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शान्ताया

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Migration and Mountains





Migration, Household Resource Allocation, and Climate Change

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Human migration occurs for many reasons. Some people move to marry or to continue their education; others move for political security or religious freedom. However, the single most important reason for migration is economic – labor migration.

Approach to Naryn, Kyrgyzstan (K. Anderson)

Labor migration has important effects on labor markets and household decision-making. It also has the potential to influence community development and alleviate pressure on local natural resources. Climate change can be a catalyst for migration; in primarily agricultural areas, it can impact the productivity of land and the viability of pastures, motivate migration, and alter consumption at home and abroad.

People pushed and pulled

Economists use two theoretical approaches to explain labor migration. The first economic explanation for migration is often called the push-pull hypothesis. Economic factors in the origin country push workers into other markets, while economic factors in destination countries pull workers in. In this context, labor migration acts as a market-clearing mechanism. Suppose for example that global demand for energy is high, and energy-producing countries need more labor than is locally available. Wages in the energy sector are high and pull workers from other regions into these countries. In contrast, suppose the productivity of land in a mountain agricultural region is low, partly due to rising temperatures and inadequate rainfall. Income is low in this region relative to income in energy-producing regions; low wages push workers out of the mountain region into higher wage countries. In the global market over time, the movement of workers from low-wage to high-wage areas reduces regional disparities in wages, income, and employment; the labor market clears in the long run.

Migration as a form of insurance

A second economic approach to migration is to view it as a form of insurance. Suppose that in one country income is volatile during the year or over time. In agricultural areas, income may be high during the harvest season and low during the winter; consumption patterns reflect this volatility in income. A family can smooth its consumption over time by saving or storing goods during the summer months and spending down savings in the winter, but without developed and safe institutions for saving, savings will not be adequate to compensate families during the difficult times. As an alternative, a family can use migration to protect itself from negative shocks to income and wealth. If the family sends someone to a more stable market for work, then during the downturn in the local economy, the family receives income support from abroad. In this way, consumption is smoothed over time, and the family gains the peace of mind of a stable, constant flow of income. Remittance flows from migrants do stabilize income over time in lower-income countries. Income stability encourages investment and planning for the future (Chami, Hakura, and Monteil 2009).

A migrant's view

"There is not enough demand for skilled labor here. The government knows the problem but offers no support. There are opportunities for business here but we do not have starting capital. I need credit to buy new equipment, but I cannot get credit. Goods brought from China are cheaper and the competition is tough. I am looking for alternatives to make money but migration seems to be the best choice. So most likely I will have to migrate again; there is no opportunity here. I will have to go to Russia and earn money there. The wage rate here is not enough to repay the debt."

Skilled young craftsman from Badakshan, Tajikistan, working in construction in Russia.





New homes in migrant suburb of Bishkek, Kyrgyzstan (K. Anderson)

Changes in climate and changes in the environment contribute both to labor migration as a market-clearing mechanism and labor migration as insurance. People often move for environmental reasons. A natural disaster such as a hurricane, earthquake or tsunami destroys local capital, both physical and human; people leave for safer markets, but most eventually return to the same place. Climate change also contributes to labor migration. It has been cited as a cause of “desertification, soil erosion, deforestation, rising sea levels and the salinization of water resources” (Boncour, 2009). All of these factors contribute negatively to local productivity and income; migration is one way local populations can adjust to economic damage precipitated by climate change.

Remittances and household resource allocation

In addition to the direct effects of labor migration on productivity, employment, and income in sending and receiving countries, migration has an important secondary effect on markets through remittances. Figure 7.1 shows the increasing importance of remittances in low-income countries. Between 1999 and 2008, official remittances increased from 3% to almost 7% of GDP. Worldwide, remittances have become an increasingly important source of foreign exchange.

The impact of remittance income on economic development depends on how the transfers are used in the short run and the long run. Remittance income can be used to support current consumption, reduce labor supply of family members, or finance investment. Remittance income can be invested in physical capital, livestock and land or in human capital through education, training and health. Investments in agriculture are directly linked to environmental concerns and may improve or exacerbate existing environmental problems. Community investments in infrastructure, if carefully developed, can lower the costs of energy and transport. Household and community human capital investments are generally expected to improve skill and knowledge and lead to more efficient allocation of resources within households, businesses, and communities.

In general, remittances to lower income countries increase household income and reduce poverty; these effects are larger in the poorest households. A recent World Bank study estimated that between 1995 and 2004, one-fifth of the poverty reduction in Nepal was due to labor migration and remittances (Lokshin, Bontch-Osmolovski, and Glinskaya, 2007). Remittances are mostly spent on living expenses and often allow women, children and the elderly to reduce their hours of paid work. For children and younger women this means that remittances can motivate them to remain in school or to enter job training programs.

On the negative side, remittances cannot fully compensate for the lack of young workers in migrant communities. In some communities children are raised by grandparents because parents migrate for work; these children often exhibit more behavioral problems than other children and do worse in school. Remittance income is also frequently used for large celebrations such as funerals and weddings; while the payment may improve one's status in the community, it does little to develop skills, create jobs, or make the household more secure. Finally, remittance income has been used to purchase livestock in communities with inadequate pasture management and dwindling supplies of water. Short-run gains motivate the purchase of large animals; long-run planning is secondary.

The relevance of climate change for migration

There are many ways in which climate change can affect economic performance. "Climate change is the mother of all externalities: larger, more complex, and more uncertain than any other environmental problem" (Tol 2009). Greenhouse gases are produced from many different sources – homes, farms, businesses, transport – and their effects are pervasive – agriculture, energy, health, labor productivity. Resource scarcity precipitated by climate change can motivate inter-regional conflict. The literature suggests that climate change has a negative impact on economic performance in the long run if temperatures continue to rise; estimates are in the range of 1-4% of GDP, the equivalent of over one year of economic growth. In low-income developing countries, the cost of climate change is more than double the world average. While the impact of climate change on labor productivity is not clearly documented in the literature, some argue that the impact may be "substantial." Low productivity precipitated by climate change keeps wages low in low-income, primarily agricultural countries, and encourages the most skilled workers to move to less affected markets. Income is remitted to sending communities and can help households adjust their consumption to better fit a changing environment.

Figure 7.1: Remittances into low income countries, 1999-2008 (World Development Indicators Database 2009).



Migration from the Mountains of Central Asia

Remittances from migrants provide an important share of the income of the countries in Central Asia. For Tajikistan, official remittances and other external transfers accounted for 39 % of GDP in 2006, one of the highest figures in the world. 40% of households received remittances in cash or kind, with over 70% of the poorest households receiving transfers (Brown, Olimova, and Boboev, 2008).

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School built with remittances from village diaspora, Badakshan, Tajikistan (K. Anderson)

Migration significantly alters income, expenditure and investment patterns of households. A survey done in Kyrgyzstan in 2008 (Anderson and Qiyobekov, 2009) on monthly earnings abroad (primarily in Russia) found that education paid off in the labor market abroad. Monthly income was 20% lower for secondary school dropouts and 20% higher for the most highly educated workers in comparison to all other migrants in the sample. Legal registration was also important; income was 22% lower for workers without legal registration. Workers in the retail trade earned over 50% more than workers in other occupations. The average monthly income earned abroad was \$635; the wealthiest migrant received \$12,000 a month and was engaged in trade.

The survey also found that remittances significantly increased the proportion of family income that was allocated to living expenses. Remittances also led to more consumption of communication equipment such as TVs, radios, and cell phones and had no effect on entertainment, education, or other durables. However, migration history mattered. Expenditures on entertainment and savings fell with the duration of migration, but expenditures on education increased. Expenditures on all durable goods increased with the number of migration spells from the household. There was no negative effect of migration and remittances on relationships within the family or community.





Migrant family in Bishkek, Kyrgyzstan (K. Anderson)

The effect of migration on the local environment is difficult to assess, and the available data do not offer a clear answer. The literature suggests that climate change has had a significant negative impact on productivity, particularly in low-income countries. Emigration can offset this negative effect of climate change by giving households more occupational and location choice; individuals can move from low productivity agricultural areas to higher productivity urban areas and improve the economic well-being of their households at home and their communities. In addition, remittance income can also be an effective tool to combat the negative impact of climate change. Remittances increase household income and lower poverty; if remittances are used to purchase more efficient durable goods and housing, then migrant households better adapt to resource scarcity and climate change in their own communities. However, there are costs to long-term migration. Rural households are highly likely to invest in livestock with remittance income, and the combination of increasing livestock numbers and unsustainable pasture management can lead to pasture degradation (Schoch 2009). In addition, as the most able workers and their families leave the community, communities may be less willing and able to effect changes that would streamline community response to the pressures of climate change. Policy initiatives can help mitigate the negative effects of migration on communities by encouraging sustainable investment, education, good management, and support from a diverse diaspora.