Migrants' remittances and education: evidence from Albania

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Abstract

Do households that receive remittance income from abroad spend more money on their children's education? Are their children more likely to be enrolled in school? These questions will be tested using household and individual data from the 2005 Living Standards Measurement Study (LSMS) study conducted by the World Bank and INSTAT (Albanian National Statistics Institute). This paper explores how remittances affect a household's propensity to invest in education. Also, by using various gender variables and separating effects by gender, light will be shed on how these decisions differ based on gender in this rapidly-developing European country. It will be necessary to use instrumental estimation procedures to account for unobservable variables that may affect both a household's probability of receiving remittance income and its household decision regarding education spending or decision to enroll children in school. The plausibly exogenous instruments used are the regional percentage of remittance-receiving households and the number of male household members. Results suggest that there is a causal effect of receiving remittances on these decisions because remittance-receiving households face a weaker incentive to invest in their children's human capital and don't value education as highly as those households that do not receive remittances. This is because children living in remittance-receiving households are more likely to migrate themselves, and thus attain only enough education as they need to be successful migrant workers. This rearrangement of household expenditures results in more income being diverted to durables and housing, a result in line with other work done on the subject.

1.   **Albania**

Albania is a small, fast-growing country in southeastern Europe. The country has aspirations for EU membership. After centuries of Ottoman rule and a 20th century marked by political instability, the country adopted a liberal, free-market system in the 1990s and recently joined NATO. Its proximity to Europe and relative poverty level means that remittances are an important source of national income, amounting to 15% of GDP in 2001 (INSTRAW).

Estimates of the total number of Albanians living abroad vary, but the number is most likely in the range of 800,000 to 1 million, the vast majority of which are in Greece and Italy (King, 2005). We can thus characterize Albanian as a primarily regional phenomenon in which Albanians migrate to neighbouring countries with more job opportunities. Furthermore, 65% of migrants abroad send remittances back to households in Albania, so it would seem as if the majority of migration is motivated by the prospect of remittance income. Considering the prevalence of remittances and migrant households in the country, and its high poverty levels, many researchers have looked to remittance income as a potential tool for economic development, both through poverty alleviation and investment. This paper will focus on the latter, examining the impact of remittance income on household investments in children's human capital.

2. Migration and remittances: a review of the literature

Migration is a complex phenomenon, which results in a dramatic shift in the way a household operates; it may be part of an intra-family informal contract or part of a household income-diversifying strategy. Whatever the reason, it has become the focus of much recent research attempting to analyze both the decision to migrate and the decision to send remittances to a household back home. The decision to invest in the human capital of the children in a household is an equally complex decision, dependent on many external factors, some of which may also affect a household's migration decision. It is no wonder that the link between these two hugely important household decisions has fascinated researchers for the past several years. This interest is further piqued by the literature's connection to the broader debate on the role, if any, that migration and remittances might play in long-term economic development and growth.

The significance of international remittances grows yearly, but nowhere are remittance flows as important as in the developing world: according to the World Bank, officially recorded remittance flows to developing countries were $316 billion in 2009, over twice the value of official development assistance (Ratha, Mohapatra, & Silwal, 2010). Furthermore, these flows have been shown to exhibit less variance in the face of economic downturn. This raises the question asked by many development economists: what is this remittance income being spent on?

Although empirical studies of remittances are not necessarily new (see Stark & Lucas, 1988), greater importance is now being attached to them. Moreover, recent

studies have attempted to quantify with greater specificity the effects of remittance income on household spending with an eye towards development (see Zárate-Hoyos, 2004; Fajnzylber & López, 2008). This is due to the aforementioned size of remittance flows and the fact that the majority of international remittances flow to the developing world (The World Bank, 2006).

Few would question the economic significance of remittance flows to the developing world, but for a long time, not much was known about how these flows affected the micro- and macro- economies of recipient countries. Interest in this area led to a new generation of academic papers which attempted to isolate the specific effects of remittances on certain sectors of local and household economies. One significant paper that came out of this was Hanson & Woodruff (2003). This pioneering work on migration and education was one of the first academic papers to seriously consider the link between international migration and the human capital investment in those left behind.

The study of this migration-education link, however, is fraught with problems. First of all, as pointed out by Booth & Tamura (2009), there are generally assumed to be effects in two directions when a family member moves abroad. The positive effect results from the increased household income which generally comes with having a member working abroad. The negative effect on education, however, can result from two possible avenues: the negative social consequences of having an absent parent, and

the increased demand for household labour resulting from losing a working-age adult from the household.

One significant problem that arises when doing economic analysis of household decision-making, especially with regards to migration, is potential endogeneity. The decision to migrate and, indeed, to remit is but one part of a much broader household strategy. The root cause of the decision may be some exogenous shock that affects the variable under examination at the same time as it affects the household migration decision. One example, taken from Hanson & Woodruff (2003), is that of a father losing his job; this may at once compel the father to seek work abroad while the remaining children may be forced to leave school to compensate for the loss of household chore labour. This could lead to a negative bias in the ordinary least squares (OLS) estimates. Hanson and Woodruff also point out that poorer households may be less able to send migrants abroad, due to credit constraints, while at the same time have less money to invest in education. This would produce a positive bias in traditional OLS estimates.

In order to obtain reliable coefficient estimates, it thus becomes necessary to pursue some form of instrumental variable (IV) estimation technique. By using an instrumental variable for migration (Hanson & Woodruff, 2003; Acosta, Fajnzylber, & López, 2007) or remittances (Amuedo-Dorantes, Georges, & Pozo, 2008; Calero, Bedi, & Sparrow, 2009) the results obtained by regression analysis can be taken much more seriously than they would be otherwise.

One approach, first used by Hanson & Woodruff (2003), but used by many subsequent studies (Acosta, 2006; Acosta, Fajnzylber, & López, 2007; Avila & Schlarb, 2008; Mansuri, 2006; McKenzie, 2005; McKenzie & Rapoport, 2010), is to use some instrument which reflects historical migration patterns and migration networks in a specific region or household. This has been show in many cases to be a fairly accurate predictor of the likelihood that a household will have a migrant abroad. The actual variables used, however, differ from study to study. Acosta (2006) uses a measure of a household's past history of migration (having a migrant more than two years prior) combined with a regional migration likelihood variable (percentage of households in region with migrants), while a similar approach is used by Acosta, Fajnzylber, & López (2007). Mansuri also favours the combination of a household instrument with another regional one, but measures the presence of migratory networks at the village level. Meanwhile, Avila & Schlarb (2008) use only household-specific variables (e.g. household member has migrated in the past, household currently knows someone living abroad) and their interaction term, and find that these work as a better instrument than including any regional-level variables.

These instruments, however, are not without potential problems, as pointed out by Calero, Bedi, & Sparrow (2009). It is possible that regional migration patterns may be affected by the same types of unobserved variables mentioned earlier that may govern the household migration decision. For instance, this decision might be motivated by a drought or other environmental conditions in a certain region. In such a

case, regional migration values would suffer from the same issues of endogeneity as any household migration variable.

To solve for this potential problem, some researchers, such as Hanson & Woodruff (2003), McKenzie (2005), and McKenzie & Rapoport (2010), use only historic migration data from the region of interest as an instrument. Hanson & Woodruff (2003) use data on state-level migration rates in the 1950s, positing that using such long lags will capture those characteristics of a state which induce migration and not, importantly, current economic conditions. They suggest that the foundations for future migration were laid in the 1950s through US government programs to bring in Mexican migrant workers to work in agriculture. This, they say, led to the creation of historic migration networks that, while making migration much easier for current peoples, did not impact the economic development of the states involved. McKenzie (2005) also suggests that the use of historic migration data is preferable to current values, while McKenzie & Rapoport (2007, 2010) expand on this approach by using a larger array of historic variables which affected the current propensity to migrate without affecting economic conditions.

However, as Calero, Bedi, & Sparrow (2009) explain, while these instruments may work quite well when it comes to migration, they do not necessarily hold when the variable of interest is remittances. The decision to migrate and the decision to remit do not always go hand-in-hand, as Rapoport & Docquier (2005) document very well. To separate these, Calero, Bedi, & Sparrow (2009) use the number of Western Union

branches in a household's state as a predictor of remittance receipts. They justify this by arguing that these branches make it much cheaper and easier to remit. They also interact these variables with source country dummy variables, and find the resulting instrument to be highly significant, albeit only for the probability of receiving remittances, and not for the amount sent.

Amuedo-Dorantes, Georges, & Pozo (2008) are similarly concerned with finding an instrument for the actual receipt of remittances, and not just for the probability of migration. To solve this problem, they use a strategy, also employed in Miranda (2007), of using labour market conditions in the probable destination as an instrument for remittances sent. They use the average weekly wage of Americans who are demographically similar to Haitians combined with the unemployment rate in areas where Haitians are most likely to migrate.

There are myriad other instruments that have been employed in an effort to solve the endogeneity problem in migration research. Booth & Tamura (2009), for example, find that the local price of fertilizer works as a good instrument for the likelihood that a father will choose to emigrate for work. Interestingly, Yang (2006) has no such need for an instrument as he harnesses the natural experiment created when exchange rate fluctuations affect the value of remittances to the Philippines. Because these random shocks cannot be foreseen but do affect the end-value of the remittances, this is an ideal approach to take when the dependent variable in question is schooling expenditures, as indeed it is in Yang's case. This is because, presumably, the exchange rate fluctuations

do not affect the actual decision to remit, so we are limited to a sub-sample of households who are already receiving remittances; this, itself, suggests some potential estimation problems having to do with selection bias. Finally, Zárate-Hoyos (2004) considers the receipt of remittances to be exogenous to expenditures on different types of household goods, and accordingly does not use an instrument in his estimation of household Engels curves with a remittance-receiving dummy variable.

These numerous estimation issues have not stopped the aforementioned authors from attempting an analysis of the link between education and migration and the results they have obtained have been almost as varied as their solutions to the endogeneity problem. Needless to say, there is no consistent direction of effect which holds across the literature. There is evidence from Mexico (Hanson & Woodruff, 2003; Malone, 2007) that remittances do have a positive impact on the educational attainment of the children left behind, but these authors emphasize that there are gender differentials to the effects. Furthermore, some authors (Acosta, Fajnzylber, & López, 2007; McKenzie, 2005) have shown that the education levels of the child's parents matter insofar as remittances may only relax binding budget constraints in households where the parents are relatively uneducated. Results can also depend on the education variable investigated; despite the previously mentioned positive evidence, which had to do with years of schooling, Miranda (2007) finds that migration actually reduces education if we use as our dependent variable the probability of finishing high school.

While much of the literature focuses on Mexico, this paper will instead examine evidence from Albania. In this context, an analysis of this type has not been done before, although Mendola & Carletto (2009) use the same LSMS data to investigate the impact of migration on labour force participation in the country. While not ostensibly related, their results do suggest that gender plays a strong role in Albanian society. This is in line with other anecdotal evidence from King, Dalipaj, & Mai (2006) and INSTAT (2004), which both assert that gender roles are a defining part of Albanian national identity, and tend to stay intact despite the liberalizing effects that migration can have. For a broad characterization of migration as it pertains to the Albanian case, see King (2005).

As mentioned in the introduction, the scale of remittances to Albania is massive. While there has been much research done on the Mexican case, the Albanian situation is particularly interesting for a couple of reasons. Most importantly, when it comes to size, emigrant population, and remittances as a percentage of GDP, Albania is much more representative of many remittance-dependent countries of the world such as Tajikistan, Moldova, and Tonga. Although there are obvious cultural differences between these countries, any comparison benefits from holding certain population, economic, and size factors constant wherever possible. These factors, combined with the quality and availability of Albanian data, make the study of this otherwise relatively unknown European country potentially very enlightening.

3.   **Methodology**

3.1.   **The Data**

The data was taken from the household questionnaire portion of the 2005

Albania Living Standard Measurement Survey, conducted jointly by The World Bank

and INSTAT (Albanian National Statistics Institute). The total sample size is 3600

households. For details on the sampling methodology and selection process, see

INSTAT (2006).

3.2.   **The models**

To investigate the effect that remittance income has on a household's decision

with regards to education, two empirical models will be tested using similar

instruments and controls.

The first set of equations are the engels curves for six different types of

expenditure, as separated by the World Bank in the 2005 Albania LSMS survey: these

are education, durables, food, non-food, utilities, and total household expenditure.

These equations all take the following form:

$$\ln exp_{i,j} = \beta_0 + \beta_{1,j} hhmig_i + \beta_{2,j} hhfhead_i + \beta_{3,j} X_i + \varepsilon_{i,j} \qquad (1)$$

In the model, $exp_{i,j}$ refers to expenditure by houshold i in category j. *hhmig* is a

dummy variable equal to 1 if the household receives remittances from abroad and 0

otherwise. This was chosen as the variable of interest due to the fact that the majority of

migrants abroad do, in fact, send remittances. Furthermore, the interest of this paper

lies in the income and substitution effects of receiving income from abroad, and not necessarily the other types of impacts which having a household member abroad can have. Although the decisions both to migrate and remit are, themselves, interesting phenomena to investigate, controls and instruments used in this paper hope to account for these and explore only the household effects on education. X_i is a vector of control variables which includes such household characteristics as family size, income, regional dummies, and numbers of household members in certain age brackets.

The second set of equations to be estimated are a series of probit equations, having as their dependent variable a dummy which is equal to 1 if a child is currently enrolled in school and 0 otherwise. The decision to use school enrollment as the dependent variable in lieu of other possible candidates is in keeping with the work of Calero, Bedi, & Sparrow (2009). They argue that enrollment is more reflective of a household's decision to invest in human capital than school attendance, given the fixed costs involved. In addition to this fact, the data in the 2005 LSMS survey necessitates the use of the enrollment variable: for the 4024 twelve- to eighteen-year-olds currently enrolled in school, only seven report not currently attending. Thus, the use of the "attending" variable, which can be subjective at the best of times, would be a source of almost no added variation in the data. For three- to five-year-old children, however, the only school attendance variable which is available is the attending variable. This is perhaps because it is expected that all children this age will be enrolled. Despite the variation present in the enrollment variable, it is important to note that, because school

is compulsory until the age of 15, the number of children reported as being enrolled is probably biased upwards. The subsample for these equations includes all children three- to eighteen-years-old, and is divided by gender and age group.

The probit model for school enrollment is as follows:

$$enrol_i = \beta_0 + \beta_1 hhmig_i + \beta_2 hhfhead_i + \beta_3 X_i + \varepsilon_i \qquad (2)$$

In the model, $enrol_i$ is a dummy variable equal to 1 if the child is currently enrolled in school and 0 otherwise. The $hhmig_i$ and $hhfhead_i$ variables are the same as in the first model, and refer to the household in which the child lives. X_i is a vector of the same set of controls used in the first estimation.

Expenditure values that were equal to zero were changed to 0.01 before natural logs were taken, and given the large values (of old Leks) in absolute terms, this is preferable to dropping the values altogether and losing a significant number of observations. The exception to this is households for which there was no expenditure data whatsoever (202 households, mostly in Tirana) and those which declined to provide income information (2 households); these observations were dropped from the analysis.

3.3. IV estimation

As documented in the review of the literature, the endogeneity issue inherent in this type of study compels the astute researcher to use an instrumental variable estimation procedure. Although Albania presents an interesting case in that the scope

of migration is so vast that potential endogeneity seems less likely than in other cases. This is simply because, as outlined by King (2005), there are very few significant differences in Albania between migrant and non-migrant households. It is a phenomenon that is "so widespread that virtually all classes and categories of the population are involved" (King, 2005). That said, one would be remiss to ignore the possibility that there is at least some degree of self-selectivity among those who choose to emigrate abroad, and so instrumental variable analyses are presented alongside the baseline models for additional insight.

In this case, one household-level instrument and one regional-level instrument will be used. The household instrument is the total number of males who are part of the household, living abroad or not. This is similar to an instrument devised by Mendola & Carletto (2009), who use a dummy variable equal to 1 if there is more than one male in the extended family. In this case, however, the actual number of males in the household was found to be a much better predictor of a household receiving remittances from abroad. Indeed, 65% of migrants in this sample are men. King (2005) & King, Dalipaj, and Mai (2006) also touch on the prevalence of men among Albanian emigrants with both empirical and anecdotal evidence showing that the vast majority of women who do migrate do so to follow male partners who have already gone before them.

At the regional level, following in the footsteps of many other researchers (Acosta, 2006; Acosta, Fajnzylber, & López, 2007; Avila & Schlarb, 2008; Mansuri, 2006;

and others), an instrument to represent regional migration networks is used. In this case, it is the percentage of households in the district (*rrethe* in Albanian) who receive remittances from abroad. It is possible, however, for some regional conditions to suffer from the same sort of endogeneity bias exhibited by household-level data, but the previously-mentioned widespread nature of Albanian emigration combined with the use of regional dummy controls helps to mitigate this undesirable effect.

Although there are a high percentage of "0" values for spending on education, a tobit model did not yield significantly different results from the simple 2SLS model. For all other categories of spending, percentage of zero values is negligible.

For the expenditure equation estimations, the two-staged least squares (2SLS) model consists of a first-stage regression like so:

$$hhmig_i = \beta_0 + \beta_1 regmig_i + \beta_2 totalmales_i + \beta_3 hhfhead_i + \beta_4 X_i + \varepsilon_i \qquad (3)$$

In this model, $regmig_i$ is the percent of households in household i's district that receive remittances from abroad, and $totalmales_i$ is the total number of male household members in household i. Equation (1) was then estimated with the predicted values of $hhmig_i$ in place of the actual values, following traditional 2SLS practice.

For the enrollment equations, a recursive bivariate estimation was used, simultaneously estimating equation (2) and an auxiliary equation with the same form as equation (3).

Results for the instrumental variables are very promising, with a high adjusted R^2 of 0.32 and joint p-value of 0.00 in the first stage and fairly high Sargan p-values in some of the second-stage regressions, notably in the education estimation. Furthermore, coefficient estimates do not differ too greatly between the OLS and 2SLS models, which is a good sign. Thus, the use of these instruments is based not only on strong theoretical ground, but is also borne out by the empirical results.

4.   Results

Results for all estimations are reported in tables 1-4 at the back of the text.

4.1.   Expenditure equations

The equations seem to fit the data quite well, with adjusted R^2 values for the OLS estimates ranging from 0.13 to 0.47. The latter, the highest, was for the education expenditures equation, suggesting that the model devised in this paper works best when examining educational phenomena; because education is the focus of this paper, the slightly lower adjusted R^2 values for other expenditure categories are not treated as a serious problem.

The coefficient estimates on $hhmig_i$ for educational expenditures are negative and highly significant in both the OLS and 2SLS results. In fact, the results across all fields are broadly similar, giving credence to the idea that endogeneity may not be a serious problem in Albanian migration research.

As regards gender, the total number of women in a household is negatively related to expenditures on education, while the number of adult women is positively related. Having a female head of the household is negatively related, although only significant in the OLS estimation. This is possibly due to the fact that female-head households, traditionally, are poorer and more vulnerable than their male-headed counterparts. Indeed, households with female heads spend less in all consumption categories, even though these equations were also conditional on income. These negative coefficients speak to an economic vulnerability that goes beyond income, and requires a higher level of savings as an insurance mechanism. A supplementary regression of income on a set of control variables showed a negative and highly significant coefficient on $hhfhead_i$, which does point to a higher degree of vulnerability.

Regional dummy variables are almost all highly significant and have negative signs, reflecting lower incomes and expenditures outside of the capital, Tirana (the omitted regional dummy). People outside Tirana also seemingly save more; this would make sense in the context of rural vulnerability, where consumption smoothing is more necessary. Interestingly, as well, the coefficients on the rural regions in the education equation are all negative and highly significant, while none of the coefficients on the urban regional dummies are significant.

As economic theory would predict, the household income coefficients for all consumption categories are positive, and all are significant (most at the 1% level). Households that receive remittances, on average seem to spend less in total, as the

coefficient is negative and highly significant in the IV model; while it is negative as well in the OLS model, the significance is lost.

4.2.   Enrollment equations

As would be expected, the significance of both the variables of interest and the controls increases as children grow older. Economic theory predicts that as children mature, the opportunity cost of them attending school becomes greater and greater. In addition, necessary expenditures on education most likely increase with a child's age as courses become more focused and advanced. At the same time, government resources are stretched in Albania, and not all school can afford the necessary supplies. Thus, the variance in school attendance naturally increases and a student's age increases.

On the other hand, though, the highest significance for the remittance dummy variable, which is of special interest to this study, was seen among 3-5 year-olds using the recursive bivariate technique. Here the coefficients are significant at the 5% level and negative, with very similar magnitudes. Similar signs are seen in the simple probit model, although the magnitudes are not large and the significance is not great. This result is probably a result of low general enrollment levels in this age bracket: only 41% of 3-5 year-olds are enrolled in school, compared to 88% of 6-11 year-olds and 75% of 12-18 year-olds.

One result which is also consistent across both estimations is the significance of rural dummy variables on the enrollment of 12-18 year-old girls. This result is

seemingly unrelated to the migration phenomenon, as none of the regional dummies are significant in the instrumental estimation for receiving remittances.

The best predictor of school enrollment across all age groups is whether the head of the household has attended any post-secondary education. It is even more significant than household income, which is also related to the head's education level.

For boys aged 12-18, the number of other children in the household in all age categories have a significant positive effect on the likelihood of enrollment, while for girls these coefficients are lower and less significant (but still positive).

5.   Discussion

The results for the engels curve estimations present an interesting story: remittance-receiving households are actually spending less on education than their counterparts. They are even spending less on food, but more on durable goods. These findings are in line with conclusions drawn by many researchers, including McKenzie & Rapoport (2010), who found that being a member of a migrant household reduces educational attainment in Mexico. One side of this story involves the redistribution of household expenditures: increased spending on durable goods such as housing has been well-documented in the literature (Airola, 2007; Adams Jr. & Cuecuecha, 2010; Brown & Ahlburg, 1999). One theory, which Brown & Ahlburg touch on, is that this is a social phenomenon which has to do with prestige. Not only are status symbols

important in many cultures, but there can be pressure to make it seem (whether true or not) that an emigrant family member has been successful. This leads to spending on housing and durables that are highly visible to other members of the community.

The second part of this story involves the different marginal benefits to education for migrants and non-migrants. The thinking behind this is that being in a migrant household increases the likelihood that a child will migrate themselves in the future, lowering the expected returns to education. This relationship is depicted in

GRAPH 1: Marginal cost v. marginal benefit of education for members of migrant and non-migrant households

MC

MARGINAL COST/BENEFIT

MB$_{Non-Migrant}$

MB$_{Migrant}$

*   *

INVESTMENT IN EDUCATION
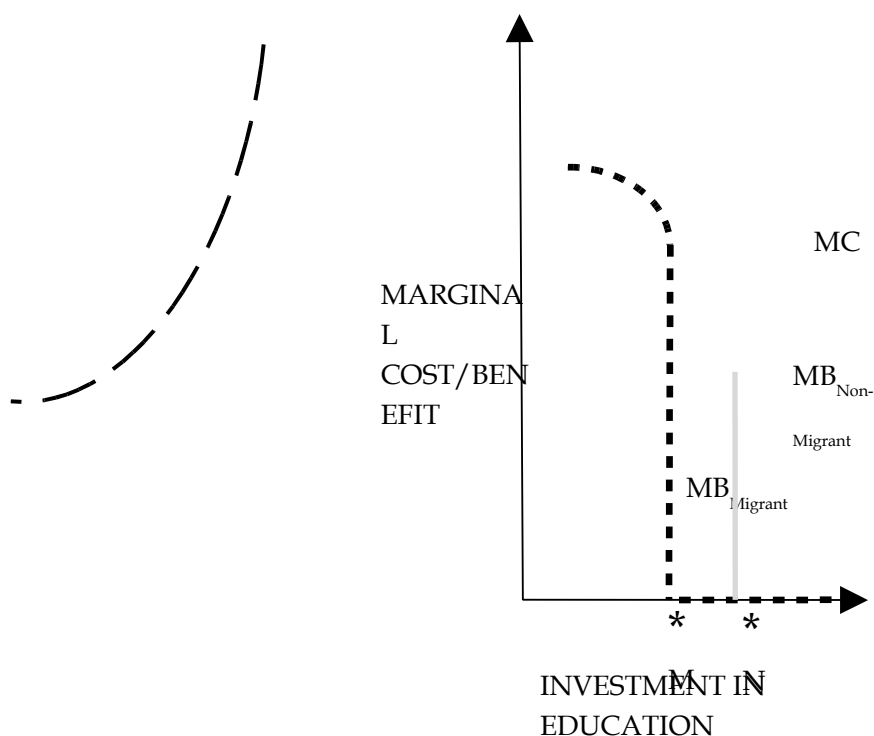
A member of a remittance-receiving household is more likely to migrate himself later in life. The equilibrium level of education is thus lower (at *M), while someone who expects a university education to be rewarded (i.e. a better-paying job in the home country) has a stronger incentive to invest more in education.

graph 1. The marginal benefit of education for a potential future migrant (i.e. a member

of a remittance-receiving household begins higher, because of the potential for

relatively high future earnings. Once this person has learned the basic skills that will

serve him in the foreign country, such as a second language and basic numeracy, the

marginal benefit of any further education, including university, quickly drops to zero.

The fact that university is the most costly stage of education no doubt multiplies the

magnitude of this result. This phenomenon is evidenced by responses to questions in

the LSMS survey regarding attitudes to education: 53% of households that don't receive

remittances would like to send at least one of their children to university, while for

remittance-receiving households this drops to 29%.

Meanwhile, for a person who plans on staying behind in the home country,

where education will be necessary, the marginal benefit of education slopes down much

more gradually, leading to a higher equilibrium demand for education. This scenario is

entirely plausible in the Albanian case; as with many poverty-stricken, migrant source

countries, Albanians end up working low-wage jobs not desired by the domestic

population. If this is indeed the case, it would suggest that migration, for Albania, is

not so much a tool for development so much as a perpetual cycle of emigration and

dependency on remittance income. Furthermore, because total expenditures by

remittance-receiving households are lower on average, this remittance income is likely

being used not for investment (human capital or otherwise) but instead to help cover

the migrant's original cost of travel, which may be extremely high.

If remittance-receiving households are spending less on education, then where is this money coming from? Partially, it would seem, from lower enrollment rates, especially in the younger ages. But it also seems as if teenage girls are more likely to be taken out of school, presumably to help with chores around the house to compensate for the emigrant household member. As mentioned before, the prevalence of traditional gender roles and stereotypes in Albania cannot be ignored when analyzing a situation such as this. Importantly, though, the coefficient on $hhmig_i$ is only weakly negatively significant in the simple probit estimation for girls, aged 12-18. There are other factors, such as region, that have much larger coefficients and are much more statistically significant. Thus, the effect of living in a remittance-receiving household does not only depend on a child's age and gender, but also the region in which he or she lives. This reflects higher returns to household work in rural areas due to agriculture and subsistence farming, jobs which are more likely to be assigned to women than men. Supporting this idea, Mendola & Carletto (2009) show that migration has a negative effect on women's paid employment and a positive effect on unpaid work. Assuming that paid work is more likely in the city and unpaid work is more plentiful outside of the capital, this labour incentive might be a part of the regional coefficient dummies.

That said, coefficients for the male groups are also negative, though lower in magnitude and significance. This male/female difference reflects more traditional and highly rigid gender roles in rural villages (see, for example, Pritchett Post, 1998). In the

cities, fewer opportunities for unpaid work in the household means that the opportunity cost of a children attending school is much lower than in rural areas.

All of the significant coefficients in the enrollment equations on household income are positive, meaning that richer households are able to forego the lost income from having a child work so that they may attend school in the short run, probably leading to a long-run payoff. This fact goes hand-in-hand with the observation that in households in which the head has any post-secondary education are less likely to be remittance-receiving. In remittance-receiving households, only 26% of heads have some post-secondary education, while in non-remittance-receiving households, 35% do. This, while only 20% of foreign migrants have some post-secondary education. These data lend even more support to the earlier idea that when migrating, the returns to human capital investment are not as large as when staying behind.

The fact that having a female head of the household has a significant negative coefficient probably reflects a lack of labour in the house. Because of the gender traditions in Albania, a woman head-of-household is likely only to result when a man is absent. We see that in this case, teenage boys are less likely to be enrolled in school, because they must instead take over the duties of the absent or deceased adult male.

6.   Conclusions

The preceding analysis suggests that remittances do not affect all types of household expenditures in the same manner. Specifically, remittance-receiving households are diverting resources away from education and into durable goods. There is evidence that this is due to the low returns to education for migrant Albanian workers. Thus, while remittances do have the potential to be poverty-alleviating and can be an important source of foreign exchange, it seems that in the Albanian case they do not provide incentives for long-run investment in human capital, an important factor for economic growth. If this situation is to be changed, it must involve a reexamination of immigration policies and attitudes towards foreign migrants in host countries. This opens up intriguing avenues for policy research as it pertains to migration and development.

Still, there is much more that could be done in this field of research to draw more specific conclusions. For example, more detailed analysis of the household level decisions regarding expenditures would shed greater light on why exactly remittances cause such a drastic reorganization of household expenditures. Furthermore, as discussed earlier, there is still much debate in the literature regarding the use of IV estimation in migration analyses, and a detailed investigation into the best approach to take in this respect would be of great value to all researchers in the field.

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Tables and Figures

Figure A: % of households with certain migration history

Category:	% of housholds	SE
Houseolds which currently have a migrant abroad sending some form of remittance	23.2	.007
Households which do not receive any remittance from abroad	76.8	.007
Households who have had a migrant in the past but no longer do	23.4	.007
Households who have never had a current member migrate nor receive a remittance currently	53.4	.008
Households who have had a member live abroad or currently receive a remittance	46.6	.008

Figure B: Properties of migrant and non-migrant households

Property of HH	Remittance-receiving household		Non-remittance-receiving household		Total population	
	Average	S.E.	Average	S.E.	Average	S.E.
HH size	4.216	0.070	4.593	0.031	4.506	0.029
# of adults	2.817	0.056	2.661	0.023	2.698	0.022
# of adult men	1.740	0.035	1.462	0.015	1.527	0.014
# of adult women	1.598	0.027	1.543	0.014	1.555	0.013
# of elders (65+)	0.520	0.023	0.344	0.011	0.385	0.010
# of children 5-	0.234	0.019	0.391	0.012	0.355	0.011
# of children 6-11	0.246	0.018	0.549	0.014	0.478	0.012
# of children 12-17	0.399	0.024	0.648	0.016	0.590	0.013
Age of head	59.18	0.383	49.477	0.238	51.731	0.214

Figure C: Education levels of household heads

Diploma Achieved by household head:	Remittance-receiving household		Non-remittance-receiving household		Total	
	%	S.E.	%	S.E.	%	S.E.
No diploma	12.56	0.011	4.82	0.004	6.61	0.004
Primary 4 years	21.30	0.014	10.58	0.006	13.07	0.005
Primary 8/9 years	33.74	0.016	35.21	0.009	34.87	0.008
Secondary General	7.51	0.009	15.43	0.007	13.59	0.006
Vocational 2-3 years	4.04	0.007	3.12	0.003	3.33	0.003
Vocational 4/5 years	14.69	0.012	19.61	0.007	18.46	0.006
University- Albania	6.05	0.008	10.52	0.006	9.48	0.005
University- Abroad	0.00	0.000	0.17	0.001	0.13	0.001
Post-Grad- Albania	0.11	0.001	0.47	0.001	0.39	0.001
Post-Grad- Abroad	0.00	0.000	0.07	0.000	0.05	0.000

Figure D: School attendance by migrant status and gender

Age Group	Sex	Remittance-receiving household		Non-remittance-receiving household	
		% attending school	S.E.	% attending school	S.E.
3-5	Boys	34.48	0.063	39.95	0.025
	Girls	34.78	0.071	45.61	0.029
6-11	Boys	84.07	0.035	88.03	0.011
	Girls	88.68	0.031	88.35	0.011
12-18	Boys	72.02	0.030	77.82	0.013
	Girls	60.75	0.033	75.92	0.013

Figure E: Fraction of remittance-receiving households in different districts (*rreth*):

Berat	0.25*	Lezhe	0.30*
Bulqize	0.34*	Librazhd	0.13
Delvine	0.13	Lushnje	0.17
Devoll	0.33*	Malesi e Madhe	0.50**
Diber	0.18	Mallakaster	0.35*
Durres	0.37*	Mat	0.10
Elbasan	0.19	Mirdite	0.38*
Fier	0.31*	Peqin	0.06
Gramsh	0.23	Permet	0.31*
Gjirokaster	0.00	Pogradec	0.25*
Has	0.27*	Puke	0.29*
Kavaje	0.30*	Sarande	0.40**
Kolonje	0.38*	Skrapar	0.21
Kor€E	0.20	Shkoder	0.26*
Kruje	0.07	Tepelene	0.38*
Ku€Ove	0.46**	Tirane	0.18
Kukes	0.13	Tropoje	0.15
Kurbin	0.41**	Vlore	0.41**
TOTAL:		0.23	

Note * Above average rate of remittance-receiving households; ** High proportion (40%+) of remittance-receiving households

Figure F: Characteristics of household members living abroad

	Average	S.E.
% male	65.66	0.010
Age	31.31	0.184
% remitting	64.56	0.010
Duration abroad (years)	6.05	0.081

Figure G: Diploma Achieved by migrants

Level of education	%
None	0.05
8-9 years school	47.27
Secondary general	30.80
Vocational 2-3 years	1.53
Vocational 4-5 years	11.97
University	8.00
Post-Graduate	0.38

TABLE 1: OLS Expenditure Outcomes
Models with controls (all dependant variables are natural logs)

Consumption category:	Education	Durables	Food	Non-food	Utilities	Total
Household receives foreign remittances	-1.401*** (-6.82)	0.547*** (6.67)	-0.039** (-2.16)	0.016 (0.40)	0.043* (1.91)	-0.021 (-1.07)
Household has female head	-0.867*** (-2.88)	-0.410*** (-3.41)	-0.121*** (-4.54)	-0.226*** (-3.86)	-0.163*** (-4.99)	-0.150*** (-5.30)
Household size	0.464*** (4.25)	0.234*** (5.37)	0.097*** (10.10)	0.173*** (8.15)	0.141*** (11.87)	0.117*** (11.40)
Household head has any post-secondary education	1.620*** (8.64)	0.694*** (9.27)	0.167*** (10.09)	0.375*** (10.28)	0.227*** (11.15)	0.252*** (14.31)
Household income (ln)	0.180*** (4.31)	0.146*** (8.75)	0.032*** (8.65)	0.088*** (10.81)	0.049*** (10.80)	0.050*** (12.84)
Coastal urban	0.296 (0.98)	-0.086 (-0.72)	-0.102*** (-3.81)	-0.021 (-0.36)	-0.193*** (-5.87)	-0.087*** (-3.04)
Coastal rural	-1.129*** (-3.72)	-0.551*** (-4.56)	-0.137*** (-5.10)	-0.349*** (-5.92)	-0.610*** (-18.54)	-0.246*** (-8.63)
Central urban	0.098 (0.33)	-0.141 (-1.17)	-0.149*** (-5.60)	-0.207*** (-3.54)	-0.248*** (-7.60)	-0.178*** (-6.29)
Central rural	-1.661*** (-5.47)	-1.045*** (-8.62)	-0.186*** (-6.92)	-0.487*** (-8.25)	-0.831*** (-25.19)	-0.360*** (-12.62)
Mountain urban	0.067 (0.21)	0.104 (0.82)	-0.329*** (-11.65)	-0.218*** (-3.50)	-0.209*** (-6.01)	-0.287*** (-9.56)
Mountain rural	-2.023*** (-6.67)	-0.755*** (-6.24)	-0.135*** (-5.03)	-0.296*** (-5.01)	-0.882*** (-26.75)	-0.283*** (-9.93)
N. of children 0-5	-0.260 (-1.41)	-0.184** (-2.51)	-0.047*** (-2.91)	-0.116*** (-3.25)	-0.099*** (-4.96)	-0.077*** (-4.48)
N. of children 6-11	3.578*** (21.40)	-0.111* (-1.67)	0.002 (0.14)	0.055* (1.68)	-0.056*** (-3.08)	0.022 (1.39)
N. of children 12-17	3.243*** (19.91)	-0.190*** (-2.93)	-0.020 (-1.42)	-0.003 (-0.08)	-0.094*** (-5.28)	-0.011 (-0.74)
N. of elders (65+)	-1.351*** (-10.01)	-0.216*** (-4.00)	-0.034*** (-2.89)	-0.194*** (-7.39)	-0.079*** (-5.36)	-0.083*** (-6.57)
N. of women	-0.542*** (-3.79)	-0.061 (-1.06)	-0.021* (-1.65)	-0.017 (-0.59)	-0.014 (-0.92)	-0.016 (-1.16)
N. of adult women	1.106*** (4.95)	-0.006 (-0.06)	0.046** (2.32)	0.079* (1.81)	-0.013 (-0.55)	0.062*** (2.94)
Constant	-3.724*** (-6.32)	5.153*** (21.91)	11.534*** (221.31)	9.614*** (83.82)	9.988*** (155.92)	11.824*** (213.46)
Adjusted R²	0.47	0.13	0.21	0.20	0.38	0.31

Note * significance at the 10% level; ** significance at the 5% level; *** significance at the 1% level

TABLE 2: Expenditure equations, IV results

Consumption category:	Education	Durables	Food	Non-food	Utilities	Total
Household receives foreign remittances	-4.016*** (-9.28)	0.631*** (3.73)	-0.206*** (-5.43)	-0.132 (-1.60)	-0.023 (-0.50)	-0.179*** (-4.46)
HH has female head	-0.377 (-1.20)	-0.425*** (-3.46)	-0.090*** (-3.25)	-0.198*** (-3.30)	-0.151*** (-4.50)	-0.120*** (-4.11)
Household size	0.659*** (5.74)	0.228*** (5.08)	0.110*** (10.94)	0.184*** (8.41)	0.146*** (11.93)	0.129*** (12.09)
Household head has any post-secondary education	1.510*** (7.87)	0.698*** (9.31)	0.160*** (9.55)	0.369*** (10.08)	0.224*** (10.99)	0.246*** (13.79)
Household income (ln)	0.152*** (3.56)	0.146*** (8.78)	0.030*** (8.06)	0.086*** (10.58)	0.048*** (10.61)	0.049*** (12.27)
Coastal urban	0.593* (1.90)	-0.096 (-0.79)	-0.083*** (-3.05)	-0.005 (-0.08)	-0.186*** (-5.59)	-0.069** (-2.37)
Coastal rural	-0.751** (-2.39)	-0.563*** (-4.60)	-0.113*** (-4.10)	-0.328*** (-5.47)	-0.601*** (-17.99)	-0.223*** (-7.66)
Central urban	0.128 (0.42)	-0.142 (-1.18)	-0.147*** (-5.48)	-0.206*** (-3.51)	-0.248*** (-7.59)	-0.176*** (-6.18)
Central rural	-1.496*** (-4.82)	-1.050*** (-8.66)	-0.175*** (-6.45)	-0.478*** (-8.07)	-0.827*** (-25.03)	-0.350*** (-12.15)
Mountain urban	0.102 (0.31)	0.103 (0.81)	-0.327*** (-11.47)	-0.216*** (-3.47)	-0.208*** (-5.99)	-0.285*** (-9.42)
Mountain rural	-1.922*** (-6.21)	-0.759*** (-6.28)	-0.128*** (-4.74)	-0.290*** (-4.91)	-0.879*** (-26.68)	-0.277*** (-9.64)
N. of children 0-5	-0.659*** (-3.36)	-0.172** (-2.24)	-0.073*** (-4.24)	-0.139*** (-3.71)	-0.109*** (-5.23)	-0.102*** (-5.59)
N. of children 6-11	3.166*** (17.53)	-0.098 (-1.39)	-0.024 (-1.53)	0.031 (0.91)	-0.066*** (-3.45)	-0.003 (-0.19)
N. of children 12-17	2.867*** (16.40)	-0.178*** (-2.61)	-0.044*** (-2.90)	-0.024 (-0.71)	-0.103*** (-5.54)	-0.034** (-2.11)
N. of elders (65+)	-1.213*** (-8.73)	-0.220*** (-4.05)	-0.026** (-2.12)	-0.186*** (-7.02)	-0.075*** (-5.08)	-0.075*** (-5.82)
N. of women	-0.488*** (-3.35)	-0.062 (-1.10)	-0.017 (-1.37)	-0.014 (-0.49)	-0.013 (-0.84)	-0.012 (-0.91)
N. of adult women	0.816*** (3.52)	0.004 (0.04)	0.027 (1.35)	0.062 (1.41)	-0.021 (-0.84)	0.044** (2.05)
Constant	-2.962*** (-4.85)	5.128*** (21.50)	11.582*** (216.64)	9.657*** (82.86)	10.007*** (153.85)	11.870*** (209.35)

Instruments:						
Regional migration rate	Yes					
N. of males in household	Yes					
F-test 1st stage	96.90					
P-value joint	0.00					
Overid Sargan test	0.163	1.259	22.381	4.940	4.557	6.825
Chi-sq(1) P-val	0.69	0.26	0.00	0.03	0.03	0.01

Note * significance at the 10% level; ** significance at the 5% level; *** significance at the 1% level

TABLE 3: Probit results for enrollment equations, by age and sex (marginal effects):

Age group:	3-5 Year-olds		6-11 Year-olds		12-18 Year-olds	
Sex:	Boys	Girls	Boys	Girls	Boys	Girls
Household receives foreign remittances	-0.034 (-0.44)	-0.042 (-0.45)	-0.031 (-0.89)	0.005 (0.15)	0.033 (1.06)	-0.066* (-1.85)
Household has female head	-0.155 (-1.38)	-0.148 (-1.19)	0.041 (0.99)	-0.006 (-0.13)	-0.113** (-2.11)	-0.079 (-1.47)
Household size	-0.027 (-0.70)	-0.125** (-2.35)	-0.001 (-0.06)	-0.006 (-0.32)	-0.093*** (-6.22)	-0.047*** (-2.85)
Household head has any post-secondary education	-0.039 (-0.67)	0.174*** (2.69)	0.039* (1.71)	0.085*** (3.62)	0.120*** (4.54)	0.161*** (5.87)
Household income (ln)	0.071** (2.47)	-0.002 (-0.16)	-0.005 (-0.64)	-0.010 (-1.08)	0.010* (1.86)	0.007 (1.48)
Coastal urban	0.074 (0.69)	0.008 (0.08)	0.090*** (2.58)	-0.022 (-0.53)	-0.032 (-0.65)	-0.013 (-0.26)
Coastal rural	0.033 (0.36)	-0.056 (-0.54)	0.032 (0.94)	0.046 (1.29)	-0.111** (-2.35)	-0.157*** (-3.38)
Mountain urban	0.096 (1.04)	-0.022 (-0.20)	0.029 (0.80)	-0.051 (-1.21)	0.106** (2.32)	0.121** (2.55)
Mountain rural	-0.087 (-1.06)	-0.115 (-1.22)	0.042 (1.29)	0.007 (0.20)	-0.069 (-1.61)	-0.187*** (-4.09)
Central urban	0.196** (1.97)	0.137 (1.25)	-0.064 (-1.57)	-0.026 (-0.61)	0.016 (0.31)	0.056 (1.09)
Central rural	-0.004 (-0.04)	-0.129 (-1.36)	-0.050 (-1.28)	-0.064 (-1.59)	-0.069 (-1.52)	-0.166*** (-3.44)
N. of children 0-5 in household	0.097 (1.64)	0.120 (1.62)	0.007 (0.27)	-0.004 (-0.16)	0.073** (2.26)	0.013 (0.36)
N. of children 6-11 in household	0.083 (1.50)	0.138* (1.93)	-0.011 (-0.44)	0.007 (0.27)	0.116*** (4.86)	0.041* (1.65)
N. of children 12-17 in household	0.001 (0.02)	0.179** (2.25)	0.044* (1.75)	0.047* (1.86)	0.084*** (4.52)	0.047** (2.00)
N. of elders (65+) in household	0.045 (1.06)	0.092* (1.75)	0.020 (1.09)	0.019 (0.97)	0.052** (2.23)	0.058** (2.35)
N. of women in household	-0.055 (-1.48)	-0.034 (-0.68)	-0.005 (-0.32)	-0.012 (-0.75)	0.001 (0.07)	-0.008 (-0.42)
N. of adult women in household	0.016 (0.21)	0.218** (1.97)	-0.035 (-1.04)	0.014 (0.42)	0.091*** (3.28)	0.011 (0.40)
N. of observations	441	342	940	896	1318	1323
Pseudo R²	0.065	0.072	0.069	0.059	0.086	0.127

Note * significance at the 10% level; ** significance at the 5% level; *** significance at the 1% level

TABLE 4: Recursive Bivariate Probit results for enrollment equations, by age and sex, with instruments (coefficients):

	3-5 Year-olds		6-11 Year-olds		12-18 Year-olds	
Age group:						
Sex:	Boys	Girls	Boys	Girls	Boys	Girls
Household receives foreign remittances	-0.893** (-1.97)	-0.848** (-2.12)	-0.121 (-0.35)	-0.424 (-1.06)	0.256 (1.48)	-0.272 (-1.58)
Household has female head	-0.166 (-0.46)	-0.084 (-0.24)	0.242 (0.86)	0.135 (0.51)	-0.400** (-2.31)	-0.219 (-1.27)
Household size	-0.014 (-0.14)	-0.291** (-2.15)	-0.011 (-0.10)	0.032 (0.29)	-0.344*** (-6.21)	-0.146** (-2.48)
Household head has any post-secondary education	-0.133 (-0.87)	0.397** (2.42)	0.225* (1.71)	0.538*** (3.58)	0.452*** (4.55)	0.577*** (5.82)
Household income (ln)	0.194*** (2.59)	-0.015 (-0.44)	-0.024 (-0.64)	-0.065 (-1.23)	0.034* (1.84)	0.023 (1.48)
Coastal urban	0.310 (1.11)	0.060 (0.23)	0.677** (2.52)	-0.106 (-0.48)	-0.120 (-0.73)	-0.034 (-0.21)
Coastal rural	0.194 (0.79)	-0.134 (-0.51)	0.186 (0.91)	0.353 (1.51)	-0.380** (-2.50)	-0.455*** (-3.22)
Mountain urban	0.260 (1.10)	-0.073 (-0.26)	0.167 (0.78)	-0.239 (-1.14)	0.419** (2.26)	0.466*** (2.57)
Mountain rural	-0.133 (-0.59)	-0.236 (-0.96)	0.245 (1.29)	0.068 (0.35)	-0.246* (-1.70)	-0.550*** (-4.04)
Central urban	0.560** (2.23)	0.372 (1.37)	-0.304 (-1.57)	-0.115 (-0.51)	0.053 (0.29)	0.195 (1.09)
Central rural	0.040 (0.18)	-0.235 (-0.94)	-0.243 (-1.28)	-0.312 (-1.58)	-0.239 (-1.59)	-0.483*** (-3.39)
N. of children 0-5 in household	0.174 (1.08)	0.267 (1.41)	0.046 (0.30)	-0.105 (-0.68)	0.282** (2.43)	0.026 (0.21)
N. of children 6-11 in household	0.105 (0.66)	0.340* (1.88)	-0.053 (-0.36)	-0.041 (-0.27)	0.428*** (4.97)	0.121 (1.41)
N. of children 12-17 in household	-0.078 (-0.49)	0.346* (1.67)	0.242* (1.68)	0.187 (1.23)	0.312*** (4.65)	0.144* (1.77)
N. of elders (65+) in household	0.114 (1.03)	0.237* (1.81)	0.106 (1.08)	0.105 (0.97)	0.190** (2.30)	0.187** (2.32)
N. of women in household	-0.127 (-1.30)	-0.070 (-0.56)	-0.029 (-0.33)	-0.055 (-0.63)	0.008 (0.12)	-0.025 (-0.41)
N. of adult women in household	-0.001 (-0.01)	0.585** (2.07)	-0.187 (-0.99)	0.004 (0.02)	0.335 (3.41)	0.028 (0.29)
Constant	-2.546*** (-2.70)	0.207 (0.42)	1.608*** (2.99)	1.910*** (2.83)	0.876*** (2.90)	1.009*** (3.77)
N. of observations	441	342	940	896	1318	1323
Wald χ^2	140.76	118.90	232.01	218.06	457.68	516.10

Note * significance at the 10% level; ** significance at the 5% level; *** significance at the 1% level