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and Human Development**

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Abstract

This paper reviews the relationship between international migration and human development. First, it reviews what we know about the factors that drive migration from developing to developed countries. Second, it reviews existing knowledge about the impact of international migration and remittances on the economic and human development of migrants' source countries. These first two sections of the paper are accompanied by an assessment of the gaps in our knowledge that need to be filled with further research.

The last section of the paper outlines policies that could help raise the development impact of migration and remittances. First, governments should extend absentee voting rights to overseas citizens. In addition, facilitating migrants' access to and use of financial services could bring substantial benefits. Furthermore, governments can profitably devote self-discovery and enterprise promotion efforts to small-scale activities. Finally, there could be substantial benefits from encouraging overseas citizens to retire at home while taking advantage of accumulated retirement benefits from their migration host countries.

Keywords: International migration, remittances, human development.

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Introduction

In the year 2000, there were a total of 175 million people living outside their countries of birth, amounting to 2.9% of world population.¹ The remittances that these migrants send to origin countries are an important but relatively poorly understood type of international financial flow.

Migrant remittances compare in magnitude to other important financial flows destined for developing countries, such as official development assistance and direct foreign investment. In 2007, migrant remittances sent to developing countries amounted to US\$251 billion.² Improvements in remittance data collection and continued immigration flows to developed countries have generated substantial recent interest in the remittance phenomenon among policy-makers, as evidenced by a proliferation of recent policy-oriented reports.³

This paper is about the relationship between international migration and human development. As such, it will go beyond assessing the relationship between migration and economic prosperity in migrants' home areas, and also consider effects on non-economic outcomes in the areas of education, health, and the political realm (both political outcomes as well as the political engagement of citizens). This paper does not examine migration of refugees. While a significant and important phenomenon, migration motivated by civil conflict or war has distinctive determinants, dynamics, and impacts and is beyond the scope of this inquiry.

The paper is organized as follows. The first section of the paper reviews what we know about the factors that drive migration from developing to developed countries. The second section of the paper reviews existing knowledge about the impact of international migration and remittances on the economic and human development of migrants' source countries. These first two sections of the paper are accompanied by an assessment of the gaps in our knowledge that need to be filled with further research. The last section of the paper outlines policies that could help raise the development impact of migration and remittances.

¹ Estimates of the number of individuals living outside their countries of birth are from United Nations (2002), while data on world population are from U.S. Bureau of the Census (2002).

² Ratha et al (2008).

³ Reports funded by the Multilateral Investment Fund of the Inter-American Development Bank include Pew Hispanic Center (2002) and Terry and Wilson (2005). The World Bank has also funded substantial publications on the topic, such as World Bank (2006) and World Bank (2007).

I. Migration decision-making

This section of the paper reviews what is known about the factors that drive migration from developing to developed countries. This is an important first step because the eventual impacts of migration on human development may very well depend on the original motivations for the migration flow. For example, accumulating resources for human capital investments (education, health) in children may be a central motivation for migration. In this context, it is important to also understand what motivates migrants' decisions to return, as return decisions may influence human development outcomes as well, by ending the period of high overseas earnings and remittances. In addition, the return of migrant parents may have important impacts on childrens' outcomes.

Early economic models of migration emphasized wage differentials as the primary impetus behind migration flows. But in the face of substantial wage differentials, why would migrant workers in rich countries ever return to poorer countries of origin? Return migration is a puzzle for such exclusively income-maximizing models of migration (as in Sjastaad (1962) and Harris and Todaro (1970)). A more nuanced understanding of migration decisions – that incorporated both outbound and return migration – is possible in models that consider household utility maximization over a finite horizon, when migrants prefer consumption in the home country to consumption overseas (as in Hill (1987) and Djajic and Milbourne (1988)). Temporary stays overseas are used to accumulate resources for later use in the home country, either for consumption or investment.

In current research on migration decision-making, a current debate is whether durations of migrants' stays overseas are determined primarily by straightforward life-cycle considerations, as opposed to being driven by the need to reach target-earnings levels. By "life-cycle" considerations, one means simply that households choose the length of stay overseas that balances the marginal benefit from higher savings overseas (and thus higher lifetime consumption) against the marginal utility cost of overseas work (as in Stark, Helmenstein, and Yegorov (1997) and Dustmann (2003)). On the other hand, when households face borrowing constraints and minimum investment levels, lengths of stay overseas can be determined by the

amount of time needed to accumulate a “target-earnings” level, as in Piore (1979) and Mesnard (2004).

Distinguishing between the two alternative motivations for return migration is important, because the return decisions of “life-cycle” migrants and “target-earners” can respond very differently to changes in overseas economic conditions. For “life-cycle” migrants, improved economic conditions in host countries—say, increased wages—can lead to longer overseas stays (as long as substitution effects dominate any income effects). For “target-earners,” on the other hand, improved economic conditions should lead to shorter overseas stays, as migrants reach their earnings goals more quickly.

Yang (2006) provides a theoretical model that incorporates both life-cycle and target-earnings considerations for migration duration decisions. Both potential reasons for return migration emerge when households face borrowing constraints and when they face minimum investment thresholds. “Minimum investment thresholds” exist when investments have fixed cost components that to a large extent are indivisible. Examples include fixed tuition fees for educational investments, or investments in capital equipment (e.g., a vehicle for a transportation business). The main theoretical prediction is that “life-cycle” migrants are those at the lowest and highest ends of the foreign wage distribution, while migrants with intermediate foreign wages are “target-earners.” In essence, “target-earners” are those for whom the minimum investment threshold is *just* binding: they prefer investing at the minimum threshold to not investing at all, but if possible would have preferred lower investment levels (and shorter stays overseas). They therefore stay overseas only until their savings reach the minimum investment threshold. By contrast, the foreign wages of “life-cycle” migrants are either too low to ever consider investing, or high enough that they choose above-minimum investment levels.

Empirically, attempts to distinguish between the two alternatives typically examine the correlation between return migration and migrants’ overseas earnings. The evidence has been inconclusive. Borjas (1989) finds among the foreign-born in the US that higher earnings are associated with less return migration. By contrast, Dustmann (2003) documents, among immigrants in Germany, that higher migrant wages (instrumented by parental education) are associated with more return migration (shorter overseas stays). Constant and Massey (2002) find

no statistically significant relationship between earnings and migrant returns in the same German dataset, although migrants who are unemployed or marginally employed are more likely to return.

Other studies have sought evidence that migrants are target-earners by examining correlations among migrant earnings, return migration, and entrepreneurship. In a sample of Tunisian return migrants, Mesnard (2004) documents that migrants were more likely to become entrepreneurs upon return if they had accumulated higher savings overseas. Dustmann and Kirchkamp (2002) find that higher migrant earnings are associated with shorter migration durations for Turkish migrants who become entrepreneurs upon return.

A central methodological concern with existing empirical work on this topic is that the independent variable of interest—foreign earnings—is not randomly assigned across migrants, so any observed relationship between foreign earnings and return migration may simply be caused by unobserved third factors. For example, a finding that migrants with higher earnings have shorter lengths of stay overseas need not imply that higher earnings cause shorter migration durations. Rather, higher-wage migrants could simply have other characteristics that make early return attractive (such as better job prospects at home, or stronger family ties).

Yang (2006) exploits a natural experiment, exchange rate shocks experienced by Filipino overseas migrants, making possible a causal estimate of the effect of migrant economic conditions on return migration. In so doing, it also sheds light on the relative importance of life-cycle versus target-earnings explanations for return migration. The first main finding of the paper is that, on the whole, more favorable exchange rate shocks lead to fewer migrant returns. The regression analysis indicates that a 10% improvement in the exchange rate reduces the 12-month return rate by 1.4 percentage points. Overall, the finding that more favorable exchange rate shocks lead to fewer migrant returns supports the “life-cycle” explanation for return migration. A positive exchange rate shock raises the marginal benefit of staying overseas (by raising the domestic-currency value of foreign wages), and leads to less return migration on the margin.

The second main finding of Yang (2006) is that—even though life-cycle considerations seem to dominate on the whole—migrants from a subset of households appear to be target-earners. The

effect of the exchange rate shock on returns is greatest for households with the lowest and highest values of a foreign wage index, and lowest for those with intermediate values of the index. In households with intermediate values of the foreign wage index, the exchange rate shocks lead to increases in variables associated with household investment, such as vehicle or real estate purchases and entrepreneurial income. These results are consistent with the theoretical prediction that the migrants most likely to be target-earners are those in the middle of the foreign wage distribution: positive exchange rate shocks make target-earners more likely to return home and to invest (because they become more likely to have reached the minimum investment threshold).

II. The impact of migration and remittances on human development

This section reviews the impacts of migration and remittances on a variety of human development outcomes, and also reviews emerging new evidence on the impact of financial innovations that put more control over remittances uses in the hands of migrants.

A. Impacts of migration and remittances

Migration flows, and the remittances that often follow, can have a variety of impacts on those left behind in the home country as well as migrants themselves. Areas of potential impact on those left behind extend beyond income from remittances to the areas of education, health, entrepreneurial activities, and even the political realm. Indeed, impacts can take the form of costs as well as benefits; examples of the potential negative effects that are often hypothesized include lowering of the labor force participation of prime-age remittance recipients, and detrimental impacts on child development when parents are absent.

Aside from assessing the evidence on the impact of migration on migrants' incomes, it is beyond the scope of this paper to conduct a proper assessment of the voluminous literature on the impacts of migration on the migrants themselves (such as their labor market performance, health, and education outcomes). In what follows, this paper will focus mainly on impacts on those left behind in migrants' home countries.

The impact of migration on the earnings of migrants

Migration typically brings about dramatic increases in the earnings of migrants. Clemens, Montenegro, and Pritchett (2009) use data from a large number of developing countries and the U.S. to estimate the “place premium”: the increase in wages that foreign workers experience when they enter the U.S. They compare the earnings of observably similar individuals (with the same country of birth, age, education, experience, gender, and urban/rural location) but who happen to be in different countries (the U.S. vs. the country of birth). They find that the place premium is typically very large in magnitude, with a median across source countries of 4.11 times home country wages, and ratios ranging from 2.0 for the Dominican Republic, 3.8 for Peru and 15.5 for Yemen. Of course, there may be unobservable differences in the characteristics of movers vs. stayers that lead these ratios to overstate the *causal* impact of migration on wages. The authors then correct these estimates using data on a subset of countries for which representative survey data are available on the wages of movers vs. stayers, finding that the overstatement is typically not very large: the place premium that takes into account the selectivity of migration would still be above 3 in 20 out of 42 countries and above 2 in 38 out of 42. In other words, for migrants from nearly all countries, migration would lead to at least a doubling of wages.

For many countries, the aggregate earnings of migrants are so large that income per “natural” (someone born in a given country, whether currently living overseas or in the country of birth) is substantially higher than income per capita of individuals *resident* in a given country. Clemens and Pritchett (2008) document that 43 million people live in a set of countries where income per natural is 50% higher than income per resident, and for 1.1 billion people the difference between income per natural and income per resident is greater than 10%. For El Salvador, for example, income per natural is 16.5% higher than income per resident.

Mckenzie, Gibson, and Stillman (forthcoming) provide probably the only causally well-identified estimate of the earnings impact of migration from a developing to a developed country, taking advantage of exogenous migration opportunities among Tongans induced by New Zealand’s Pacific Access Category (PAC). The PAC allows 250 Tongans per year to obtain emigrant visas in New Zealand. Among applicants who meet certain basic criteria (such as age,

English language ability, and health requirements), a lottery determines provision of the emigrant visa. Their estimate of the causal impact of migration on the earnings of Tongans migrating to New Zealand is 2.6 times (migrants earn an average of 378 New Zealand dollars per week, compared to 104 New Zealand dollars per week for non-migrants).

Impacts on consumption and household investment

When migrants leave their home countries and send remittances home, what types of expenditures do the remittances help to fund? Typically, when this question is asked, a natural distinction is made between consumption and investment expenditures by remittance-recipient households. It should be noted, of course, that neither use of remittances – consumption or investment – should be assumed a priori to be “better”. It could be optimal for households to use remittances mainly on consumption, particularly if they are starting from very low consumption levels. For households somewhat further above subsistence consumption levels, it is useful to examine whether receipt of migrant remittances leads to household entrepreneurial investments, because of their implications for longer-run growth of income and other aspects of well-being in migrant source households. Accumulated migrant earnings can allow investments that would not have otherwise been made due to credit constraints and large fixed costs of investment.

An existing literature argues that resources received from overseas rarely fund productive investments, and mainly allow higher consumption. For example, see Lipton (1980), Reichert (1981), Grindle (1988), Massey et al. (1987), Ahlburg (1991), Brown and Ahlburg (1999), and references cited in Durand et al (1996). On the other hand, other research finds that migration and remittance receipts are positively correlated with various types of household investments in developing countries. Examples include Brown (1994), Massey and Parrado (1998), McCormick and Wahba (2001), Dustmann and Kirchkamp (2002), Woodruff and Zenteno (2008), and Mesnard (2004) on entrepreneurship and small business investment in a variety of countries; Adams (1998) on agricultural land in Pakistan; Taylor, Rozelle, and de Brauw (2003) on agricultural investment in China; and others.

A central methodological concern with existing work that attempts to understand the impact of remittances on household consumption or investment is that migrant earnings are in general not

randomly allocated across households, so that any observed relationship between migration or remittances and household outcomes may simply reflect the influence of unobserved third factors. For example, more ambitious households could have more migrants and receive larger remittances, and also have higher investment levels. Alternately, households that recently experienced an adverse shock to existing investments (say, the failure of a small business) might send members overseas to make up lost income, so that migration and remittances would be negatively correlated with household investment activity.

An experimental approach to establishing the impact of migrant economic opportunities on household outcomes could start by identifying a set of households that already had one or more members working overseas, assigning each migrant a randomly-sized economic shock, and then examining the relationship between changes in household outcomes and the size of the shock dealt to the household's migrants.

Yang and Martinez (2005) and Yang (2008) take advantage of a real-world natural experiment that is analogous to the experiment just described. A non-negligible fraction of households in the Philippines have one or more members working overseas at any one time. These overseas Filipinos work in dozens of foreign countries, many of which experienced sudden changes in exchange rates due to the 1997 Asian financial crisis. Crucially for the analysis, the changes were unexpected and varied in magnitude across overseas Filipinos' locations. The net result was large variation in the size of the exchange rate shock experienced by migrants across source households. Between the year ending July 1997 and the year ending October 1998, the US dollar and currencies in the main Middle Eastern destinations of Filipino workers rose 50% in value against the Philippine peso. Over the same time period, by contrast, the currencies of Taiwan, Singapore, and Japan rose by only 26%, 29%, and 32%, while those of Malaysia and Korea actually fell slightly (by 1% and 4%, respectively) against the peso.

Taking advantage of this variation in the size of migrant exchange rate shocks, these papers examine the impact of the shocks on changes in outcomes in migrants' origin households, using detailed panel household survey data from before and after the Asian financial crisis.

Yang (2008) shows that these exogenous increases in migrant resources are used primarily for investment in origin households, rather than for current consumption. Households experiencing more favorable exchange rate shocks raise their non-consumption disbursements in several areas likely to be investment-related (in particular in educational expenditures), and show enhanced entrepreneurship participation in entrepreneurial activities. Households raise hours worked in self-employment, and become more likely to start relatively capital-intensive household enterprises (transportation/communication services and manufacturing). By contrast, there is no large or statistically significant effect of the exchange rate shocks on current household consumption. Yang and Martinez (2005) extends the analysis and shows that these positive migrant exchange rate shocks also lead these households to be more likely to exit poverty status.

These effects of Philippine migrants' exchange rate shocks on their households left behind are large in magnitude. Consider an improvement in the migrant's exchange rate of 25% against the Philippine peso, which is a reasonably-sized shock and roughly the size experienced by migrants in Taiwan. A shock of this size had a number of beneficial effects on migrant households, on average. Remittances increased by 6.0 percentage points (as a share of pre-shock household income, from a base of 40 percent of pre-shock household income). From a base of 9%, households became 1.5 percentage points less likely to be below the income poverty line. Households became 14 percentage points more likely to enter a new entrepreneurial activity (from a base likelihood of 23.7%). Total hours worked in self-employment activities rose by 2.5 hours from a base of 21.5 hours (across all individuals in the household). Households also become 3.6 percentage points more likely to own a vehicle (from a base of 13%), which is likely related to the increase in hours spent on entrepreneurial activity: transportation services is one of the entrepreneurial activities that sees increases in time allocation.

Another important line of research examines the impact of the migration decision itself on human development outcomes in migrants' origin countries. The key challenge, again, is to find exogenous variation in migration, because the migration decision is determined simultaneously with other outcome variables of interest. A powerful approach in answering this question involves taking advantage of exogenous variation in migration created by lotteries that are held by destination countries among source-country potential migrants. The U.S. Diversity Visa Lottery is the most prominent example, but other lotteries exist that could be exploited as well.

Gibson, McKenzie, and Stillman (2008) study Tongan migration induced by New Zealand's Pacific Access Category (PAC), another useful context in which to study migration's impact on those left behind. Because winning the lottery allows one's entire immediate family to move to New Zealand, they investigate effects on extended family members of lottery-winning families who stay behind in Tonga. It is important to keep in mind, of course, that while those winning the lottery are randomly selected among the pool of applicants, lottery applicants (and their households) themselves are a select group that are unlikely to be representative of the population as a whole. Therefore, estimates of the impact of migration among lottery winners would not represent the impact of migration of someone from a household randomly selected from the population as a whole. That said, an estimate of the impact of migration among a group a population that has expressed an interest in migration (e.g., the group of lottery applicants) is probably more relevant from a policy standpoint.

Gibson, McKenzie, and Stillman's (2008) results are quite striking, in that they find a number of adverse consequences for family members staying behind. Strikingly, income per capita in the households of individuals whose relatives win the lottery is roughly 20-25 percent lower because the rise in net remittances does not offset the large fall in labor earnings caused by the departure of migrant relatives. They also find negative effects on livestock and durables ownership as well access to financial services: relatives of migrants own 3.9 fewer chickens (from a base of 8.5), 0.8 fewer cattle (from a base of 1.7), and are 17 percentage points less likely to have a bank account (from a base of 89%).

Impacts on schooling and health outcomes

A variety of studies that compare remittance-recipient households with those not receiving remittances find that remittances are associated with human capital investments. For example, Cox-Edwards and Ureta (2003) and Adams (2005) find that remittances are associated with improved child schooling in El Salvador and Guatemala, respectively. Of course, even with regression-based controls for observable household characteristics, these studies remain open to the concern that unobservable differences across households (and not the remittances themselves) are the true drivers of the differences in educational investments.

That said, the few studies that take advantage of plausibly exogenous variation in migration or remittances do find positive *causal* impacts on child schooling (and corresponding reductions in child labor). In Yang's (2008) study of the impact of migrant exchange rate shocks, more positive migrant shocks are associated with more child schooling and less child labor (for children aged 10-17; data on schooling and labor supply were not collected for children younger than 10). Again, it makes sense to consider an improvement in the migrant's exchange rate of 25% against the Philippine peso. A positive shock of this size leads to a 3.3 percentage point increase in the likelihood of girls attending school (from a base of 95%). The increase for boys is smaller (1.7 percentage points from a base of 93%) and not statistically significantly different from zero. However, boys do experience a statistically significant reduction in mean hours worked per week of 0.8, from a base of 1.5 (and in this case the 0.5 hour reduction for girls is not statistically significant). The different effects for boys and girls are sensible, since girls were already more likely to be attending school, and boys were already more likely to be working prior to the exchange rate shocks.

Mckenzie and Hildebrandt (2005) use an instrumental variable strategy (instrumenting for household migration with historical local migration networks) and find that children in migrant households have 3.7% lower infant mortality and higher 350 grams higher birthweight. In addition to the effect operating via higher wealth in migrant households, other reasons for the positive impact of migration include better health knowledge and preventative health care, and more prevalent breastfeeding and vaccinations in migrant households.

Gibson, Mckenzie, and Stillman's (2008) study of Tongan households with family members entering the New Zealand visa lottery also finds striking health impacts. While incomes of family members remaining behind fall, due to changes in diets, working age adult relatives of lottery winners actually experience improvements in health, in the form of reductions in body mass indices and waist to hip ratios: BMI falls by 2.2 (from a high base of 32.4), and waist to hip ratios fall by 0.029 from a base of 0.925. Gibson, Mckenzie, and Stillman (2008) also examine impacts on child educational outcomes and investments, but find no effects on these variables.

Impacts on politics and political engagement

Migration flows also have the potential to influence political attitudes in migrant source countries. When the migrant flows are large as a proportion of population, they also can have substantial effects on political outcomes.

In research based on in-depth interviews among migrants from the Dominican Republic in the U.S. and in Dominican sending communities, Levitt (1998) and Levitt (2001) argue that migrants can transmit political values learned in their host countries to family members (and sending communities more generally) in their countries of origin. These “social remittances” are transmitted via return visits, phone calls, and other forms of communication. Using survey data from several Latin American countries, Córdova and Hiskey (2009) test Levitt’s “social remittance” theory and find that individuals in migrant source countries with greater connections to international migrant networks are more supportive of democratic principles, but are also more critical of their own country’s democratic performance. At the same time, connections to migrant networks are associated with greater participation in local community affairs (such as via voting or participation in local community organizations). Similarly, using survey data from Mexico, Goodman and Hiskey (2008) find that individuals in high migration communities participate less in politics but are more active in local community organizations.

High levels of migration and remittances may also alter political outcomes. Bravo (2008) examines voting outcomes at the municipal level in Mexico and finds that areas with higher outmigration have political outcomes that are more adverse towards women. He shows that high outmigration leads to population sex ratio more highly skewed towards women (because most migrants are male). This leads to increased power on the part of men in marital relationships, and thereby to less political engagement by women and to voting outcomes more adverse towards women (such as lower shares of female municipal officials).

Frank and Regan (2009) examine data at the country level over time, and find that higher levels of remittances are associated with a lower incidence of civil war. They argue that because remittances respond countercyclically to economic conditions in the home country, remittances

ameliorate the social tensions arising from economic crisis that might otherwise lead to civil conflict.

In sum, it appears that outmigration has effects on the political engagement of individuals in the home country, leading those with exposure to migrant networks to be more critical of their home democratic conditions and to be more active in local community organizations. There can also be aggregate effects on political outcomes when migrant outflows are large as a share of population.

New directions for research

The general methodology used in previously-mentioned research on Philippine migrants – examining the impact of an economic shock experienced by overseas migrants on remittances and the outcomes of family members left behind – can potentially be applied in a variety of different contexts. Studies using a similar methodology can be useful to ascertain whether the results in the Philippine case extend to other contexts, or, if not, what might account for the differences in impacts.

The key requirements for such a study are: 1) an origin country whose migrants are destined to a wide variety of overseas destinations, 2) large and heterogeneous economic shocks in destination areas, 3) data on migrant locations before the shocks, and 4) data on migrant and origin household outcomes after the shocks. Many situations satisfy elements 1) and 2): for example, migrants from India and the other countries of South Asia also are destined for a wide variety of overseas destinations, and regional or global country-level economic shocks (such as the current 2008-09 global financial crisis) are often heterogeneous in magnitude across migrant destinations. Migrants from specific countries in Latin America are often destined for a variety of locations across the United States, and it may even be possible to exploit state-level (and perhaps occupation- or industry-specific) economic shocks experienced by migrants to achieve identification.

A likely hindrance to future research along these lines among other migrant populations is that there are fewer situations where the requisite survey data (elements 3) and 4)) are available. The Philippine case is unusual, in that the National Statistics Office of the Philippines administers a linked set of high-quality surveys to a nationally-representative household sample that includes a

detailed module on migration which is administered if the household reports having one or more members overseas. Importantly, the migration module (called the Survey on Overseas Filipinos) includes questions on migration history that allows a researcher to track migration episodes up to 5 years in the past. Such a module turns out to be crucial for identifying households that had migrants in specific shock-exposed locations *prior to* the shock, because location after the shock could be endogenous and therefore introduce bias in estimation.

It will also be important for future research to continue to explore the impact of the migration decision itself those the migrants leave behind. Because the New Zealand PAC lottery allows emigration of entire families of winners, the Gibson, Mckenzie, and Stillman (2008) analysis is less useful for understanding the impact of a single individual's migration (for temporary work overseas, say) on the outcomes of family members staying behind. Such migration may very well lead to improvements in immediate family members' outcomes if immediate family members receive larger fractions of a migrant's income in the form of remittances than do more distant relations.

Researchers should be on the lookout for opportunities to test the effect of this kind of migration using exogenous variation in temporary labor migration opportunities, or, alternately, convincing research designs that use econometric techniques to deal with identification problems. In ongoing work, Gibson and Mckenzie (2009) use propensity score matching techniques to estimate the impact of a temporary worker program in New Zealand on immediate family members left behind by the worker. Workers come from a variety of island nations in the South Pacific. Families with a temporary worker that goes overseas are matched with otherwise observationally similar families without a temporary worker. The study has not yet looked at human development outcomes, but preliminary results indicate that households of migrating workers experience a substantial rise in income that is not substantially offset by declines in other income sources.

Future research might also profitably seek evidence of the impact of parental absence on human development outcomes in their origin households, particularly of children. The key challenge in terms of determining the impact of parental absence itself is that the departure of a parent for an overseas job is typically accompanied by a large increase in household income (in the form of

remittances or savings held overseas). In addition to the challenge of finding exogenous variation in migration with which to estimate the impact of migration on children, there is also the difficulty of separating the effect due to increases in income (which are presumably positive) from the effect of parental absence (presumably negative). Asis (2003), for example, reports outcomes and views of children in migrant families across the Philippines, and compares these children to those in non-migrant families. She finds that children in migrant families are markedly better off along a number of socio-economic outcomes such as household income and schooling. At the same time, however, the study is not able to strictly separate the impact of migration-generated resources from the impact of parental absence; nor is it able to deal with selection bias due to differential propensity to migrate among families of different types.

With innovative survey work on the impacts on children when parents leave for or return from overseas, it may be possible to shed light on the impact of parental absence *per se*. New data collection will be necessary to understand the changes in families that occur with the departure and return of migration parents, in areas such as parental time use with children and alternative caregiving arrangements when parents are absent.

One type of data collection and analysis that could be fruitful is to collect high-frequency survey data on these variables before and after a change in a parental migration decision. For example, a survey might collect longitudinal data from families on a monthly or bi-monthly basis before and after a parent returns from overseas. As long as the parent has been accumulating some savings overseas, there should not be a substantial change in the household's available financial resources from before to immediately after the parent returns home. One could then examine changes in parental time investments, caregiving arrangements, and child outcomes more generally from before to after the parental return. Any changes could then be plausibly ascribed to the parental return itself, and not to the change in financial resources, particularly in the short-term.

B. Remittance responses to crisis

The current global financial crisis brings to the fore questions related to migration, remittances, and development in difficult economic times. Yang (2008) shows that remittances rise when

economic conditions (specifically, exchange rates) improve in migrants' host countries. The effect is substantial: a 25% improvement of the migrant host country's exchange rate (vs. the migrant source country currency) led to an increase in remittances amounting to roughly 6.0 percentage points of pre-crisis household income. For the mean household, this amounted to 5,656 pesos (US\$143 at the 1998 or post-crisis exchange rate). This finding suggests that the current economic crisis should lead to declines in remittances sent home by migrants in the developed world.

Of course, remittances may also respond to economic conditions in migrants' source countries. In particular, an important benefit due to international migration is that remittances may serve as insurance, rising in the wake of negative shocks in migrants' home countries. Rural households in many developing countries are highly exposed to weather risk, experiencing storms, flooding, and droughts with great frequency. Households therefore should benefit greatly from access to formal and informal insurance that alleviates their most important sources of weather risk. Potential benefits include the ability to maintain nutritional, health, and educational investments, to adopt new production technologies, and to start new entrepreneurial activities that weather risk made previously unattractive.

A large literature has examined the mechanisms through which households cope with risk in developing countries. Among others, Townsend (1994), Udry (1994), Ligon, Thomas and Worall (2002), and Fafchamps and Lund (2003) have documented risk-pooling arrangements among households in developing countries intended to smooth consumption in response to shocks. Households may also autonomously build up savings or other assets in good times and draw down these assets in hard times (Paxson (1992), Rosenzweig and Wolpin (1993), Udry (1994)), increase their labor supply when shocks occur (Kochar (1999)), or take steps (such as crop and plot diversification) to reduce the variation in their incomes (Morduch (1993)).

Yang and Choi (2007) and Yang (2008) explore whether migrant remittances serve as insurance in the wake of negative weather shocks. This is a mechanism for coping with shocks *ex post* on which previous micro-level studies have not focused. At the international level, it is commonly posited that remittance flows from overseas buffer economic shocks in the migrants' home countries (for example, Ratha 2003), but there have been relatively few empirical tests of this

claim with micro-level household data. Mishra (2005) examines remittances in 13 Caribbean countries from 1980 to 2002 and finds that every 1 percent decrease in GDP is associated with a 3 percent increase in remittances two years later. Related research on the role of internal (domestic) migration in pooling risk within extended families includes Lucas and Stark (1985), Rosenzweig and Stark (1989), and Paulson (2003).

Yang and Choi (2007) and Yang (2008) emphasize credible identification of the effect of negative shocks on international remittances. Existing studies of the impact of household income on remittance receipts use cross-sectional data, and so are subject to potentially severe biases in directions that are not obvious a priori. Reverse causation is a major concern: productive investments funded by migrant remittances can raise household income, leading to positive correlations between household income and remittances. Alternately, remittances may reduce households' need to find alternative income sources, leading to a negative relationship between remittances and domestic-source income. Even if reverse causation from remittances to income in migrants' source households was not a problem, it would be difficult to separate the cross-sectional relationship between income and remittances from the influence of unobserved third factors affecting both income and remittances (for example, the entrepreneurial spirit of household members).

Yang and Choi (2007) resolve these identification problems by focusing on income changes due to shocks—changes in local rainfall—that are credibly exogenous, so that bias due to reverse causation is not a concern. Among households in the Philippines with members who are overseas migrants, we find that changes in income from domestic sources lead to changes in remittances in the opposite direction of the income change: remittances fall when income rises, and remittances rise when income falls. In such households, the amount of insurance is large: roughly 60% of exogenous declines in income are replaced by remittance inflows from overseas. By contrast, changes in income from domestic sources have no effect on remittance receipts in households without overseas migrants. As a result, one cannot reject the hypothesis that consumption in households with migrant members is unchanged in response to income shocks, while consumption responds strongly to income shocks in households without migrants.

In a similar vein, Clarke and Wallsten (2004) find, using panel data from Jamaica, that remittances from overseas replaced 25% of damages from Hurricane Gilbert in 1992. Yang (2008) examines the impact of hurricanes on international financial flows using country-level panel data and finds that, for the poorest developing countries, hurricane damage leads to large inflows of migrants' remittances, amounting to 20% of experienced damages. Strikingly, the remittance response to hurricanes for these countries is large in magnitude: roughly one-quarter as large as the response of foreign aid.

It should be fruitful to conduct analyses analogous to Yang and Choi (2007) and Clarke and Wallsten (2004) in a variety of different contexts to ascertain the generalizability of these papers' findings that large fractions of income or asset losses are replaced by remittances. Future studies may also profitably examine differences in remittance responses across different types of losses. For example, it is possible that while remittances replace large fractions of losses due to natural disasters, but replace smaller fractions (if any) of declines in earnings due to enterprise failures or job losses. Differences may emerge if the latter types of losses are prone to moral hazard if they are insured, even implicitly, by an overseas migrant.

The extent to which losses are replaced by remittances may also vary across locations. One hypothesis might be that the responsiveness of remittances to disaster occurrences would depend on the level of financial development of the country. The direction of effect is not obvious *ex ante*: responsiveness could be higher in more financially developed countries if financial development eases remittance flows, but it could be lower if financial development means that more alternative consumption-smoothing options (such as credit and savings) are available. Such an examination might involve using country-level panel data on disasters and remittances, combined with country-level data (perhaps time-varying as well) on the level of financial development.

C. Remittance decision-making, and the importance of migrant control over remittance uses

While there is ample evidence that remittances bring numerous benefits to households in developing countries, to date we know very little about how migrants make their remittance-

sending decisions. In particular, an important question is whether migrants desire greater control over how family members back home use the remittances they receive. Do migrants and remittance recipients typically agree on the uses to which remittances should be put? If not, are migrants able to control how remittances are spent by recipients? How does lack of control affect the number of people remitted to, the amounts remitted, and the uses to which remittances are put? In the absence of control, do migrants simply send remittances as “gifts” with no attempt to direct their use? If migrants were to be given more control over remittance uses, how would they direct them to be used? These questions are relevant for the large and active literature in development economics on intra-household resource allocation. What’s more, a better understanding of these questions could have substantial impact on public policy, by suggesting policies to further stimulate remittance flows and potentially channel them towards more productive uses in migrant source countries.

These questions are related to a large literature in economics on intra-household decision-making. Attempts to understand the extent and nature of conflict between household members are central to research on the economics of the family, in both developed and developing countries. A wide variety of empirical studies have cast serious doubt on the “unitary model” of the household, the proposition that the joint actions of a household comprised of separate optimizing individuals can be represented as the actions of a single utility-maximizing agent.⁴

More recent models therefore take explicit account of potential preference differences among household members. Manser and Brown (1980) and McElroy and Horney (1981) model the allocation of household resources as the solution to a Nash cooperative bargaining problem, where the extent to which an individual’s preferences hold sway depends on his or her “threat point” (utility in the event of household dissolution or divorce). Lundberg and Pollak (1993) assume instead that the threat point is determined by a non-cooperative equilibrium within the household. Browning and Chiappori (1998) make the more minimal assumption that households achieve efficiency of resource allocation; their empirical tests provide evidence in favor of the efficient household model, rejecting the unitary model. However, even the minimal assumption of efficiency has been called into question by Udry (1996), who finds productive inefficiencies in

⁴ See the review in Strauss and Thomas (1995), as well as, more recently, Duflo (2003), Rangel (2006), and Martinez (2006).

resource allocation across male- and female-controlled farm plots in Burkina Faso, and Dubois and Ligon (2003), who document intra-household allocative inefficiencies in the Philippines.

A leading candidate explanation for observed inefficiencies is asymmetry of information in the household, so that family members cannot monitor each other well enough to enforce mutually-beneficial cooperative agreements. This idea has motivated new research that focuses on households with migrant members, because—due to the absence of the migrant member—these are households where information asymmetries are likely to be particularly pronounced. Overseas migrants may not share the same objectives as family members remaining back home, in particular regarding the use of remittances. For example, migrants may prefer that remittances be saved or invested, while remittance recipients may prefer consumption over investment.⁵ When overseas migrants cannot perfectly monitor how recipients use remittances, remittance amounts may be lower than under perfect information. De Laat (2008) shows that male Kenyan migrants spend considerable resources monitoring their rural wives, consistent with the existence of moral hazard in wives' implementation of husbands' remittance instructions. Chen (2006) finds evidence in China that non-cooperative behavior by wives when husbands have migrated is greater for behaviors that are more difficult to monitor.

In an ongoing field experiment, Ashraf, Aycinena, Martinez and Yang (2009), henceforth AAMY, assess whether conflict and information asymmetries in the household lead to lower remittances, and whether innovative financial products that give migrants more control encourage migrants to raise their remittance amounts. In particular, AAMY focus on improving the ability of migrants to ensure that remittances are deposited and accumulated in savings accounts in the home country.

AAMY implement a randomized controlled trial among migrants from El Salvador who are living and working in the Washington, D.C. metro area. Between November 2007 and July 2008, migrants in the sample were randomly allocated to be offered one of three different savings facilities, or to a control group that is offered no new savings facilities. The new savings facilities were developed in conjunction with Banco Agricola, El Salvador's largest bank. To isolate the

⁵ Ashraf (forthcoming) shows that husbands and wives change whether they choose to consume or save their money when they are being observed by their spouse.

importance of migrant control over savings, the study tests demand for different products that offer migrants varying levels of control. For example, the study investigates differential demand for savings accounts that must be solely in the name of a remittance recipient in El Salvador, versus accounts that are either jointly owned with the migrant or for which the migrant is the sole owner. In addition to raising savings rates in migrant families, these new facilities have the potential to stimulate household-level investments (in, for example, education, health, housing, and entrepreneurship) that would be paid for via the accumulated savings.

An innovative aspect of the project is that baseline surveys are administered to both migrants in the U.S. and their corresponding remittance-receiving households in El Salvador (the matched household in El Salvador is where the migrant's identified "primary remittance recipient" lives). Such matched migrant/remittance-recipient surveys are rarely attempted, and so the resulting dataset will be valuable for migration researchers interested in capturing a complete picture of the socio-economic situation of migrant families.

AAMY (2009) is the first randomized field experimental examination of remittance-related financial services among migrants in a developed country. Comparisons across the various treatment conditions will reveal the impact of migrant control on account take-up, remittances, and savings growth. This research represents a substantial improvement over existing (non-experimental) studies which must infer the existence of control problems indirectly, and where the direction of causation is not known with certainty.

Expressed preferences regarding use of remittances

Baseline data collected as part of AAMY (2009) provides evidence in support of the hypothesis that migrants have stronger preferences that their remittances be used for savings than do the remittance-receiving households. The study examines preferences over how remittances should be used, and compare the preferences of remittance senders (the DC-area migrants) with those of the remittance-receiving households in El Salvador. The comprehensive surveys fielded in Washington, D.C. and El Salvador contained a unique module intended to test for such preference differences. A concern during the study design was that simply asking migrants and households about their preferences over how remittances should be used might not yield useful

answers. Their answers might have been automatic, conditioned by what respondents thought was the “right” answer. Or respondents might not have thought carefully (as opposed to as situation where actual money was at stake).

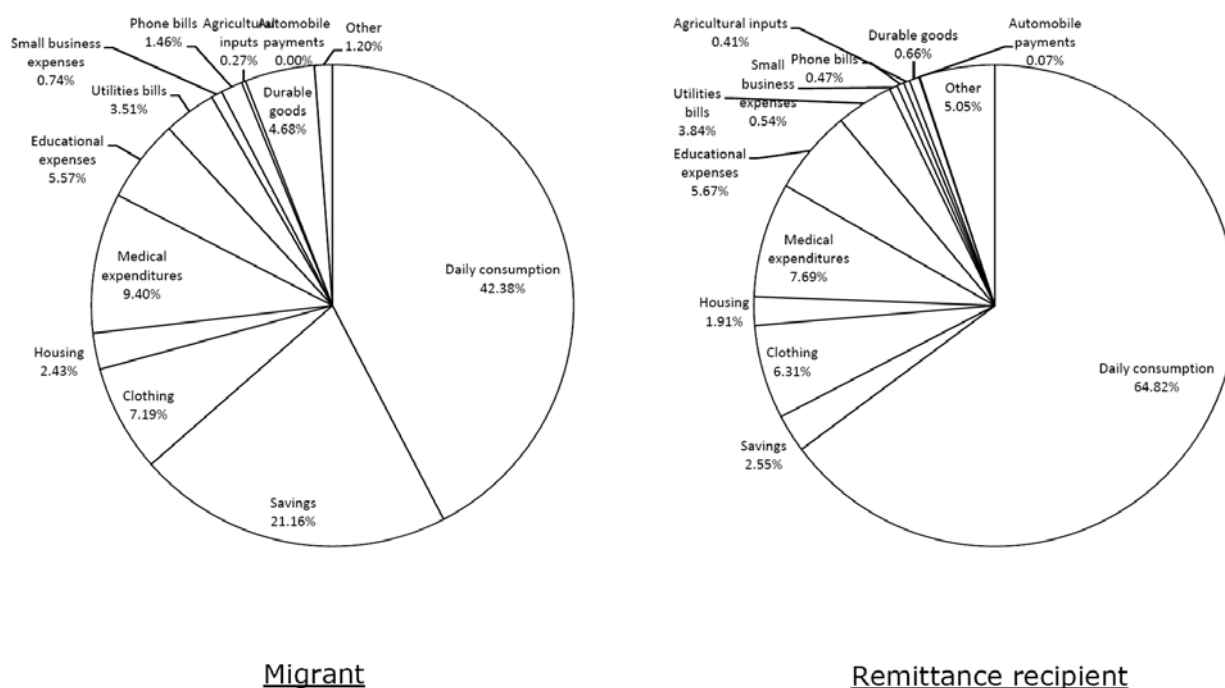
Mindful of these issues, the approach used was to tell survey respondents that their household in El Salvador was being entered into a raffle as part of the study. Respondents were told that 10 households in the study would win a prize of \$100. Each migrant was told that 5 prizes would be awarded in such a way that if their household in El Salvador won, the migrant would be able to specify exactly how the \$100 prize would be spent. The migrant was given a list of expenditure items, and was asked to divide the \$100 across one or more of these items. The list did not contain a “cash” option (the migrant could not say that some or all of the winnings would be given over in cash). The project would channel the funds in such a way as to ensure that the \$100 was spent exactly how the migrant specified.

Households in El Salvador were told of this raffle as well, and the household respondent was asked how he or she would like the \$100 to be allocated across the same expenditure categories. They were similarly told that the project would channel the funds in such a way as to enforce that expenditure allocation should the household win the raffle. Households were not told how the DC-area migrant had previously responded to the same question (and survey staff in El Salvador did not have that information).⁶

This set-up gave both migrants and households incentives to answer thoughtfully and truthfully as to how they would prefer the funds to be used, because real money would be at stake if the household won the raffle. We would then expect that differences in preferences between migrants and households over how funds should be used would be reflected in their allocations of the possible \$100 raffle winnings.

⁶ The raffle was held in December 2008. 10 El Salvador households will be chosen at random to win the \$100. In half of these the migrant’s expenditure allocation was implemented, and in the other half the household’s expenditure allocation was implemented. Implementation of the predetermined expenditure allocation was carried out by making payments directly to certain service providers, such as groceries or schools, for a credit in the winner’s name.

Figure 1: Allocations of \$100 raffle winnings



Stark differences emerged between migrants’ and households’ allocations. Figure 1 presents the average breakdown of allocations across 13 expenditure categories for migrants (left-side pie chart) and households (right-side pie chart) for 740 pairs of migrants and households for which corresponding data on these raffle allocations are available, while Table 1 presents the mean allocations and the P-value of the F-test of the equality of the migrant vs. household means. The most obvious difference is that migrants allocate a much smaller amount (\$42.38) to “daily consumption” expenditures than do recipient households, who allocate \$64.82 to daily consumption on average. A large fraction of that difference is accounted for by the fact that migrants allocate \$21.16 to savings, while households allocate just \$2.55 to savings on average. Both these differences are statistically significantly different from zero at the 1% level. The pattern is a strong confirmation that migrants have dramatically higher preferences for savings than do recipient households.

Some of the less-important expenditure categories also reveal differences between migrants and households. The categories where the differences are statistically significantly different from

zero (at the 5% level) are as follows: phone bills (migrants \$1.46, households \$0.47), durable goods (migrants \$4.68, households \$0.66), and “other” (migrants \$1.20, households \$5.05). The higher allocation by migrants to phone expenditures may reflect a greater desire on the part of migrants to maintain connections with their families back home.

Table 1: Migrant vs. recipient allocation of \$100 in possible raffle winnings

(U.S. dollars)

<u>Raffle use categories</u>	<u>Migrant (in U.S.)</u>	<u>Remittance Recipient (in El Salvador)</u>	<u>Difference (migrant minus recipient allocation)</u>	<u>P-value: test of equality of means</u>
Daily consumption	42.38	64.82	-22.44	0.000
Savings	21.16	2.55	18.61	0.000
Clothing	7.19	6.31	0.88	0.414
Housing	2.43	1.91	0.52	0.471
Medical expenditures	9.40	7.69	1.71	0.173
Educational expenses	5.57	5.67	-0.10	0.916
Utilities bills	3.51	3.84	-0.33	0.698
Small business expenses	0.74	0.54	0.20	0.612
Phone bills	1.46	0.47	0.99	0.039
Agricultural inputs	0.27	0.41	-0.14	0.655
Durable goods	4.68	0.66	4.02	0.000
Automobile payments	0.00	0.07	-0.07	0.318
Other (specify)	1.20	5.05	-3.85	0.000
Num. obs.	740	740		

Notes -- Table presents mean amounts allocated to given expenditure category out of \$100 in possible remittance raffle winnings. Sample comprised of matched pairs of Salvadoran migrants in the U.S. and their "primary" remittance recipient in El Salvador. Migrants report desired allocation of funds by the remittance recipient. Remittance recipients report desired allocation of funds by themselves. "Housing" includes rent, construction, and mortgage payments. P-value is for F-test of equality of means across two groups (migrants vs. remittance recipients).

Preliminary impacts on savings

Preliminary results in AMY (2009) provide support for the hypothesis that a desire for control over remittance uses—in particular, control over the fraction of remittances that are saved in formal savings accounts—is quantitatively large and has an important influence on financial

decision making by migrants. Across the experimental conditions in our sample, migrant demand for savings accounts is higher when migrants have the option of greater control over the accounts. Migrants had been offered the new accounts from December 2008 through July 2008. As of November 2008, 54.4% of migrant/recipient pairs have a Banco Agricola account in El Salvador if they have the option of joint or sole ownership of the account, compared to only 48.4% if they have the option of only joint ownership, 44.5% if the offered account can be in the remittance recipient's name only, and 33.5% in the control group where no new account was offered.

Data on savings held in Banco Agricola accounts for migrants and recipients is also available, but still preliminary. Preliminary analyses so far do show patterns similar to the take-up figures, with higher savings growth in treatment conditions that offer migrants more control over accounts. The relevant counterfactual is given by the control group (where no new accounts were offered). Savings growth in this group was just \$19.76 on average: savings rose from an average of \$521.98 in November 2006 (prior to the start of the study) to an average of \$541.74 in November 2008. By contrast, in the treatment group that was offered the option of joint or sole ownership of the account, savings roughly doubled, growing by \$543.69 on average over the same time period. This difference in savings growth vis-à-vis the control group is statistically significantly different from zero at the 1% level.

Savings are still being tracked over time to determine the persistence of these savings differences over several more months. In addition, ongoing data collection and survey work for this study (planned for the first half of 2009) will allow the study to determine the impact of migrant control over savings on remittance and savings growth and a variety of human development and other outcomes in remittance-receiving households in El Salvador. Outcomes of interest in subsequent rounds of the survey include consumption, nutrition, child schooling, health status, and entrepreneurial investment.

III. Policies to raise the development impact of migration and remittances

Overseas migrant populations offer substantial opportunities for developing countries and should be taken into account in the formulation of development policy. This last section of the paper

outlines policies that could help raise the development impact of migration and remittances. The recommended policies could be carried out by either national governments of migrant-origin countries, international organizations, or both.

First, governments should extend absentee voting rights to overseas citizens.

In addition, facilitating migrants' access to and use of financial services could bring substantial benefits. Promoted financial services should extend beyond just remittances or money transmission services, to facilities that could bring additional development benefits, such as savings or credit.

Furthermore, governments can profitably devote self-discovery and enterprise promotion efforts to small-scale activities. Such efforts can take advantage of the fact that overseas citizens are a source of small-enterprise finance for a large number of the households remaining in the origin country. Any new opportunity (say, a new fruit crop) is likely to spread particularly rapidly among households with migrant members given the availability of small-scale financing via remittances.

Finally, there could be substantial benefits from encouraging overseas citizens to retire at home while taking advantage of accumulated retirement benefits from their migration host countries.

Seek to expand the legal rights of citizens overseas

Research findings cited above indicate that “social remittances” from migrants lead individuals back home to be more critical of their home governments and to become more engaged with local community organizations. While the immediate policy implications must remain speculative, it is possible that increased political engagement on the part of migrants overseas would enhance the transmission of these social remittances, and increase the likelihood of political change back home.

Origin-country governments might therefore move for overseas citizens to be *given the right to vote* in the domestic elections of their home countries. This proposal has political and ethical rationales (see Carey 2003 for the case of El Salvador), but it could also have the side-

effect of increasing social remittances and influencing political change at home. In addition, the right to vote could catalyze community organizing among overseas citizens and thereby strengthen migrant networks. Raising the number and quality of interpersonal linkages among overseas citizens should have numerous benefits. First, such linkages should improve individual migrant employment outcomes (by spreading information about employment opportunities) and facilitate the spread of immigration information.⁷ Moreover, stronger migrant networks would also be more likely to contribute to development projects back home via hometown associations. In addition, private firms from the home country should find it easier to market native products to a cohesive migrant network than a dispersed one.

Improve migrants' access to financial services

Migrants in destination countries often have relatively low levels of integration into the formal financial system, particularly if they are undocumented. Raising the percentage of “banked” migrants could indirectly raise remittances sent home by raising savings rates. As the evidence outlined above indicates, policies that encourage migrants to raise remittances are likely to result in benefit for recipient households along a number of dimensions: lower poverty, enhanced child schooling, lower child labor, greater entrepreneurial investment, and improved health.

In addition, encouraging migrants to send remittances via banks or credit unions could make them (and remittance recipients) more likely to begin using other banking services. While the formal market for remittances to many countries is quite competitive (so that prices are relatively low), many migrants still use informal remittance channels, which are subject to concerns about security and fraud. As emerging evidence by Ashraf, Aycinena, Martinez, and Yang (2009) shows, savings by migrants and their remittance-recipient households back home can be promoted by providing facilities whereby migrants can open savings accounts at home from their overseas locations, and deposit into them via remittance channels. AAMY (2009) also show that migrant ownership and control is important to most strongly encourage them to deposit into such accounts.

The consulates and embassies of migrant origin-country governments are unique assets not

⁷ Munshi (2003) documents the importance of networks in helping Mexican migrants in the US find work.

replicable by non-government actors and the private sector. The focal standing of these institutions in the community put them in a unique position to promote migrants' use of the banking system. Consulates can facilitate migrants' entry into the banking system of their destination countries by:

1. Providing information to citizens about financial services available to them in the destination country, particularly when migrants are unsure about financial services that undocumented migrants can avail of. Mexican consulates have sponsored financial fairs in conjunction with major banks to demystify the formal financial system for migrants. Such activities might particularly highlight savings and other financial services offered by financial institutions based in the country of origin.
2. Issuing identification documents and simultaneously negotiating for their acceptance at financial institutions and government agencies of the destination country. For example, Mexican consulates in the U.S. have issued a document known as a "matricula consular" to citizens, and have convinced several large banks and state and local authorities to accept it as identification. The matricula consular has become popular with migrants because it does not reveal their immigration status.⁸

Government of migrant-origin countries, international institutions, and private funders can also help encourage origin-country financial institutions to offer financial services to migrants in destination locations. The research conducted by AAMY (2009) with El Salvador's Banco Agricola on innovative savings facilities for Salvadoran migrants in the U.S. is suggestive of the potential benefits from innovation in consumer financial services targeted towards migrants.

Initiatives may seek to promote specific facilities, such as savings accounts, and could also promote innovation into new areas that have yet to be explored, such as facilities through which migrants might guarantee or co-sign loans for borrowers in the origin country.

Mechanisms for achieving these objectives might include:

1. Technical assistance grants for development of the necessary management information systems

⁸ See Swarns (2003) in the *New York Times*.

2. Temporary subsidies for provision of savings accounts and other financial facilities
3. Funding for research into other innovative facilities that properly track business impacts as well as benefits for migrants and households

Take advantage of the unusual opportunity to focus self-discovery and enterprise promotion efforts on small-scale activities

The evidence that exogenous increases in migrant remittances stimulate entrepreneurship in migrants' source households (Woodruff and Zenteno 2007, Yang 2008) suggest that government policies might also profitably seek to enhance the ability for remittances to be channeled towards microenterprise investment.

Microfinance programs have been widely touted as a mechanism for allowing the poor to participate directly in growth by investing their way out of poverty. Such efforts are typically limited by difficulties in expanding access to credit to a wide segment of the population. But in many countries, households with migrant members constitute a non-negligible fraction of the population and have unusual access to a source of investment capital in the form of remittances from overseas. In El Salvador, for example, one in five households already receives remittances from overseas, and it is likely that even more would be able to access funds from overseas if investment opportunities were available.⁹

National governments, international organizations, as well as private funders can play a role by unearthing information on small-scale investment opportunities that migrant households could undertake. Hausmann and Rodrik (2003) point out that an entrepreneur's discovery that a particular type of productive activity is profitable in a certain context generates a public good when that information spills over to other, "copycat" entrepreneurs. This is a market failure analogous to positive externalities from R&D expenditures by high-tech firms, and leads to a similar problem: underprovision by the private market of the "self-discovery" activities that identify profitable investment opportunities in a particular country. This provides a rationale for public promotion of activities that help private entrepreneurs discover local investment

⁹ In Mexico, Woodruff and Zenteno (2007) document that capital invested in a cross-section of small Mexican firms is higher when the firms' owners reside in or originate in states with higher migration rates, and argue that this additional financing comes from overseas migrants' remittances.

opportunities, such as funding of pilot projects and potentially subsidization of activities that are new in a particular context.

To take advantage of this unusual and widespread access to small-scale investment capital, *efforts at self-discovery should in part be directed at activities that poor households could undertake*. The key will be to identify areas of profitable small-scale investment, to provide public goods that complement these small-scale investments, and to solve coordination problems. In most countries, self-discovery efforts focused on relatively small-scale activities would still have to solve the problem of credit access. In countries where large fractions of households have migrant members, on the other hand, credit constraints are less likely to be a barrier. Any new opportunity (say, a new fruit crop) is likely to spread particularly rapidly in such contexts given the wide availability of small-scale financing via remittances.

Encourage citizens overseas to retire at home

The aging of the migrant population may lead some migrants to choose to retire in their home countries. Some fraction will be eligible for retirement benefits from their destination countries. For example, U.S. Social Security payments do not depend on continuing legal status in the U.S. and can be sent anywhere in the world.¹⁰ This population could have high spending power and can help boost domestic consumer spending if they return for retirement. What's more, their spending should be largely immune from domestic economic fluctuations. Governments of migrant origin countries should therefore *provide incentives for overseas citizens to retire in their home countries*. Incentives could include exemptions from income taxes or import duties, or preferential access to mortgage loans for buying property at home.

¹⁰ See <http://www.ssa.gov/immigration> and <http://www.ssa.gov/pubs/10137.html>.

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