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Remittance Receipt and Business Ownership in the Dominican Republic

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1. INTRODUCTION

REMITTANCES, the repatriated earnings of emigrant workers, have grown to constitute a substantial portion of many developing nations' economic resources. Studies that track the volume of remittances over time (Orozco, 2002; and de la Garza and Orozco, 2002) suggest that these resource flows will persist in light of continued migration from poor to richer nations. Given these anticipated trends, we are interested in understanding what drives remittances and their likely impacts on recipient nations. In this paper, we focus on the relationship between remittance inflows and business ownership. In particular, we examine the role of family business investments in attracting remittances from abroad, as well as on the importance of these money inflows in promoting household business ownership in the Dominican Republic.

A substantial amount of controversy exists regarding the impact of remittances on recipient nations (Russell, 1992; Durand et al., 1996; and Jones, 1998). Some of the literature views workers' remittances as loosening capital constraints for resource-poor communities (Lozano Ascencio, 1993; and Taylor et al., 1996a and 1996b). The transfers of resources from emigrants to their home communities – sometimes referred to as *migradollars* – can have long-run beneficial impacts on recipient nations if these funds are put to use in productive projects (Woodruff and Zenteno, 2001).

But an alternative view of remittances argues that these resource flows are not used to accumulate productive capital (Martin, 1991) and that, instead, they promote dependency of recipient nations (Diaz-Briquetes, 1991). Contributing to this view is the observation that a substantial proportion of workers' transfers are used to finance current consumption. As such, it is often claimed that international remittances do not contribute to the stock of capital or to the development of basic infrastructure. This view has been corroborated by studies pointing out that the receipt of remittances is sometimes associated with reductions in labour force participation of family members in the home country (Funkhauser, 1992; and Rodriguez and Tiongson, 2001). The brain drain literature (Taylor et al., 1996a) also contributes to the negative view of remittances with its observation that migrants are positively selected, resulting in a loss of human capital that exceeds the resources returned to the home country via migradollars.

In this paper, we attempt to contribute to the scorecard on remittances by exploring the links between remittances and business ownership in the Dominican Republic. Do remittances promote entrepreneurial activity and business investment by lifting financial and liquidity constraints? Or are these funds used by the receiving family members to purchase leisure or other goods – such as housing, education or healthcare – and, as such, do not significantly contribute to business entrepreneurship? We test for the impact of these international monetary inflows on investment while recognising and addressing the reverse causality from business ownership to remittance receipt at the household level. In this manner, we are also able to gauge the extent to which emigrants remit in response to the existence of investment opportunities back home and/or to the possibility of a future bequest. We find that remittances are attracted by the presence of investment opportunities back home, some of which may be reflected in the household ownership of a business. Yet, these monetary inflows do not seem to promote entrepreneurship activity despite their potentially important role as a source of capital for business investments.

2. BRIEF LITERATURE ON REMITTANCES AND BUSINESS INVESTMENTS

Much of the literature on the likely contribution of remittances to economic development is based on survey data regarding the sender's intended use of the remittances. For example, it has been found that Mexican migrants claim that about three-quarters of their repatriated earnings are intended for the purchase of consumption (Durand et al., 1996; and Amuedo-Dorantes and Pozo, 2006a). As such, the possible role of remittances in economic development is thought to be rather limited. *A priori*, we do not subscribe to this conclusion. Even if the largest fraction of transfers is consumed, a non-trivial 16 per cent of households in the survey we use in this paper declare using remittance funds for asset accumulation purposes. While a full accounting of the contribution of remittances to economic development is beyond the scope of this study, a better understanding of the relationship between remittances and capital investment is possible to ascertain.

To date, there is some evidence that the remittances of emigrants can positively impact economic growth and entrepreneurial activity in remittance receiving areas. For example, although Funkhouser (1992) finds that the receipt of remittances appears to decrease labour force participation in Nicaragua, he also finds that remittances are associated with increases in self-employment. Given the association of self-employment with complementary capital investments, it follows that remittances may be contributing to business ownership. In this regard, McCormick and Wahba (2001) and Dustmann and Kirchkamp (2002) find that Turkish and Egyptian return migrants have a comparative advantage in entrepreneurial activity, which may possibly be linked to their importation of both human and financial capital. Therefore, we may be able to credit migration and the accompanying financial flows (i.e. remittances) for return migrants' greater participation in business investments. Other researches also link remittances to specific investments in businesses or farm holdings. Woodruff and Zenteno (2001) estimate that 27 per cent of micro-enterprises located in urban areas in Mexico rely on remittances from abroad. Likewise, using a panel of rural communities in Pakistan, Adams (1998) is able to attribute the acquisition of irrigated farmland to the receipt of external remittances. He notes that the propensity to acquire rural assets is much greater through remittances (an often transitory source of income) relative to labour income (typically a more permanent source of income).

Another strand of the literature on remittances finds that remittances may be attracted by investment opportunities in the home community. In this regard, Lindstrom (1996) finds that the duration of a migrant's trip is directly related to investment opportunities in the origin community using Mexican data. When investment opportunities are plentiful, he finds that migrants remain longer in the United States, presumably accumulating greater amounts of capital assets that can be put to work in their home communities upon their return. In contrast, individuals originating from communities with few investment opportunities stay for shorter periods in the United States, possibly remitting earnings home mainly for consumption purposes. Similarly, Reyes (2001) confirms that trip duration is directly related to investment opportunities in the origin community. Finally, some studies argue that the existence of family assets may serve as a magnet for remittance inflows because migrants may wish to lay claim to these assets in the home community in the event that they return. This is in line with the findings from Lucas and Stark (1985) and de la Brière et al. (2002), who obtain empirical results consistent with the notion that greater remittance inflows are responding to the anticipation of future bequests.

Overall, a review of the literature suggests that the relationship between remittances and business investment is complex. Remittances could be inducing business investment, but we also need to allow for the possibility that an existing business may, itself, be attracting international remittances. Failure to account for this endogeneity may lead to erroneous inferences regarding the impact of remittances on entrepreneurship. Additionally, we need to account for the availability of complementary business resources possibly complicating the identification of the impact of remittances on business investment and vice versa. These resources include migrants' accumulated and imported human capital along with the availability of investment infrastructure in the origin community. In what follows, we summarise our hypotheses regarding the expected links between remittances and business investments.

3. HYPOTHESES REGARDING HOUSEHOLD REMITTANCE RECEIPT AND BUSINESS OWNERSHIP

Given the potentially simultaneous link between the likelihood of receiving remittances and that of owning a household business, it is important to clarify the various ways in which remittances and business ownership may be related. One possibility is that households owning a business attract remittances from family members residing abroad. Emigrants may regard the home business as part of a future inheritance. To claim a portion of the family's assets, migrants may have an incentive to remit (Lucas and Stark, 1985; and Schrieder and Knerr, 2000). In this regard, de la Brière et al. (2002, p. 309) find that Dominican migrants in the US remit to family in the Dominican Sierra for the purpose of 'investing . . . in potential bequests'. Business ownership may also attract remittances if the existence of a business signals remitters that there are worthwhile investment opportunities in the home community. As a result, the migrant may be persuaded to remit for investment purposes. Alternatively, households owning a business may attract fewer remittances from family members abroad if emigrants do not perceive that the family in the home community has an economic need for money transfers.

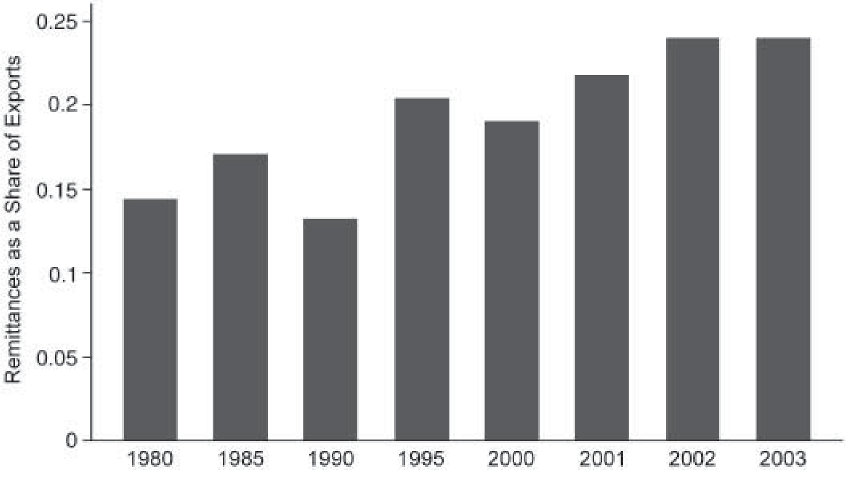
While we have hypothesised that business ownership may motivate emigrants to alter their monetary gifts, it is also the case that the receipt of remittances by the family in the origin community may influence business ownership. As with the impact of business ownership on remittance receipt, one could hypothesise two different effects of remittance receipts on business ownership. On the one hand, remittances may loosen capital constraints faced by the household in order to start a business. As such, remittances should promote business investment. On the other hand, remittances may be used for other purposes – such as buying a home, acquiring human capital, or purchasing leisure (e.g. Amuedo-Dorantes and Pozo, 2006b; Funkhauser, 1992; and Rodriguez and Tiongson, 2001). In those instances, the receipt of remittances may either be unrelated or inversely associated with business ownership.

4. REMITTANCES IN THE DOMINICAN REPUBLIC: THE LAMP-DR7 DATABASE

We undertake this project using data derived from the Latin American Migration Project (LAMP).[1] The LAMP is an extension of the Mexican Migration Project (MMP) begun in 1982 to study the migration patterns of Mexicans both in Mexico and in the United States. The purpose of the LAMP is to expand the MMP to other countries and areas of Latin America. We use the Dominican survey data, known as the LAMP-DR7. It is natural to focus on Dominican households given the importance of remittances in the Dominican Republic. Aggregate economic data reveal that remittances are a growing component of national income presumably associated with the increasing prevalence of emigration. Figure 1 details the growth of international remittances as a source of foreign exchange earnings for the Dominican Republic. In 1980, remittances amounted to 15 per cent of dollar revenues from exports of goods and services; these money flows further grew to nearly 25 per cent by 2003. Growth in remittances as a share of GDP (see Figure 2) has also risen by an even greater amount – from about 2.5 per cent in 1980 to approximately 12 per cent in 2003.

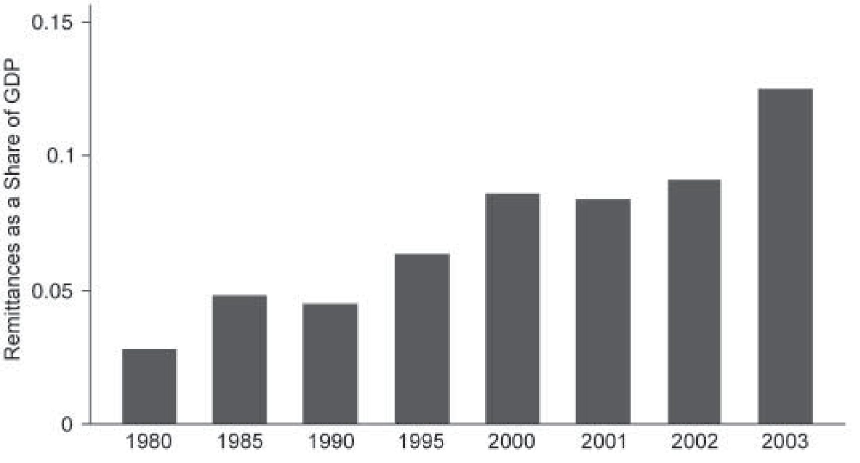
Our data are derived from surveys conducted in seven communities in the Dominican Republic from 1999 to 2001. For confidentiality reasons, we do not

FIGURE 1
Remittances as a Share of Exports



[1] The Latin American Migration Project (LAMP) is a collaborative research project based at Princeton University and the University of Guadalajara, supported by the National Institute of Child Health and Human Development (NICHD). The LAMP website is: http://lamp.opr.princeton.edu/

FIGURE 2
Remittances as a Share of GDP



know the exact location of these seven communities within the Dominican Republic. We do know, however, that two of these communities are located in the capital city of Santo Domingo, four communities are in areas with total populations of between 51,000 and 175,000 persons, and one community has a population of 18,000. In addition to interviewing families located in these seven Dominican communities, the LAMP secured interviews from a number of households in the US who originate from these communities. This follows the MMP methodology with its objective of obtaining information from households who might never return to their original communities. A total of 74 households (out of 978) were interviewed in the US. However, given the focus of our study – namely to better understand the links between household remittance receipt and business ownership in the Dominican Republic – we focus only on households located in the Dominican Republic and drop the 74 households settled in the US.

The survey responses from the LAMP-DR7 suggest that a significant percentage of households receive private transfers from individuals abroad. As displayed in Table 1, about one-quarter of households in the sample receive remittances. Furthermore, for 29 per cent of remittance-receiving households, these transfers constitute a significant portion of their income (see Table 2). Finally, it is of interest to note that households do not need to have a family member abroad to be receiving remittances. Only 12 per cent of households claiming to receive remittances declare having a household member abroad. Evidently, the receipt of remittances from more distant relatives and, perhaps, even friends is a common occurrence in the Dominican Republic.

TABLE 1
Households Receiving Remittances from the US

Remittance Receipt	*N*	*Per Cent*
Yes	217	24.38
No	673	75.62

Source: Authors' tabulations using the LAMP-DR7.

TABLE 2
Size of the Remittance Flow as a Fraction of Household Income

Size of Remittance Flow	*N*	*Per Cent*
Small	107	49.31
Medium	48	22.12
Large	62	28.57

Note:
Conditional on receiving remittances.

Source: Authors' tabulations using the LAMP-DR7.

TABLE 3
Fraction of Remittance-receiving Households Declaring Having Financed a Business with Migradollars

Usage of Remittance Flow	*N*	*Per Cent*
Business	147	5.53
Past Business	49	1.38
Current Business	98	4.15

Note:
Conditional on receiving remittances.

Source: Authors' tabulations using the LAMP-DR7.

The LAMP survey collects information on business ownership, including when the business was started and when it closed down (if it is no longer in operation). An initial evaluation of the possibility that remittances help overcome local credit constraints can be made by examining survey information on the fraction of remittance-receiving households and the fraction of current business owners declaring having financed a past or current business with migradollars. This information is collected for up to four businesses per household. We code whether the household currently owns one or more businesses and relate business ownership to the receipt of remittances by the household. As can be seen from Table A1 in the Appendix, 18 per cent of household heads are currently business owners. Additionally, according to the figures in Tables 3 and 4, approximately 5.5 per

TABLE 4
Fraction of Current Business Owners Declaring Having Financed their Business with Migradollars

Investing Remittances in the Business	*N*	*Per Cent*
Used Remittances	22	13.75
Did Not Use Remittances	138	86.25

Note:
Conditional on owning a business.

Source: Authors' tabulations using the LAMP-DR7.

TABLE 5
Household Business Ownership by Remittance Receipt

Business Ownership	*Receives Remittances*	*Does Not Receive Remittances*
Owns at Least One Business	11.06	19.02
Does Not Own a Business	88.94	80.98

Source: Authors' tabulations using the LAMP-DR7.

TABLE 6
Per Cent of Households Owning a Business According to the Size of the Remittance Flow

Small	*Medium*	*Large*
14.02	12.50	4.84

Note:
Conditional on receiving remittances.

Source: Authors' tabulations using the LAMP-DR7.

cent of remittance-receiving households and about 14 per cent of current business owners have used these money inflows to finance business investments.

However, the figures in Table 5, which report on the propensity of household business ownership conditional on remittance receipt, do not support the notion that remittance receipt is associated with business ownership. Only 11 per cent of remittance-receiving households own a business relative to 19 per cent of non-remittance-receiving households. Furthermore, Table 6 indicates that the probability of business ownership declines with the size of the remittance flow. Households receiving greater money transfers from abroad (in relation to average household income) are less likely to own businesses (only five per cent declare owning a business) than households receiving smaller remittance receipts (among which 14 per cent declare owning a business).

Overall, the descriptive statistics suggest that, while business owners may use remittances for entrepreneurial purposes, the mere receipt of remittances by the household does not promote business investments. Remittance-receiving households may be, in other ways, different from non-remittance-receiving households. For example, out-migration and subsequent remittance receipts may be greater for households at a disadvantage to start a business. Hence, despite the receipt of remittances, we may not see much business ownership (Taylor, 1987). In such instances, controlling for other household and regional characteristics determining household remittance receipt and business ownership is essential to accurately gauge the impact of remittance receipt on entrepreneurial activity.

5. CONCEPTUAL FRAMEWORK AND EMPIRICAL METHODOLOGY

Our purpose is to examine the links between household remittance receipt and business ownership in the Dominican Republic. With this in mind, we first model household business ownership. We account for a variety of household characteristics thought to influence business investments, such as family human capital captured by the average educational attainment of household members.[2] We also incorporate information on any previous business and US work experience of household members to account for the role that the importation of human capital may play in entrepreneurial activity (Portes and Guarnizo, 1991; McCormick and Wahba, 2001; and Dustmann and Kirchkamp, 2002). Some household demographic controls are also included in the analysis, as is the case with the marital status of the household head and the per cent of non-working-age family members, which addresses the availability (or lack) of household labour to help operate the business. Finally, we control for past land owned by the household as a measure of wealth possibly used as collateral for business ownership, and include information on the household head's gender to address the fact that most business owners in our sample are male. To account for regional characteristics possibly affecting business investments, we include an urban dummy variable intended to capture a potentially different business climate in urbanised areas. Overall, business ownership is modelled as a function of the receipt of money transfers from abroad, personal household head characteristics, household characteristics and an urban dummy as follows:

[2] With the intent of constructing a variable indicative of the potential of educational attainment of all household members according to their age, we compare the individuals' actual number of years of education to the number they could potentially have obtained given their age. Individuals 23 and older were assumed to have had the potential of acquiring 16 years of education; while those less than seven have had the potential to acquire none. Between the ages of seven and 22, individuals were assumed to have had the potential of obtaining their age minus six years of education. The actual number of years of education divided by the potential education variable serves as our proxy value for the educational attainment of the head and non-head household members.

$$Business_i^* = \alpha_1 Remittancess_i + B_1' P_{1i} + \delta_1' H_{1i} + \gamma_1 U_1 + \varepsilon_1, \tag{1}$$

where:

$$Business_i = \begin{cases} 1 & \text{if } Business_i^* > 0 \\ 0 & \text{otherwise.} \end{cases}$$

$Business_i^*$ is the latent variable and $Business_i$ is the observed variable. P_{1i} is a vector of personal characteristics of the *i*th household head – i.e. gender and marital status. H_{1i} is a vector including the average educational attainment and the sum of years of business and US work experience of household members. Additionally, the vector H_{1i} includes information on the per cent of non-working-age household members, and land ownership measured as number of plots of land owned by the household in the past. The vector U_i refers to whether the household resides in an urban or rural area. Finally, $remittances_i$ represents a dichotomous variable indicating whether the household receives remittances from abroad. Ideally, we would like to have information on the receipt of remittances by the household over time in order to assess the impact of this flow variable on household business investments. Unfortunately, such longitudinal data do not exist. However, the receipt of remittances by the household today is likely to be highly correlated to the receipt of these funds in the past, as remittances, in any case, tend to decay over time.

Note, nevertheless, that the receipt of remittance flows by the household in equation (1) may be endogenous to the household's participation in the business community. Migrants' remitting patterns may depend on the economic need of the household, which may be lower for households owning business assets. Alternatively, migrants' remitting patterns may vary with their future intentions of returning home and claiming family assets. As posited in the migration literature (Lucas and Stark, 1985; and Lindstrom, 1996), these intentions are likely to vary according to economic conditions in the origin community and to the family's ownership of capital assets.

As such, we control for the economic situation of family members in the Dominican Republic when modelling the household's likelihood of receiving remittance inflows from family members in the US. In addition to household business ownership ($Business_i$), we include information on the educational attainment of household members in the Dominican Republic to capture their earnings potential.[3] Likewise, we include information on land properties owned by the household in the past as a measure of its wealth. Since single and female-headed

[3] While a better proxy for the household economic situation is the employment status of its household members, the receipt of money transfers from abroad and the household members' current employment status are likely to be simultaneously determined. Hence, we resort to information on predetermined educational attainment and work experience as proxies for the economic situation of the household.

households are traditionally more likely to live in poverty and, as such, draw financial support from emigrant household members, we also include information on the gender and marital status of the household head in the Dominican Republic. Similarly, to account for economic dependency, the per cent of non-working-age family members living in the household is also included along with the previous household characteristics in the vector H_{2i}.

In addition to the household's economic situation, remittance receipt is likely to be associated with the number of household members currently residing in the US, a variable included in the vector M_i. In particular, remittance receipt should be more likely the greater the per cent of family members in the US. Nonetheless, we should note that the per cent of households receiving remittance flows from the US in our sample exceeds the per cent of households with members currently residing in the US. Hence, remittance receipt is not constrained to having family members abroad.

Finally, a dummy variable indicating whether the household lives in an urban versus rural area (U_i) is incorporated into the model to reflect the better banking-type infrastructure available for receiving remittance transfers in urbanised areas (Iglesias, 2001). In sum, remittance receipt can be modelled as:

$$Remittances_i^* = \alpha_2 Business_i + B_2' H_{2i} + \delta_2' M_i + \gamma_2 U_i + v_i, \qquad (2)$$

where:

$$Remittances_i = \begin{cases} 1 & \text{if } Remittances_i^* > 0 \\ 0 & \text{otherwise,} \end{cases}$$

where $Remittances_i^*$ is the latent variable and $Remittances_i$ is the observed variable, equal to 1 only if the household receives money transfers from abroad.[4]

Given the potential simultaneity of household business ownership and remittance receipt, the estimation of equations (1) and (2) as separate probit models would result in inconsistent and biased estimates of the impacts of remittance flows on business ownership and vice versa. In order to account for the joint determination of remittance receipt and business ownership, we estimate equations (1) and (2) as a system of simultaneous probit models.[5] The business

[4] A detailed description of all the variables employed in the analysis, along with their means and standard deviations, is included in Table A1 in the Appendix.

[5] To the extent that households in our sample may display unit or zero values for one, both or none of the outcomes being examined (i.e. business ownership and remittance receipt), all four possible outcomes are distinguishable. That is, we have a bivariate probit model with full observability (Zellner and Lee, 1965). As discussed by Meng and Schmidt (1985), in the presence of correlation between two fully observable outcomes, it is more efficient to estimate the two probit equations jointly (Meng and Schmidt, 1985, p. 72). Furthermore, the only circumstance under which the model is not fully identified is under perfect multicollinearity (Meng and Schmidt, 1985, p. 76).

ownership equation (equation (1)) is identified by the inclusion of the sum of the household head's previous business experience and the total US work experience of household members in the Dominican Republic. This variable is highly correlated with the likelihood of owning a business. Yet, to the extent that it refers to previous business and US work experience of family members already home, there is no *a priori* reason to believe that it should be affecting the current remittance receipts by the household. Similarly, the remittance equation (2) is identified by the inclusion of information on the per cent of household members currently residing in the US. The conditional probability of receiving remittances given that a household member is abroad is 0.72, making the per cent of migrant household members residing in the US a good instrument for the household receipt of remittances. Furthermore, other than through remittances itself, there is no reason to expect the per cent of household members residing in the US to affect the likelihood of business ownership by the household head in the Dominican Republic once we control for household composition.

6. REMITTANCE RECEIPT AND BUSINESS OWNERSHIP IN THE DOMINICAN REPUBLIC

Table 7 displays the results from estimating the simultaneous equation model described by equations (1) and (2). Columns 1 to 3 in Table 7 display the estimated coefficients, robust standard errors and marginal effects for the likelihood of owning a family business once we account for the simultaneity of remittance receipt and business ownership.[6] As we anticipated, family business ownership is directly related to the household head's (also business owner's) gender and human capital as captured by the head's previous business and US work experience. Similarly, business ownership is directly related to average human capital of all household members and is more likely to be observed among urban dwellers – possibly enjoying better access to financial institutions and demand conditions. Yet, the results in columns 1 to 3 reveal that households receiving money transfers from abroad are not more likely to own a family business than households not receiving remittance flows. In fact, households who receive remittances appear less likely to be business owners. Why may this be the case? One possibility is that while remittances may loosen the budget constraints faced by some households when it comes to business ownership, these monetary inflows also induce an income effect that raises the reservation wages of those household members. As such, remittances may induce the

[6] The marginal effects of the continuous variables are evaluated at their mean values, whereas the marginal effects of the dichotomous variables are computed by evaluating discreet changes in the dummy variables.

TABLE 7
Simultaneous Probit Model Results

Independent Variables	*Likelihood of Having a Business*			*Likelihood of Receiving Remittances*		
	Column 1 Coefficient	*Column 2 S.E.*	*Column 3 Marginal Effect*	*Column 4 Coefficient*	*Column 5 S.E.*	*Column 6 Marginal Effect*
HH Receives Remittances	−0.1987**	0.1098	−0.0463	–	–	–
HH Owns a Business	–	–	–	0.6578***	0.0561	0.2013
Male HH Head	0.4195***	0.0864	0.0891	−0.8243***	0.0486	−0.2765
Average Previous Business and US Work of HH Members	0.0168***	0.0015	0.0039	–	–	–
Average Education Attainment of HH Members	0.8962***	0.1093	0.2089	–0.8233***	0.1018	−0.2520
Per cent of HH Members of Non-working Age	−0.0989	0.1131	−0.0231	0.6357***	0.0820	0.1946
Per cent of HH Members Currently in the US	–	–	–	3.6242***	0.1771	1.1093
Urban	0.2945	0.5610	0.0740	−0.3210***	0.0548	−0.0923
Married HH Head	0.3649***	0.0717	0.0853	0.0512	0.0514	0.0159
Past Land Ownership	0.5467***	0.1008	0.1274	−0.0418	0.0683	−0.0128
Number of Observations		894			881	
Wald Chi2		70.53			49.08	
Prob. > Chi2		0.0000			0.0000	

Notes:
*** Signifies statistically different from zero at the 1 per cent level or better, ** signifies statistically different from zero at the 5 per cent level or better and * signifies statistically different from zero at the 10 per cent level or better. The regressions include a constant.

purchase of leisure and of other goods and services, including housing and education.

The estimates in columns 4 to 6 of Table 7 reveal some of the determinants of the probability of receiving remittances by the household and, in particular, the role of household business assets in attracting remittance flows. Economic need – as proxied by being a female-headed household or by having a larger percentage of less educated or non-working-age household members – is associated with a higher likelihood of remittance receipt. In particular, female-headed households are 28 percentage points more likely to receive international remittances than non-female-headed households. Likewise, if the percentage of non-working-age household members rises from 50 per cent to 60 per cent, the probability of receiving these money transfers increases by approximately 20 percentage points. In addition to economic need, remittance receipt is dependent on the per cent of household members residing abroad. A doubling of the number of US-based migrants increases two-fold the household's likelihood of receiving remittance payments. Finally, remittance receipt is nine percentage points less likely among households residing in urban areas.

Of special interest to us is the role of household business ownership on the likelihood of receiving international remittances. Business ownership appears to raise the household's likelihood of remittance receipt by 20 percentage points. Businesses attract remittances. This result is consistent with the positions of Lucas and Stark (1985) and de la Brière et al. (2002), who argue that family assets appear to prompt greater remittance inflows in anticipation of future bequests. This result is also consistent with the notion that emigrants remit in response to the availability of good investment prospects, with the existence of a family business serving as an indicator of such possibilities.

7. SUMMARY AND CONCLUSIONS

This study examines the links between remittance receipt and business ownership in the Dominican Republic. Recognising their likely joint determination, we estimate a system of simultaneous probit models examining the likelihood of both events. In this manner, we are able to identify some of the determinants of both household outcomes: remittance receipt and business ownership.

While it has been suggested that workers' remittances may loosen capital constraints faced by households in developing economies with regards to business ownership, our findings do not support this hypothesis in the case of the Dominican Republic. Specifically, household remittance receipt appears to be associated with a lower household likelihood of business ownership. Why does remittance receipt reduce the household's likelihood of business ownership? One possibility is that remittances increase the reservation wage of household heads and, as such, they are associated with a reduced likelihood of household business ownership. Alternatively, remittances may be used to fulfil basic consumption needs, contribute to the housing stock, increase the availability of healthcare for individuals, or contribute to the education of household members.

Although remittance receipt does not appear to enhance the household's likelihood of business ownership, business owners seem more likely to receive international remittances. A number of explanations exist for this observation. The existence of a family business may signal to the emigrant the availability of good investment opportunities in the home community. This may serve as a motivation to remit. Alternatively, emigrants may send money home in order to claim household assets upon their return home; that is, remittances may respond to a bequest motive.

Overall, our findings point to a seemingly complex relationship between remittances and business ownership. In particular, it appears as if the view of remittances as a determinant of business investment may simply stem from the positive correlation between remittances and business ownership owing to the fact that business assets attract remittances. If this is the case, accounting for the endogeneity of remittances becomes essential when assessing their role in promoting business entrepreneurship. Moreover, while the periodic remittance payments sent by emigrants may not promote business investments, the lump sums taken back by migrants upon their return home – another form of remittances not considered in this study – may still have an impact on business entrepreneurship based on their larger size and the accompanying human capital acquired by the migrant while abroad. This is an additional and, potentially, important channel by which migration may stimulate business investments worth exploring in future studies.

APPENDIX

TABLE A1
Means and Standard Deviations of Variables Used in the Analysis

Variable Names	*Description*	*Mean*	*S.D.*
HH Receives Remittances	Dummy variable equal to 1 if the household receives remittances from abroad.	0.2438	0.4296
HH Owns a Business	Dummy variable equal to 1 if the household owns a business.	0.1770	0.3819
Male HH Head	Household head gender dummy.	0.7102	0.4539
Average Previous Business and US Work of HH Members	Average years of previous business and US work experience (in years) of household members.	11.6527	45.6988
Average Education Attainment of HH Members	Average of years of schooling received by household members in the DR as a fraction of the age-specific potential number of years of schooling.	0.5975	0.2722
Per cent of HH Members of Non-working Age	Per cent of household members in the DR of non-working age.	0.4737	0.2670
Per cent of HH Members Currently in the US	Per cent of all household members currently residing in the US.	0.0164	0.0985
Urban	Dummy equal to 1 if the household resides in an urban area.	0.2456	0.4307
HH Married	Dummy variable equal to 1 if the household head is married.	0.4939	0.5002
Past HH Land Ownership	Dummy variable equal to 1 if the household head owned land in the past.	0.0288	0.1919

Source: Authors' tabulations using the LAMP-DR7.

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