the region makes Kyrgyzstan one of the leading migrant sending and remittances' receiving countries in the world; it ranked twelfth in the world in the ratio of remittances to GDP in 2009, a rapid increase from 30th place in 2004 (Ratha and Xu, 2011).

Kyrgyzstan experienced two recent political upheavals that affected labor markets and migration. In 2005, the corrupt government of President Askar Akayev was overthrown. The precipitating event for this revolution (often called the "Tulip Revolution") was the rigged election in 2005 in which only six opposition candidates got seats in the 75 seat Parliament. The United Opposition staged mass protests in the South, and these demonstrations spread to the capital city in the North, Bishkek. The White House was stormed, and the President fled. The leader of the United Opposition, Kurmanbek Bakiyev, became the temporary then permanent head of government (KIC, 2011). The Bakiyev regime that replaced the Akayev government was even more corrupt (Cohen, 2010). In April 2010, almost five years to the day of the 2005 Revolution and during the severe global financial crisis, the Bakiyev government was overthrown in a violent confrontation between the security forces of the government and private citizens. The precipitating cause of this revolution was the large increase in utility prices, including the prices of cell phone service, electricity, and heating.<sup>1</sup> Other causes linked to the overthrow of the government were the rigged elections of 2007 and 2009, inter-ethnic rivalry (Steiner and Esenaliev, 2011), and endemic corruption; the government was described as a "family controlled business" by the Kyrgyzstan Inquiry Commission (2011, p. 12). With the formation of an interim government, ethnic tensions emerged; the Kyrgyzstan Inquiry Commission attributed part of this disruption to the failure of the Provisional Government to provide stability and protection for minority groups in the South or to integrate all ethnic groups into the new political structure (KIC, 2011). The difficult economic conditions in the country in 2010 and the disparity between the wealth and income of Uzbek and Kyrgyz households in the rural areas of the country (in favor of Uzbeks) fomented inter-ethnic rivalries, and in July 2010 ethnic riots raged primarily in the south of Kyrgyzstan (Steiner and Esenaliev, 2011). 400,000 people were displaced and 300 were found dead; the majority of the dead and displaced were Uzbeks (Solvang and Neistat, 2010). International institutions reported that mostly women and children had to leave their homes during the riots but returned after a short-period of time (UNHCR, 2011; UNOCHA, 2010). The Kyrgyzstan Inquiry Commission (2011) reported widespread human rights abuses and crimes against humanity.

The recent global financial crisis began two years before the overthrow of the Bakiyev government. The crisis had an immediate economic impact in the financial centers of the world including Russia, and many immigrants in Russia returned to Central Asia (USAID, 2009). Fig. 1 graphs aggregate data on official net migration from and remittances to Kyrgyzstan and Tajikistan before and after the financial crisis began. Emigration from Kyrgyzstan increased from 1999 until 2008, then dropped sharply; by the end of 2009, however, the net migration rate had returned to the 2007 level. There was little change in the official emigration rate from Tajikistan. The trend in the net migration rate of all migrants to the Russian Federation is consistent with the Kyrgyzstan pattern; net immigration increased from 2004 until 2008, then tapered off. Reported remittances to Kyrgyzstan and Tajikistan as a percent of GDP dropped sharply after 2008 but rebounded after 2009. The 2009 remittance rate (official transfers) was about 30% for Kyrgyzstan and 50% for Tajikistan. The remittance rate was affected by the decline in GDP in Central Asia and the change in remittances received.

The political and economic events between 2005 and 2010 increased uncertainty about the future economic development of the country and affected household labor supply, consumption and investment decisions. In this paper, we use the longest panel data set in Central Asia to evaluate how the changes in recent migration affected one measure of well-being in Kyrgyzstan – human capital investment in children. We examine these changes in human capital over the volatile 2005–2009 period. We use fixed-effects (FE) modeling and instrumental variables (IV) estimation to measure the impact of international transfers on the education and health of children left behind. Education and health of children are two important indicators of future capabilities and are now included regularly in multidimensional poverty measurements (Alkire and Santos, 2010).

Many theories suggest different ways that migration and remittances can affect investments. Migration and remittances can promote human capital development (Calero et al., 2009); this occurs largely through an income effect. In other models, migration and remittances discourage human capital investment (McKenzie and Rapoport, 2011). This usually results from the loss of household labor to migration and the need for children to engage in household chores and to work in family businesses or farming. In addition, differences in expectations for girls and boys may encourage remittance-receiving households to focus their attention on one sex over the other. Overall, the predictions from the theoretical models are ambiguous.

<sup>1</sup> The cell phone charges occurred at companies owned by President Bakiyev's son, Maxim.

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