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THE LINK BETWEEN REMITTANCES AND EDUCATION IN CAPE VERDE

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ABSTRACT

In this study I examine the impact of remittances in school attendance in Cape Verde. Using the data from a household survey carried out in Cape Verde, I found that there is a positive and statistically significant relationship between remittances and education and that this relation gets stronger as the level of education increases. Poor institutions appear to be a constraint for families to fully benefit from the high potential of remittances.

Keywords: Remittances, Education, Cape Verde, Migration

1. INTRODUCTION

Since the 1990s world migration flows have increased significantly. The globalization phenomena has been making easier for people to move between countries. A significant emphasis has been given to international trade, finance or even migration. Remittances constitute one aspect of the globalization phenomenon that has received increased attention. In this study I explore the link between remittances and education attendance in Cape Verde. Cape Verde is one of the countries with highest rate of emigration, having more nationals living abroad than at home. On the other end, Cape Verde is one of the few African countries that present a fast growing stock of human capital. According to official statistics, Cape Verde has more than 2/3 of the population aged less than 40 years hold. So, it is natural to assume that the demand for education is high. However, the Cape Verdean government does not have resources to give full access to education. The Government has been work on offering mandatory schooling almost for free. Still, for high level of education clear limitations remains. For instance, the fee for taking an undergraduate schooling level in a public school in Cape Verde is higher than for having the same course in Portugal. When we take into account income levels in Cape Verde, it is straightforward to conclude that the cost of this level of education is too high for most of the Cape Verdean youngsters.

In this context remittance, play an important role in education attainment in Cape Verde, mainly because of the budget constraint expansion for the recipients. Note that this is on top of the role of migration on education attainment: having a migrant in the family makes it easier for a young individual to have his education abroad.

In this study I focus on the impact of remittances on attendance of non-mandatory schooling. By doing so, I expect to find that individuals in a household that receives

remittances are likely to have more years education than individuals in households that do not receive remittances.

The table below shows the evolution of the remittance inflow for the decade 2001-2010.

TABLE 1AND 2 ABOUT HERE

By looking at Table 1, country such as the US, Portugal, France or the Netherlands account for more than half of the total remittances received in Cape Verde. This fact implies the fact that these countries are host to the majority of Cape Verdean migrants.

In the same manner if we look to at Table 2 we can see that Praia, S. Vicente, S. Nicolau, and Tarrafal were the districts that received remittances. But, in 2010 Sta. Catarina became the third most important district in terms of received remittances. This is because in the last decade while the emigration rate remained steady for some districts, the ones that had less emigration before 2000 started to experience emigration growth.

Note that the duration of migration has an inverted u-shape relation with remittances. In the period following the emigration remittances are low due to the fact that the emigrant has to install him or herself and find a job. Following this period remittance tends to increase. After some time remittances may continue as a steady flow or in some cases, they may decrease because the family members left behind may follow the migrants and emigrate as well.

By looking at Table 2 it is clear that even though there are some districts that receive more remittances than others, if we take the population size into account it seems to be that remittances are well distributed between districts.

The remainder of this study is organized as follows. In the next section I present a summarized literature review. Then in section 3 I describe the data source. In section 4, I detail the estimation strategy. In section 5, the main findings are presented and discussed. And in the following section, I will present concluding remarks and as well as some open questions for future works.

2. LITERATURE REVIEW

A growing literature has looked for impacts of international remittances on developing or poor economies. Particularly there are several studies that look at the link between remittances and educational outcomes of the family member left behind. The majority of the literature on this subject is mostly from Latin American countries. Some other studies relate to some Asian countries such as Philippines and Malaysia. However, recently some authors have started looking at this subject from the perspective of African countries; they are mostly focused in North African countries. In sub-Saharan Africa there are not that many studies on this subject although there are some on the effects of migrations on the home economy.

Writing on El Salvador, Cox-Edwards and Ureta (2003) found that remittances lower the likelihood of children leaving school, particularly in rural areas; however, they do not address possible endogeneity concerns. Acosta P. (2006), on the other hand, uses propensity score matching as well as an instrumental variable approach. He uses migration networks as instrument for remittances received in El Salvador. This author provides some evidence that children in remittance receiving households are more likely to be enrolled in school. Lopez-Cordova (2005), using data on all Mexican municipalities, found that municipalities with higher proportions of remittance receiving

households have better education outcomes, such as lower illiteracy, and more generally better developmental outcomes. Amuedo-Dorantes and Pozo (2008) with their work on the effects of remittances on children's schooling in Haiti found that remittances raised school attendance for all children in some communities regardless of whether they have household members abroad or not; however, in other communities, they only observe these effects among children living in households that do not experience any family out-migration. Amuedo-Dorantes and Pozo (2010) found, on their analysis of the impact of remittances on children's schooling in Dominican Republic, that while girls' school attendance rises with remittances received, secondary school-age children and younger siblings are the ones who most decidedly gain form remittances. In the Philippines, Yang (2008) exploits the dramatic depreciation of the currency as a result of the Asian economic crisis to capture variation in remittances: the exogenous exchange-rate shock resulted in a reduction in the relative price of consumption in the Philippines and hence encouraged remitting. He found that remittances increase the fraction of children aged 17 to 21 that are attending school. It also increases educational spending on children.

Hanson and Woodruff (2003), while studying the impact of migration on education attainment in Mexico, found that children in migrant households complete significantly more years of schooling. For girls, the estimated increase ranges from 0.2 years to 0.9 years, but only in households in which parents have low education levels. McKenzie, David, and Hillel Rapoport (2006) with their study of rural Mexico, found evidence of a significant negative effect of migration on schooling attendance and attainments for 12 to 18 year-old boys and for 16 to 18 year-old girls. Francisca M. Antman (2012), by exploiting a panel data set, and using instrumental variables based on the US destination cities, point to a negative short-term effect in the period immediately following paternal migration. Elbadawy and Roushdi (2010) investigate a sample of Egyptian children who

live in remittance-receiving households and, allowing for gender and cohorts differences, find that remittances have a more positive effect on school attendance of boys compared with that of girls. The effect is particularly strong among those boys who are close to university enrolment age while for girls this is true only for those aged from 15 to 17. There is also a mild effect on school attendance of university-aged girls.

In Cape Verde there are some studies that look the link between migration and some economic variables. Catia Batista, Aitor Lacuesta, and Pedro C. Vicente(2012) tested the "brain gain" hypothesis and using individual specific variation in economic conditions in the family destination countries indicate that an increase in the probability of own future migration by 10pp increases the average probability of completing intermediate secondary schooling by nearly 4pp. Catia Batista and Pedro C. Vicente (2011) on their study on the impact of migration on institutional quality in Cape Verde pointed out that there is an overall positive impact of international emigration on the demand for improved political accountability in the home country. Furthermore their results emphasize the importance of the destination country of migrants: effects are stronger for emigrants going to countries with better governance.

The majority of the literature indicates that there is a positive impact of migration on schooling attendance for the relatives left behind but, these results are often restricted to groups with specifics demographics. Acosta et al. (2007) found the positive effect on attainment to be stronger for girls in some Latin American countries. The level of parental education seem to play a role on this subject as Hanson and Woodruff (2003) pointed out on their study on rural area in Mexico where they found that girls with low parental educations tend to complete more years of schooling. According to the literature the result tends to be different for different age groups. McKenzie and Rapoport (2005), who use historic migration as an instrument, found that Mexican

children aged 16 to 18 in migrant households have lower levels of educational attainment especially for children whose mothers have higher levels of schooling.

3. DATA

The data used on this work is the one used by Pedro Vicente and Catia Batista on their double work: the first one in testing the "brain Gain" Hypothesis in Cape Verde and the second one testing the effect of migration on governance quality in Cape Verde.

The empirical work is based on a household survey conducted in Cape Verde from December 2005 to March 2006 by the CSAE at the University of Oxford. It was based on a representative sample of 1066 resident households (including both non-migrants and return migrants), and also provides information on a large sample of current emigrants. For the purpose of their study the authors divided the questionnaire in two parts: one on the perceived quality/corruption of public services; and the other on migration characteristics of the household (the part that I use on this study). The household respondent was asked to specify socio-demographic characteristics of all members of the household. Furthermore, respondents were asked to characterize all migration spells within the household, including who emigrated, where and when. Finally there were some questions regarding the economic situation of the household such as living standards, income or whether any member of the family received remittances in the previous year.

The tailored data collection consisted of survey (face-to-face) interviews conducted by teams of local interviewers and the authors, who recruited and trained the local teams making sure that each interviewer had at least a total of 18 hours of training in groups of 2-3 individuals. Training included lectures on the content/objectives of the survey;

answering the questionnaire; and piloting (at least once per interviewer). The sampling process was such that sampled census areas were chosen randomly weighting by the number of households, and households within a census area were chosen randomly using standard techniques (nth house, with second visits tried in the same day). The eligibility condition for a household to be interviewed was family residence in the country anytime in 1985-2006. The requirement condition for a respondent within a household to be interviewed was to be aged at least 30 years old.

Additional details on the fieldwork and survey can be found at http://www.csae.ox.ac.uk/resprogs/corruption/cv/cv.htm.

According to the authors of this survey its main limitation to accurately depict the migration reality in Cape Verde is that it misses a particular type of emigrants: those who did not leave family behind. Because I am more interested in the remittances received this might not be a limitation for this study.

In addition I will complete my dataset with other secondary data sources. Namely I will use data from the Cape Verdean Central Bank on remittances. These data are organized by country of origin and by receiving regions.

4. ESTIMATION STRATEGY

Empirical research on remittances and schooling has stressed the potential for remittances to raise schooling levels by increasing the ability of households to pay for schooling (David J. Mckenzie – Beyond remittances: the effects of migration on Mexican Households). More recent examples include Cox Edwards and Uretra (2003) who find that remittances lower the likelihood of children leaving school in El Salvador; Yang (2004) who finds greater children schooling in families whose migrants receive

large positive exchange rate shocks in the Philippines; Amuedo-Dorantes and Pozo (2008) with they work on remittances on children's schooling in Haiti, found that remittances raise school attendance for all children in some communities regardless of whether they have household members abroad or not.

More recently the literature has assumed a new theory, that of"brain gain". That suggests that migration may have an additional positive impact on education by increasing the returns to schooling and thereby improving the incentive to acquire education.

To analyze the effect of remittances on school attendance, we could estimate the following benchmark model:

(1) Education= α +β*Remittances + λ'X_i +ε

Where X_i is a set of control variables, including information on a variety of household characteristics, such as number of children or age. Additionally I included some information on household wealth, the main occupation of household member as well the corresponding work experience.

The main estimation problem is that of endogeneity. Remittances and the error term may be correlated, in which case the coefficient estimate for receiving remittance is biased. There are two potential sources for this correlation. The first source originates from the presence of unobserved heterogeneity and omitted variable bias. Remittances may be inversely related, for example, to unobserved household income which, in turn, may be positively correlated to school attendance. In that regard, the estimate of the impact the remittances receipt will by biased. The other potential source of endogeneity results from the potential joint determination of remittance transfer and children's schooling. For instance, one might expect remittances to facilitate investment in

schooling attendance, but it is also possible that school attendance induce remittances inflows. For instance, some relatives may reward family members with some inflows because they perform well at school.

One solution to this problem is to employ the methods of instrumental variables. That is, to find a variable which helps predict remittances but does not otherwise have an impact on education. Recent literature as suggested some possible instruments. However, most of the variables that helps predict remittances are likely to have a direct impact on education. There is one more problem when one tries to identify the impact of remittances differently from that of overall migration. The instrument used to explain why one migrates may not explain why one family with a migrant household receives more remittances that another family with similar characteristics.

The literature has been used instruments such as historic migration networks, duration of migration or job market conditions in migrant receiving countries. These are plausible instruments but they all have some weak points.

In this study I will not present instrumental variable results, but these could potentially improve on the analysis that follows (in terms of going beyond correlation towards defending causality).

5. ESTIMATED RESULTS

The main goal of this study is to explore if there is a positive link between remittances and education attainment in Cape Verde. Since the Cape Verdean government has a policy that almost guaranties free schooling attendance for the mandatory schooling, in this study I focus a lot of attention on higher level of education.

TABLE 3 ABOUT HERE

Table 3 shows the results when the remittances variable is a dummy accounting for whether individuals received remittances in past year or not. I look at the impact on three variables of education, and find that it is overall positive. By analyzing the table we can see that the remittances variable is statistically significant at 1% significance level. Furthermore we can see that the coefficient increases as the level of education increases. The low level of education is more sensitive to the household characteristics and less affected by the remittances. As the level of education increases the expansion on the budget constraint that remittances produce seems to become more important than the household characteristics.

The controls affect education as expected. For instances the number of children, has a negative impact on high level of education but seems not to affect the ability of parents to send their child to primary school. As expected families, living in urban areas are more likely to send their children to school, this may be because they live close to school and the transportation costs are lower than the ones faced in rural areas. The dummies for having property all seems to behave according to what we should expect (positive effects).

Another important analysis that one can make stresses out the ability of institutions to help facilitate the flow of remittances. So, in order to undertake this analyzes I divided the remittances in two categories: formal and informal transfers. By formal transfers I only account for remittances received though institutions, such as, bank transfers, Western Union or Post. Informal are the ones remitted through the sender him or herself or through a friend or a known individual.

TABLE 4 AND 5 ABOUT HERE

The results are in Tables 4 and 5. By analyzing the results it can be found that the remittances variable is still highly significant as expected. However, the estimated coefficient is lower for formal remittances when compared to informal remittances. All the controls variables seem to have the same signal.

These results clearly show that poor institutions affect negatively the impact of remittances. There is only a few families with access to formal financial institutions. These services could make easier and safer the inflow of remittances and as the result could produce an increase in remittances. For instance a family member who lives in Portugal could easily send 20€ to a relative living in Cape Verde but sending it through an institution costs almost the amount that is being sent; hence the remittances are not sent unless some relative is traveling. This example shows clearly that poor institutions and high costs constitute a constraint to the inflow of capital. The same happens with the transfer of goods.

In sum, remittances do have a positive impact on school attendance, but this impact is higher for high levels of education. Poor institutions appear to be a constraint for families to fully benefit from the high potential of remittances.

6. CONCLUDING REMARKS

This study examines the relationship between remittances and education in Cape Verde. In contrast with the majority of the literature which focuses on low level of schooling I encompass an analysis of the effects of remittances on higher education levels – these might require higher costs.

Using the data from a household survey carried out in Cape Verde form December 2005 to March 2006 by the CSAE at the University of Oxford, I found that there is a positive and statistically significant relationship between remittances and education and that this relation gets stronger as the level of education increases. This result suggests that remittances play an important role in the decision making relating education attendance.

There is an important inflow of goods and services that is missing in this study which has an important role in school attendance in Cape Verde: private aid received by institutions. Families with poor income can have access to this aid but only if they send their children to school. Even though there are not clear statistics on this inflow it may play a role in a child school attendance decision.

This study has revealed that remittances have a positive impact on school attendance for all the education levels. However, as I pointed out before, the endogeneity problem is not solved in this study, so for future studies I intend to address this problem and get some more recent data to observe if this link between remittances and education has a continued path.

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TABLES

Table1:Emigrants remittances by sending countries (2001-2010)

In millions of ECV

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estados Unidos	2.515,6	2.193,5	1.886,4	1.528,8	2.205,3	2.100,2	1.672,9	1.474,9	1.537,3	1.683,3
Países Baixos	1.352,0	881,4	798,5	759,5	998,7	963,1	1.039,3	1.206,9	924,7	840,0
França	1.532,9	1.791,9	1.896,0	1.988,9	2.409,4	2.476,8	2.253,6	2.276,6	2.232,1	2.354,9
Itália	720,1	387,0	492,2	647,2	814,5	772,1	698,5	713,9	663,8	635,2
Alemanha	237,6	80,6	88,2	102,5	115,1	121,5	140,1	145,6	131,7	127,2
Portugal	1.726,2	2.023,9	2.025,9	2.430,4	3.081,1	3.095,9	3.094,1	3.138,9	3.089,2	3.195,1
Reino Unido	122,4	105,2	63,3	78,8	188,0	212,5	223,3	254,9	314,8	214,3
Suiça	164,9	132,2	150,1	166,7	208,0	212,2	199,3	242,1	273,0	328,1
Angola	14,2	3,9	9,4	7,6	13,0	25,5	31,2	52,7	33,3	19,9
Luxemburgo	108,1	90,3	130,3	159,3	184,7	217,5	246,7	294,1	311,1	275,4
Espanha	0,0	0,0	0,0	219,7	413,9	432,6	334,5	353,1	415,4	380,5
Outros	357,7	320,1	388,2	361,3	370,2	197,8	225,6	270,5	268,3	279,6
Total	**8.851,8**	**8.010,0**	**7.928,5**	**8.450,8**	**11.002,0**	**10.827,6**	**10.159,0**	**10.424,3**	**10.194,8**	**10.333,4**

Source: Cape Verdean central Bank

Table2: Remittances by receiving district (2001-2010)

In millions of ECV

	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Praia	1.699,1	1.546,9	1.245,6	1.380,3	1.683,0	1.796,6	1.789,5	2.072,2	2.519,7	2.611,6
Sta Catarina	692,9	872,8	957,5	1.219,6	1.397,2	1.412,4	1.331,4	1.306,3	1.271,7	1.388,9
Sta Cruz	119,1	146,8	148,2	196,9	236,3	207,7	295,1	258,5	257,7	323,2
Tarrafal	784,4	806,2	857,3	904,1	1.242,8	1.100,9	956,8	1.024,2	879,0	884,1
S.Vicente	1.977,1	1.543,6	1.593,0	1.693,5	2.341,0	2.366,3	2.177,6	2.258,7	2.050,8	2.027,6
Sal	555,4	299,3	365,3	445,7	698,7	623,4	487,2	449,3	386,6	355,2
S.Nicolau	863,4	665,0	687,1	751,0	942,2	941,2	932,8	957,2	835,1	707,2
RªGrande	325,8	269,1	331,2	317,7	455,9	413,2	383,0	391,8	358,7	354,9
P.Novo	228,5	220,5	214,5	223,5	308,6	295,4	281,9	280,9	270,7	273,2
Boa Vista	366,5	200,2	189,9	226,7	270,5	342,2	294,9	302,9	244,7	229,5
Maio	207,4	206,2	212,3	213,1	292,9	302,5	322,3	317,8	282,0	261,0
Fogo	785,6	1.012,3	894,7	687,9	837,6	757,4	660,4	600,0	611,6	680,1
Brava	246,6	221,1	221,8	190,6	295,5	268,1	246,0	204,5	226,3	237,0
Total Nacional	**8.851,8**	**8.010,0**	**7.928,5**	**8.450,8**	**11.002,0**	**10.827,6**	**10.159,0**	**10.424,3**	**10.194,8**	**10.333,4**

Source: Cape Verdean central bank