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Abstract

In this paper, we examine possible macro-level determinants underlying the number of trips emigrants make back home by exploiting a panel of data comprising 25 countries over the period 1995–2010. To guide the empirical work, we first construct a simple model of the decision by emigrants to visit their home country. The model predicts, among other things, that the effects of distance on the frequency of visiting home are negative but the impact of the host country's wage on the decision to visit home is ambiguous: it depends on the legal status of the emigrants in the host country. Our empirical results based on a pooled estimator support these predictions. First, the number of trips back home is inversely related to distance but positively related to income and institutional quality. Second, emigrants living in Africa and North America are less likely to visit home, whereas emigrants living in the Arabian Gulf countries visit home more often. The results from cross-sectional estimations provide very similar results, indicating that our results are robust to alternative estimation approaches.

JEL Codes: C23; F22; J61; L83.

Keywords: International Migration; Geographic Labor Mobility; Tourism; Panel Data.

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1 Introduction

It is a truism that over the years, emigrants make several trips back home to visit friends and relatives (VFR), invest, prepare for retirement or permanent return, participates in festivities such as weddings, mourn, learn about their culture and ancestry, or remain active and support communities in their motherland. These motives raise an immediate question: "What other factors underlie the number of trips emigrants make back home?" The objective of this paper is to tackle this question and to fill a gap in the existing literature.

It is not surprising that a sizable portion of the tourism literature aims at documenting factors underlying emigrants' decision to visit their home country. These include social ties preservation and acculturation effects minimization (Duval 2004; Hung et al. 2012), social relationships and psychological emotions (White and White 2007; Uriely 2010; Shani 2013) and psychological and cognitive experiences (Pearce 2012)—to cite only a few examples.[1] As argued in McCann et al. (2010), international migration and VFR are intertwined; to some extent, international migration promotes travel back to visit the home country. These visits allow migrants to retain their social relationships with their family and friends who live in their places of origin at a regular interval. Their conjecture is that the optimal structure of back-home visits is inversely related to the distance and the transportation costs, but positively related to the psychological costs of separation.

Despite the richness of the tourism literature on accounts of both VFR and return migration contributions to the overall tourism sector (Hughes and Allen 2010; Duval 2003), little has been documented on the frequency of trips back home. The only exceptions are Huang et al. (2011), Gurry (2005), Langlois et al. (1999) and King and Gamage (1994). Whereas Huang et al. (2011) showed that emigrants feelings about their home and the number of trips undertaken to home are directly related, the others mainly provide statistical survey results on the frequency and timing of trips. In his survey, Gurry (2005) reported that 36% of his respondents classified as repeat visitors had made 11 trips to the UK, whereas Langlois et al. (1999) recorded four trips back home per head for Polish emigrants to the UK. King and Gamage (1994) found that, of the emigrant population of Sri Lanka living in Australia, 53.8% had visited home once, 27.3% had done so two or three times and 18.7% had visited home four times or more. As Pearce (2012) argued, studies on repeat and return visitors are plentiful. However, neither VFR nor

[1] In addition, an anonymous referee has brought the following papers to our attention: Feng and Page (2000), Morgan et al. (2003) and Asiedu (2005).

return/retirement migration explains why emigrants make a number of trips back home beyond the well-known events already documented. This paper provides the first evidence on the determinants of the frequency of trips back home by focusing on institutional quality, civil rights and gravity variables such as distance from emigrants' primary residences to their motherland destination countries. Underlying this work is the notion that individuals care about safety and economic conditions first whether making decisions about investments, retirement or returning home. Accordingly, a number of trips back home are first taken to assess the economic, political and social environments prior to making the final decision to return or invest at home. We posit that this study complements the literature on VFR and return migration.

Exploiting a panel of data comprising 25 countries over the period 1995–2010, we provide evidence on the impact of distance, host country income, the quality of institutions in the home country and the distribution of migrants across geographic regions on the number of visits back home per year made by emigrants. To derive testable hypotheses about the impact of these factors on the frequency of home visits, we construct a simple model of emigration in which the home and foreign countries differ along two key dimensions: wages and the quality of institutions are higher in foreign than in home countries. The model predicts, *inter alia*, that the effects of distance on the frequency of visiting home will be negative; but the impact of host country's wage on the decision to visit home is ambiguous; it depends on the legal status of the migrants in the host country. Illegal immigrants are least likely to visit home in fear of not being permitted back into the host country even if they were earning enough, and where immigrants are legal; the incentive to visit home is tied to the existence of travel allowance when personal savings is not enough to finance the trip back home. The empirical results generally find support for these predictions. In particular, the results reveal that migrants living in African and North American countries are less likely to visit home, whereas emigrants living in the Arabian Gulf countries visit home more often.

The rest of the paper is organized as follows. Section 2 reviews the extant literature. Section 3 develops a formal model of the decision by emigrants to visit their home country. Section 4 discusses the data and the empirical strategy. Section 5 presents the empirical results. Section 6 concludes the paper.

2 Literature review

The growing body of tourism literature has, without doubt, helped towards understanding the linkage between being away from home for emigrants and tourism activities by way of VFR back home, along with its economic impacts, both qualitative and quantitative, under the wide umbrella of migration and tourism. According to Pearce (2012), VFR studies have developed along two dimensions. One strand concerns the demand side, whereby travelers visit friends and relatives; however, this line of research, which has now proliferated, did not receive much impetus initially, partly due to a lack of data (Jackson 1990; Morrison and O'Leary 1995; Seaton and Palmer 1997; Backer 2007, 2008; Asiedu 2008). The supply side focuses on the host countries of VFR tourists to assess the well-being of local residents in the context of tourism development and their perception of its socio-economic impacts (Akis et al., 1996; Gursoy and Rutherford 2004; Andereck and Jurowski 2005; Ap and Crompton 1998; Pizam 1978; Aramberri 2001; McGehee and Andereck 2004; Getz 1986; Liu et al., 1987; Walpole and Goodwin 2000; Perdue et al., 1999; Keogh 1990; Lankford 1994; Choi and Sirakaya 2006; McKercher 2003; Shani and Uriely 2012).

As Young et al. (2007) noted, the development of the VFR literature has tilted much more towards the demand side over the years, as the importance of this type of tourism activity has grown to account for about 27% of all tourism activities in the whole world (UNWTO, 2015). However, in terms of economic impact, several studies have been conducted to determine whether benefits such as foreign exchange earnings, local revenue mobilization, multiplier effects of tourism expenditures and employment creation accrue to the destinations countries. The literature is divided between those who offer evidence of minimal to significantly greater effects of VFR than other tourism segments (Jackson 1990; Seaton and Palmer 1997; Backer 2007, 2008) and those who find VFR to be actually a lucrative market (Navarro and Turco 1994; Paci 1994; Lee et al., 2005; Braunlich and Nadkarni 1995; UKTS 2003).

Some studies have approached VFR from a historical perspective (Huang et al., 2011; Wagner 2008; Kang and Page 2000; McCain and Ray 2003; King 1994; Graburn 1978; Smith 1978). The basic idea is that both emigrants and their descendants who may well be first- or second-generation citizens of the host country tend to visit or return to places with which they have a cultural bond (i.e. places with a shared cultural affinity or where their ancestors originated from). The literature has used different terminologies in linking historical migration to tourism.

These terms include roots tourism, diaspora tourism, colonial legacy tourism and ethnic reunion tourism. For example, using a world migration matrix that records the year 1500 origins of the present population of most countries, Fourie and Santana-Gallego (2013) presented the first evidence that a large share of global tourism is explained by these historical events. This research largely explained why a large portion of tourism inflows to, say, Turkey is mainly due to Turkish immigrants in Germany visiting home and these voyages transcend generations as parents encourage their progenies to take similar trips to preserve their culture and ethnic identity. Kang and Page (2000) documented similar patterns for Korean immigrants to New Zealand. They showed that these immigrants are more likely to visit their native country than other New Zealanders. In a few words, Fourie and Santana-Gallego (2013) established that the origin of the current population matters a great deal for tourism inflows to a country. Historically, countries in Latin America and Africa were colonized by Spain and France; as a result, a large population of the Latin American and African countries naturally migrate to Spain and France respectively. Tourism activity witnessed in the form of VFR is mostly due to colonial ties. The authors found that cultural affinity explains tourism flows in all regions except Asia. In summary, a 1% increase in past migration produces an increase in current tourism flows of 2.7% in Africa and 2.4% in Oceania. Similarly, for ethnic reunions, a 1% increase in past migration gives rise to an increase of tourism flows of 5.1% to Africa in the opposite direction and 2.9% to Europe.

Another important and widely researched area is what the literature terms return migration. Dumont and Spielvogel (2008) documented four arguments on which return migration is anchored. These are: (i) the failure to integrate into the host country and changes in the economic situation of the home country (Yezer and Thurston 1976; Allen 1979; Herzog and Schlottmann 1983; Da Vanzo 1983; Duleep 1994; Borjas and Bratsberg 1996; Rooth and Saarela 2007); (ii) individuals' preference for their home country (Hill 1987; Djajic and Milbourne 1988, Djajic 1989; Stark et al., 1997; Dustmann 2003; Constant and Massey 2003); (iii) the achievement of a savings objective (Berninghaus and Seifert-Vogt 1993; Dustmann and Kirchkamp 2002; Mesnard 2004; Yang 2006; Reyes 2004; Zhao 2002) and (iv) greater employment opportunities for individuals in their home country, thanks to experience gained abroad (Barrett and O'Connell 2001; Co et al., 2000; Wahba 2007). More recent contributions have further explored these lines of research using country or country group analysis to investigate return migration as linked to divorce (Wall and Von Reichert 2013), impacts on social security systems (Kirdar 2012) and

fertility (Bertoli and Marchetta 2015), to cite just a few. Also of importance are the works of Sabates-Wheller et al. (2007) and De La Barre (2007) who show that the legal status of migrants in the host country matter when it comes to return migration. Legal migrants tend to have a better life than illegal migrants upon return or repatriation. The latter usually constitute a burden for governments in their home country.

Missing from this body of the literature is the underlying determinants of the frequency of visits back home. We posit that the number of visits is influenced by the the legal status of emigrants in the host country, the rule of law, civil liberty, security, freedom and corruption, among other factors in the home country. The empirical estimation undertaken following the theoretical framework aims to showing that these variables are fundamental in understanding the frequency of trips back home as prerequisite for the migration segment of tourism.

3 Theoretical framework

In this section, we develop a framework using formal language similar to that used in other theoretical literature. However, we do not attempt to develop a full-fledged theory; rather, we use the framework to tighten the link between theory and empirical application as well as to clarify the additional assumptions needed to move from the theoretical model to the empirical application.

We construct a simple model of the decision by emigrants to visit their home country. We consider a standard (two-country, one-good, two-factor) model of immigration, in which there are legal barriers to factor movements that prevent labor and capital from flowing freely between the two countries. Firms in both the home (h) and foreign (f) country produce a single output (Q), using a constant returns to scale technology. Technology (A) is assumed to differ between the two countries. In this paper, the technology describes the infrastructure of a country, such as the rules and regulations and the institutions that enforce them. This can serve as a primary determinant of the extent to which emigrants are willing to make visit(s) (or even return) to the home country.

The production functions of the home and foreign firms, respectively, are:

$$Q_h = A_h H(K_h, L_h), \qquad \text{and} \qquad Q_f = A_f F(K_f, L_f),$$

where K and L are the employment of capital and labor, respectively. The first-order conditions

for this problem yield optimal wage levels equal to the marginal product of labor in both countries:

$$w_h = A_h \frac{\partial H(K_h, L_h)}{\partial L_h}, \qquad \text{and} \qquad w_f = A_f \frac{\partial F(K_f, L_f)}{\partial L_f}.$$

In our model, domestic workers have strong incentives to migrate to the foreign country because the domestic wage rate, w_h, is well below the foreign wage rate, w_f, in the absence of factor mobility. Thus, we assume:

$$w_f > w_h.$$

Migrants obtain utility from the consumption of goods and services, c, and the number of return trips back home, x. We consider the former as an essential consumption and the latter as a non-essential but normal good. To illustrate these properties, we chose a quasi-linear utility function:[2]

$$u(c) + \gamma x.$$

We consider two kinds of migrants. The first kind is migrants who can return to their home country without any problems. The second kind includes migrants who cannot return home because of legal and other reasons such as fleeing from their home countries because of war.[3] The migrants of the first kind faces the following optimization problem:

$$\begin{aligned} \max_{x} \quad & u(c) + \gamma x \\ \text{subject to} \quad & c + P_t x \leq w_f, \end{aligned} \tag{1}$$

where P is the price of trip(s) back home. Migrants of the first kind receive utility from the consumption of goods and services and the number of trips to the home country. Differentiating equation (1) and solving for x yields:

$$x^L = x(w_f, P_t),$$

where the superscript L denotes migrants who have legally migrated to the foreign country. For these migrants, the number of trip(s) to home (x^L) is negatively related to the price of travel (P_t) and positively to the wage received in the foreign country (w_f). The price of travel in turn is positively related to distance. Therefore, it is evident that the distance is negatively related

[2] We rule out corner solutions.

[3] For simplicity, we do not include costs suffered by the migrants due to being away from home (a psychological cost) or the cost of a penalty if caught for being illegal migrants.

to the frequency of traveling back and forth. Hence, we obtain the following conditions in the foreign market equilibrium:

$$\frac{\partial x^L}{\partial w_f} > 0, \qquad \text{and} \qquad \frac{\partial x^L}{\partial P_t}\frac{\partial P_t}{\partial \text{distance}} < 0.$$

For the migrants of the other kind who have illegally migrated to the host country, the number of visit back to home will increase the probability of not returning to the host country (i.e. receiving the wage of the home country). This probability increases with the number of visits: $\pi'(x) > 0$. The maximization problem for this group of migrants can be written as:

$$\max_x \ [\pi(x)\{\max_{c_f} \ u(c) + \gamma x \text{ s.t. } c + P_t x \leq w_f\} + (1 - \pi(x))\{\max_{c_h} \ u(c) \text{ s.t. } c \leq w_h\}].$$

The above equation is rewritten as:

$$\max_x \ [\pi(x)\{u(w_f - P_t x) + \gamma x\} + (1 - \pi(x))u(w_h)]. \tag{2}$$

Differentiating equation (2) yields:

$$\pi'(x)[u(w_f - P_t x) + \gamma x - u(w_h)] + \pi(x)[\gamma - u'(w_f - P_t x)],$$

and solving for x we get:

$$x^I = x(w_f, P_t, w_h),$$

where the superscript I denotes migrants who have illegally migrated to the foreign country. There are two effects when choosing the level of x:

- An increased probability of not returning back: This effect is strong if the difference in wages between the two countries is larger.
- Increased utility from traveling home if higher wages are earned in the foreign country.

The first effect discourages tourism while the second effect encourages it. Note that for these migrants, x^I is negatively related to w_h when the probability of not returning becomes less and less probable. The opportunity cost of not going back to the host country declines when the home wage increases. Since x is not an essential good, one can choose not to make a trip back

home at all. We get the following conditions:

$$\frac{\partial x^I}{\partial w_f} \lesseqgtr 0, \qquad \text{and} \qquad \frac{\partial x^I}{\partial w_h}\frac{\partial w_h}{\partial A_h} > 0.$$

A low level of institutional quality back home negatively affects the wage level. For these migrants, this adversely affects the opportunity cost of traveling, as the probability of staying at home and receiving a low wage is increased.

4 Data and empirical strategy

For this paper, we have a panel data-set of 25 countries for the period between 1995 and 2010. The period and number of the countries is restricted by the dependent variable: visits home by emigrants per year. Table 1 provides a list of the countries included in the analysis. These data were obtained from the *Compendium of Tourism Statistics*, published by the United Nations World Tourism Organization (2012). We also extract the total number of emigrants/expatriates of each country from the bilateral migrant stocks between country sets i and j from the *Trends in International Migrant Stock: Migrants by Destination and Origin*, published by the United Nations Immigration Database (2012). These two databases provide a breakdown of the tourism inflows to each country by nationality as well by the respective number of emigrants living abroad. However, these data make no allowance for any possible distinction between legal and illegal migrants. The data on the distance between the capital cities of countries i and j are taken from Mayer and Zignago (2011), which is based on a dataset made available by the Centre d'Etudes Prospectives et d'Informations Internationales.

We measure institutional quality using Transparency International's corruption perception index (CPI) data. This index captures institutional quality in five major areas: (i) size of government, (ii) the legal structure and the security of property rights, (iii) access to sound money or monetary proceeds from legal activities, (iv) interaction with foreigners and (v) regulation of capital, labor and businesses. We use the CPI to measure the degree to which corruption is perceived to exist amongst the institutions.[4] We also make use of other indices such as the civil liberties (CL) index and freedom of speech. Both were obtained from Freedom House's annual reports.

[4] A number of studies use CPI; to cite just a few, see Husted (1999), Habib and Zurawicki (2002), Seligson (2002) and Balli et al. (2009).

The dependent variable ($VISIT_{it}$) is the number of the emigrants of country i, normalized by the total emigrants of that country in year t. Accordingly, we are able to measure the average number of visits (frequency) back home. We have created a number of variables to serve our purpose. One of them is the weighted distance variable ($wDIST_{it}$), calculated as:

$$wDIST_{it} = \sum_{j=1}^{5} Distance_{ij} \times \frac{Emigrant_{ijt}}{Emigrant_{it}} \tag{3}$$

where $DIST_i$ is the weighted average of the distance between country i to country j where emigrants live. The weights are simply the number of emigrants living in country j ($Emigrant_{ij}$) as a share of the total number of emigrants of country i ($Emigrant_i$). We have used the top five emigrant partners j of country i, for simplicity. For all 25 countries, the top five country set corresponds to 80 or 85% of the total emigrants of country i.

Similar to the distance variable, we compute the weighted gross domestic product (GDP) per capita as follows:

$$wGDP_{it} = \sum_{j=1}^{5} GDP_j \times \frac{Emigrant_{ijt}}{Emigrant_{it}} \tag{4}$$

where GDP_{it} is the weighted average of the GDP per capita of the countries where country i's emigrants reside. The weights are calculated in the same fashion as described above.

In addition, we control for the major geographical areas where over three-quarters of the emigrants in our sample are located. These include the proportion of country i's emigrants living in the continents or subcontinents of Africa, the Gulf Cooperation Council (GCC) region, Europe and North America (Canada and the US). These geographic share variables are calculated as:

$$GEO_{ijt} = \sum_{j=1}^{4} \frac{Emigrant_{ijt}}{Emigrant_{it}} \tag{5}$$

where GEO_{ijt} represents the relative share of a country's emigrants living in each of the four regions (Africa, GCC, Europe and North America).

Accordingly, we specify the empirical model to be estimated as follows:

$$VISIT_{it} = \alpha_0 + \beta_1 \cdot wDIST_{it} + \beta_2 \cdot wGDP_{it} + \beta_3 \cdot CPI_{it} + \sum_{i=1}^{4} \delta_i \cdot GEO_{ijt} + \varepsilon_{it} \tag{6}$$

where $i = 1, ..., N$ and $t = 1, ..., T$ refers to the number of countries and time periods, respectively. Given the small sample size of the data, we consider a number of pooled estimators (i.e. pooled OLS, fixed effects and random effects) to estimate Equation (6). We run the Hausman test to decide between the null hypothesis of a random-effects (RE) and the alternative of a fixed-effects (FE) model. Additional tests for testing the presence of serial correlation, heteroskedasticity and cross-sectional dependence are also discussed.

5 Empirical results

5.1 Descriptive statistics

Table 2 presents selected descriptive statistics for the variables in Equation (6). The number of visits per emigrant, our dependent variable, has a mean of 0.32 and a standard deviation of 0.40. In other words, for every 100 emigrants, on average, about 32 visit their home in a given year. At the country level, the highest number of yearly average visits to home is observed for Syria (1.26) and the lowest for Burkina Faso (<0.01).[5] Further discussion is provided below. The average distance between the capital cities of two countries in our sample is 2887 kilometers, with Vietnam being the most remote country in the sample (over 8700 kilometers) and Guinea being the least remote in the sample (<600 kilometers). The high standard deviation for the value of distance indicates the large variation in the distance among countries from the center of the sample. The average level of the weighted GDP per capita is $17,427 and has a large level of variability, reflecting the magnitude of income differences in the countries where migrants are living. The maximum value of weighted GDP per capita is for Mexico; the minimum value is for Mali.

In terms of the spatial distribution of migrants in our sample, of every 100 migrants about 30 on average reside in North America, followed by Africa (27), Europe (12) and the GCC region (7).[6] Mexican emigrants prefers to live in the US (over 98% of the Mexican migrants), while Algerians predominantly live in France (around 80%). Interestingly, African emigrants tend to live within Africa. For instance, nearly all (around 99%) emigrants from Burkina Faso and over 80% of emigrants from Guinea and Mali live in Africa. Finally, Jordanian migrants, combined with displaced Palestinians, have the highest presence in the GCC region followed by emigrants from Syria. Overall, the data suggest individuals are on average biased towards

[5] Needless to say, the figures for Syria do not reflect the current civil war.
[6] Numbers do not add to 100 because not all regions are included.

migrating within their own continent/sub-continent; be it due to distance, colonial ties, cultural affinities and/or economic incentives, and this has ramification for the direction of tourism flows.

Our proxy for institutional quality is the Corruption Perception Index (CPI), which ranks countries on the basis of the perceived corruption of their public sectors. The index ranges between 0 (most corrupt) and 100 (least corrupt). There are large variations across countries with Uruguay scoring highly, and Guinea at the other end of the scale. Interestingly, a comparison of the number of visits and institutional quality show that better institutional quality is often associated with higher number of visits to home. For example, Jordanians visit their country often and has the second highest CPI score in the sample. The average of CL, which measures the extent of freedom in a country and ranges between zero (no freedom) and 10 (highest freedom), is somewhat similar to the CPI across countries in the sample.

Table 3 reports the rankings according to the number of annual trips for the top five and bottom five countries in our sample. On average, Syrian and Jordanian emigrants visit their home at least once or more annually, mainly because these emigrants are based in the GCC region, which is closer to their home countries. Besides the small distance between the host and home countries, foreign workers residing in the GCC region generally receive an annual travel allowance to visit their home countries. These two factors probably explain the relatively higher home visits by Syrian and Jordanian emigrants.[7] Interestingly, the same cannot be said for Mexico, which shares a border with the US. About 99% of Mexican emigrants live in the US. However, the average number of trips home is merely 0.06 per emigrant. As highlighted by the model in the previous section, unfavorable legal and economic circumstances, rather than distance, are probably behind this phenomenon. On the other hand, the bottom five countries with the lowest frequency of home visits are all from Africa. In these countries, for every 100 emigrants, at least one makes a visit to their home country in any given year. The lower GDP per capita of host countries, difficult cross-border transportation/travel conditions, workers' legal status in the host country and overall poorer working conditions at home are the likely explanations for the lack of home visits by African emigrants.

Finally, the simple associations of the number of visits by emigrants and a set of control variables are examined by way of bivariate scatter plots (Figure 1). Keeping in mind the

[7]There is, however, an interesting difference between Syrian and Jordanian emigrants living in the GCC region. Compared to Syrian emigrants, a higher proportion of Jordanians reside in the GCC region (0.28 versus 0.60). However, the fact that Syrian emigrants visit home more frequently than Jordanians indicate that the former are likely to engage in cross-border trading than being salaried workers, as in the case of the latter.

small sample for each correlation in this figure, the statistical relationships are suggestive at best. Notable observations include the following: both distance and the proportion of world's emigrants living in Africa are negatively correlated with visits; while weighted GDP per capita and CPI is positively correlated with visits. The large number of home visits by the top five countries (Syria, Jordan, Uruguay, Morocco and Algeria) is clearly visible in the figure.

5.2 Panel results

Table 4 presents the panel results based on the pooled OLS estimator separately for each of the control variables as well as for the full model. Since we expect the regressors to influence the dependent variable for all groups in a similar fashion, the pooled OLS estimator is the most appropriate technique because it does just that. It constrains the regression parameters to be the same across groups. Contextually, despite the heterogeneity of the sample, one would still expect the overall responses of the frequency of visits to distance and GDP to be similar across countries. A quick glance at Table 4 shows that, in most cases, the estimated parameters have the expected sign as discussed in Section 3. For example, distance has a negative influence on the number of visits by emigrants, which corroborates the evidence depicted in Figure 1a and is consistent with the literature on VFR (McCann et al., 2010). However, distance alone does not exert a statistically significant impact on Y_{it}.

Columns (2) to (7) report the estimated coefficients of the remaining regressors separately. In all but one case (i.e. Europe), the estimated coefficients have the correct sign and are strongly and statistically significant. For example, higher per capita GDP in the host countries causes emigrants to visit their home countries more frequently. Similarly, an improvement in perceived corruption in the home country leads to an increase in home visits by emigrants. The negative influence of Africa and North America as geographic destinations can be explained in light of their lower income opportunities and long-distance migration, respectively.[8] The positive coefficient for the GCC is expected in light of its favorable geographic location and the holiday travel allowance given to most migrant workers in these countries. The positive coefficient for Europe is unexpected because, unlike Algeria and Morocco, most of the remaining countries in our sample are a fairly long distance from Europe.

Column (8) reports the estimated parameters of the model containing economic determinants

[8]For Mexican migrants living in the US, a negative effect may arise due to their illegal status of Mexican migrant workers living in the US.

only. The parameters are statistically significant and are correctly signed over the sample period. Interestingly, unlike Model (1), distance now exerts a statistically significant influence on the number of home visits by emigrants. As can be seen, nearly half of the variation (R^2-statistic of 0.45) in the dependent variable is explained by these economic factors. Among the three economic determinants, the CPI has the largest influence on Y_{it}, implying that no matter how far the emigrants live or their actual economic status, emigrants care more about the (relative) institutional quality of their country in deciding whether to visit home or not. The CPI, which measures the perceived level of public-sector graft in a country, also has a strong connection with a country's human development index and the level of economic growth.[9] We also ran the regression replacing the CPI with the CL index. The estimated coefficient of CL, although statistically significant, shows the incorrect negative sign. Moreover, although the CL indicator measures the relative magnitude of freedom of expression of a country, the CPI measure is more broader and hence is used here as a proxy for institutional quality.

Column (9) presents the results for the full model. All the estimated coefficients have the expected sign and, except for weighted per capita GDP, the parameters are highly statistically significant. Distance has a negative influence on Y_{it} and its effect is reinforced in the full model, as indicated by the magnitude of the estimated coefficient. The loss of statistical significance of the weighted GDP series is probably due to its high (negative) correlation with Africa, as over half of our sampled countries belong to Africa. Dropping Africa from the full model provides a statistically significant coefficient for GDP, but the overall explanatory power of the model decreases (in terms of its R^2 statistic). The effect of the CPI (proxying domestic institutional quality) on Y_{it} is consistently positive and significant, although its influence in the full model is lower than that of other specifications. Among the four geographic series, only the estimated coefficient of the GCC exerts a positive impact on the frequency of home visit by emigrants, which is a reflection of the annual travel allowance foreign workers receive in the GCC compared to other regions. The negative sign for Europe, which is somewhat unexpected, can be explained by the presence of African migrants (barring Algeria and Morocco) in Europe, as well long-distance emigrants from Latin America and Asia-Pacific countries. Overall, the results of the pooled OLS are consistent with the predictions of our theoretical model.

[9] See Akçay (2006) and the references therein for the impact of corruption on human development and other economic components.

5.2.1 Robustness checks

Our pooled OLS model stood up to a good number of robustness experiments. The first sensitivity analysis was conducted by adding a dummy variable for the global financial crisis (taking 1 for 2008–2010 and 0 otherwise) in order to study the impact of the financial crisis on emigrants' decisions to visit their home countries. For brevity, the estimation is conducted on the full specification by applying the pooled OLS estimator (i.e. Column (9) in Table 4). We find that the coefficient on the financial crisis dummy is positive but statistically insignificant. The positive impact of the financial crisis can be interpreted in light of the significant global job losses in the wage sector, forcing migrants workers (particularly low-skilled workers) to return to their home countries. Second, we experimented by adding a dummy variable for war in the home countries (equaling 1 if the country was at war and 0 otherwise) to find out the obvious link between war and the decision to visit home. Indeed, the results reveal the significantly negative effect of war on emigrants' decisions to visit their home countries. In fact, adding a dummy for war makes no noticeable changes in the other variables (in terms of the magnitude, sign or significance of the coefficients). The most likely explanation for this result is that during our sample period, only four countries (i.e. Algeria, the Dominican Republic, Eritrea and Mali) had the experience of a war, often lasting for a short duration.

5.3 Addressing heterogeneity

A well-known limitation of the pooled OLS model is that it ignores unobserved heterogeneity across individual members of the panel. The standard approach to deal with this issue is to either apply a FE model or a RE model. In the FE model, α_i replaces α_0 in Equation (6) and is permitted to be correlated with the explanatory variables. In contrast, the RE model assumes that α_i is purely random and is uncorrelated with the regressors. To this end, we re-estimate Equation (6) using both the FE and RE models and use the Hausman test to choose between the FE and RE models. The null hypothesis of the Hausman test is that individual effects are random, versus the alternative that these effects diverge (i.e. it favors the FE model). The p-value of the Hausman test is 0.00, implying that a FE model is selected over a RE model.

Table 5 presents the results obtained from the FE model. A look at the results reveals that controlling for unobserved heterogeneity did not yield any better results than the pooled OLS model. First, there are similarities in terms of the predicted effects of the regressors on the dependent variable. For example, although they are different in magnitude, the directions of

the estimates of distance, GDP, GCC and North America are similar to those of the pooled OLS model (see Column 9 in Table 5). Where these two models differ, the estimates of the FE model are unreasonable. For instance, the estimated coefficient of CPI is negative, which incorrectly states that a decrease in institutional quality in home country results in a higher number of visits by emigrants. Similarly, the estimated coefficients for Africa and Europe have the incorrect sign relative to what we would expect, although these effects are not statistically significant. Nevertheless, an F test of the null hypothesis that the constant terms are equal across units is rejected, indicating that the FE model is better than the pooled OLS model.

However, both the pooled OLS and FE models ignore the possibility that the regression errors in Equation (6) may be cross-sectionally dependent. The presence of cross-sectional dependence may be justified due to common shocks such as macroeconomic, political and sociological shocks. However, the main hurdle in modeling cross-sectional dependence in our panel data model is the lack of time periods that are common to the cross-section in the panel. This was the case with the estimator proposed by Beck and Katz (1995), which allows residuals to be cross-sectionally dependent. Furthermore, given that our panel has its N higher than its T, alternative estimators such as panel GLS or seemingly unrelated regression are also ruled out (Moon and Perron 2008). Another point of concern is the presence of time fixed effects (TFE), which account for any systematic differences in the dependent variable across years through the intercept of the panel regression model. With relation to Equation (6), the TFE can be interpreted as the impact of any year-specific effect such as changes in economic, political or social condition at time $t(= 1, ..., T)$ on migrants' decisions to visit their home country or not. A test is undertaken by estimating a FE model, as in Equation (6), augmented with years as time dummy variables. The results indicate that the null hypothesis of a joint test to see if the time dummies for all years are equal to zero cannot be rejected (p =0.323). In other words, there is no need to incorporate TFE in the panel regression and that the one-way FE model, where the effect is attached to the country, is sufficient.

Finally, appropriate allowance is made to adjust the standard errors of the coefficient estimates for the possible presence of heteroskedasticity and autocorrelation in the panel data. The heteroskedasticity test follows the modified Wald statistic for group-wise heteroskedasticity in the residuals of a FE regression model, as discussed in Greene (2000, p. 598). The null hypothesis of the modified Wald test specifies that the variances of the cross-sectional units are identical, or errors are homoskedastic. Whereas, the test for autocorrelation follows the test

discussed in Wooldridge (2002) with the null hypothesis that there is no serial correlation in the regression. The results show that both the null hypotheses of no heteroskedasticity and no serial correlation are strongly rejected at the 1% level ($p < 0.01$). Hence, the standard errors reported in Tables 4 and 5 are corrected for the presence of heteroskedasticity and autocorrelation in the data.

5.4 Cross-section estimation

We now turn to the cross-sectional implications of our empirical model. As before, the dependent variable is the number of visits by emigrants to their respective home country. The cross-section regression uses time-averaged data to estimate the parameters, thus providing a long-run perspective of the determinants of the volatility in cross-border asset returns. For using cross-sectional regressions of time-averaged data, Phillips and Moon (1999) showed that both the pooled OLS regression and the FE regression provide consistent estimates of this long-run average relationship. This is because the relations are parameterized in terms of the matrix regression coefficients of the long-run average covariance matrix for the cross-section, instead of the covariance matrix for the data (as used in conventional regressions). We therefore follow Phillips and Moon (1999) and interpret the estimated coefficients as average cross-country long-run effects.

The results of the cross-sectional regression are shown in Table 6. For brevity, only the estimates of the full model with all regressors are shown. The results are somewhat similar to those of the pooled OLS model (cf. Table 4). However, there are some exceptions. First, the impact of the distance variable is no longer statistically significant. Second, the estimated sign of the weighted GDP is negative, although the effect is statistically insignificant. Third, similar to the pooled OLS model, the cross-sectional model also produces negative (positive) effects for emigrants living in Africa and North America (the GCC) on the frequency of home visits. Overall, both the cross-sectional and panel estimates provide somewhat similar results, leading us to conclude that results obtained in this study are indeed robust.

6 Conclusions

We have examined the factors that determine emigrants' decisions to visit their home countries. To guide the empirical work, we first develop a simple model of migration and derive testable

hypotheses about the impact of these factors on the frequency of home visits. We then test the predictions of our model in a panel study of 25 countries and find that the number of trips back home is inversely related to distance but positively related to income and institutional quality. Emigrants living in Africa and North America are adversely affected either by lower income opportunities or the long distance with regards to the decision to visit home. In contrast, emigrants living in the GCC region visit home countries more frequently, mainly due to the holiday travel allowance which most immigrant workers in this region are entitled to receive. However, the effect of Europe on the frequency of home visits is ambiguous. Overall, the empirical results are consistent with the predictions of our theoretical model.

This paper has a clear policy implication. Expatriates of many countries at times choose to vacation elsewhere when their home country is perceived to be unsafe, unruly, undemocratic and ravaged by the plague of poverty. One way governments have to encourage development is through tourism. This paper has established that success in attracting higher tourism flows from both foreigners and emigrants can be attributed to institutional quality. That is, governments are to promote democracy, reduce corruption and implement market reforms to induce emigrants who, for whatever reason, cannot return home permanently can visit home from time to time to insulate the domestic economy. Overall, our analysis contributes to the burgeoning branch of literature on tourism migration by addressing the macroeconomic and geographic factors explaining the frequency of trips emigrants make back home.

Table 1: List of countries

Code	Country
DZ	Algeria
BZ	Belize
BW	Botswana
BF	Burkina Faso
CN	China
DO	Dominican Republic
ER	Eritrea
ET	Ethiopia
GM	Gambia
GH	Ghana
WG	Grenada
GN	Guinea
JO	Jordan
MW	Malawi
ML	Mali
MX	Mexico
MA	Morocco
NI	Nicaragua
PE	Peru
PH	Philippines
SN	Senegal
SY	Syrian Arab Republic
TH	Thailand
UY	Uruguay
VN	Vietnam

Note: Two-letter country codes are defined in ISO 3166-1.

Table 2: Panel descriptive statistics

Variables	Mean	Std. Dev.	Minimum	Maximum
Emigrant	0.324	0.413	< 0.01	2.004
Distance	2887.264	2307.261	564.601	8753.184
GDP	17427.30	12180.20	364.473	47929.810
Africa	0.269	0.388	0.0	0.993
GCC	0.071	0.149	0.0	0.611
Europe	0.122	0.214	<0.01	0.858
North America	0.290	0.302	<0.01	0.988
CPI	34.472	11.097	16.0	72.0
CL	6.321	1.576	3.0	9.0

Note: Total observations = 271 ($N = 25 \times$ average $T = 10.8$).
GDP – Gross Domestic Product; CPI – Corruption Perception Index; CL – Civil Liberty Index; GCC – Gulf Cooperation Council.

Table 3: Number of visits per emigrant, 1995–2010

Top 5		Bottom 5	
Syria	1.26	Burkina Faso	0.003
Jordan	1.01	Mali	0.006
Uruguay	0.97	Gambia	0.006
Morocco	0.81	Guinea	0.007
Algeria	0.61	Malawi	0.016

Table 4: Estimation results: pooled OLS

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	0.373*	-0.571***	-2.670***	0.444***	0.212***	0.256***	0.389***	-1.850***	1.753***
	(0.193)	(0.068)	(0.222)	(0.032)	(0.020)	(0.027)	(0.038)	(0.297)	(0.621)
log(Distance$_{it}$)	-0.006							-0.214***	-0.297***
	(0.024)							(0.033)	(0.421)
log(GDP$_{it}$)		0.097***						0.146***	0.003
		(0.009)						(0.019)	(0.016)
log(CPI$_{it}$)			0.856***					0.706***	0.334***
			(0.064)					(0.070)	(0.091)
Africa$_{it}$				-0.445***					-0.930***
				(0.036)					(0.152)
GCC$_{it}$					1.559***				0.806***
					(0.170)				(0.177)
Europe$_{it}$						0.549***			-0.274**
						(0.079)			(0.131)
North America$_{it}$							-0.225***		-0.401***
							(0.054)		(0.127)
R^2	<0.01	0.103	0.357	0.175	0.317	0.081	0.027	0.455	0.688

Note: The dependent variable is "the number of visits by emigrants to their respective home country". Robust standard errors are shown in brackets. Total observations equal 271. GCC refers to Gulf Cooperation Council countries. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Table 5: Estimation results: fixed effects model

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	4.722**	-1.091***	2.288**	0.272***	0.205***	0.315***	0.828*	5.213***	5.199***
	(1.843)	(1.316)	(1.126)	(0.097)	(0.007)	(0.023)	(0.481)	(1.574)	(1.000)
log(Distance$_{it}$)	-0.572**							-0.767***	-0.668***
	(0.239)							(0.220)	(0.153)
log(GDP$_{it}$)		0.153						0.285**	0.241*
		(0.142)						(0.115)	(0.124)
log(CPI$_{it}$)			-0.561*					-0.462*	-0.447*
			(0.322)					(0.250)	(0.252)
Africa$_{it}$				0.191					0.256
				(0.360)					(1.598)
GCC$_{it}$					1.656***				0.969***
					(0.097)				(0.282)
Europe$_{it}$						0.073			0.088
						(0.194)			(0.286)
North America$_{it}$							-1.737		-1.879***
							(1.655)		(0.667)

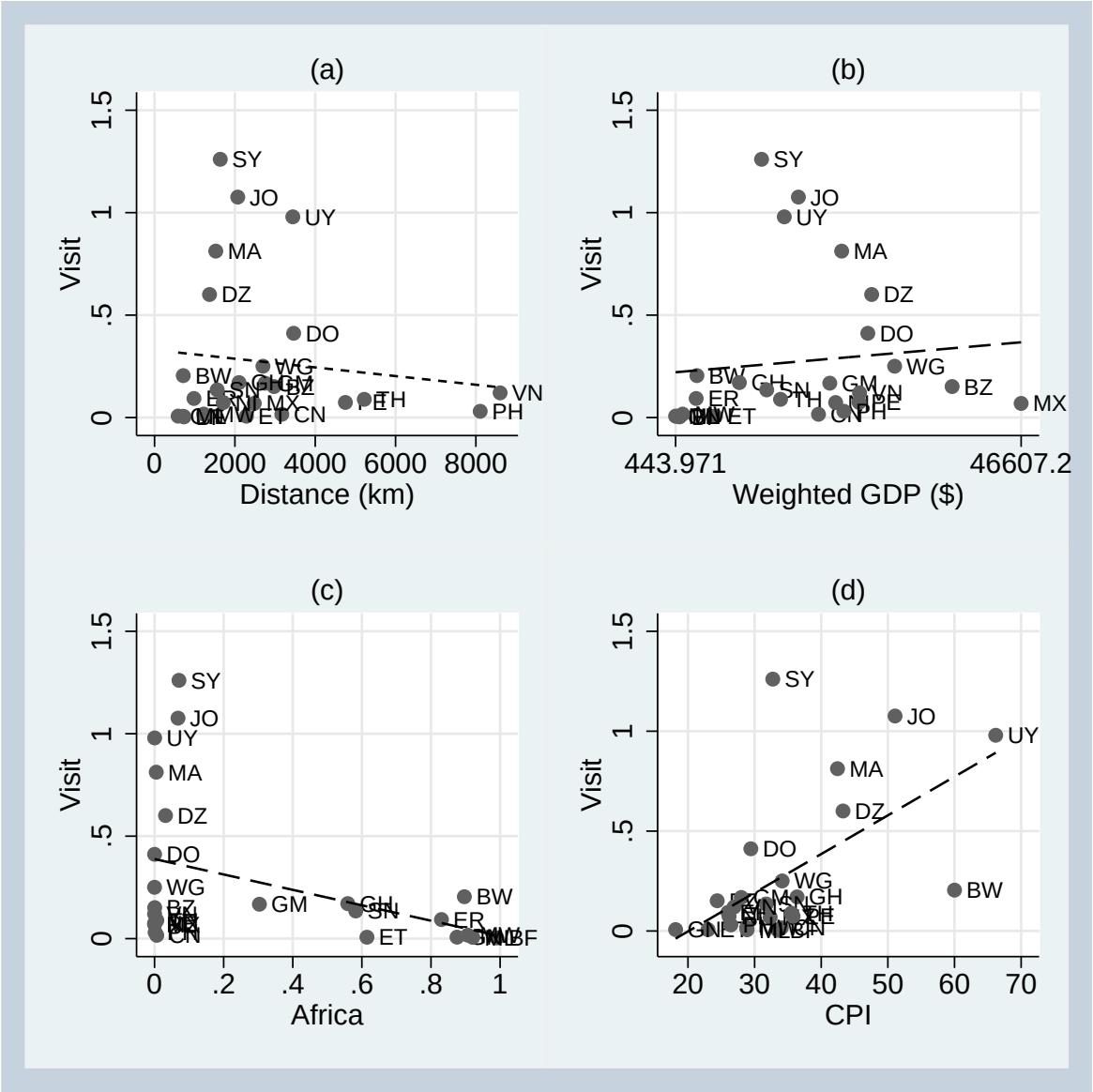
Note: The dependent variable is "the number of visits by emigrants to their respective home country". Robust standard errors are shown in brackets. Total observations equal 271. GCC refers to Gulf Cooperation Council countries. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Table 6: Estimation results: cross-sectional model

Variables	Estimates
Constant	1.019
	(1.425)
$\log(\text{Distance}_{it})$	-0.199
	(0.130)
$\log(\text{GDP}_{it})$	-0.046
	(0.065)
$\log(\text{CPI}_{it})$	0.407*
	(0.225)
Africa_{it}	-0.744
	(0.400)
GCC_{it}	1.075**
	(0.478)
Europe_{it}	0.0418
	(0.369)
$\text{North America}_{it}$	-0.206
	(0.330)
R^2	0.737

Note: The dependent variable is "the number of visits by emigrants to their respective home country". Robust standard errors are shown in brackets. Total observations equal 25. GCC refers to Gulf Cooperation Council countries. ** and * indicate statistical significance at the 5% and 10% levels, respectively.

Figure 1: Scatter plots of number of visits against selected variables



Note: The dependent variable is the number of visits by emigrants to their respective home country. (a) distance (kilometers) between the capital cities of countries i (home) and j (host); (b) weighted GDP ($); (c) fraction of emigrants living in Africa; (d) corruption perception index (CPI). The relationships are based on cross-sectional average of 1995–2010 data for 25 countries. See Table 1 for the list of countries and their two-letter codes.

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