

Diaspora Bonds and Cross-Border Capital¹

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While it is generally recognized that we live in an increasingly globalized world, it is also abundantly evident that the effects of globalization are unequal. Despite the enormous size of global capital markets—as evidenced by figure 1—peoples, states and economies have varying degrees of access to international financial markets. The ability of public and private entities to attract global investment has dramatic consequences for growth, development and equality. And, it is why scholars have devoted significant energies to understanding the factors that lead capital to flow from one country to another. A dominant line of thinking holds that institutional differences across countries explains why some countries are able borrow internationally while others are not. Countries with institutions that enable policy makers to demonstrate a credible commitment to stable and liberal economic policies, so the argument goes, are able to attract investment because investors envision a lower risk of expropriation (Alfaro, Kelemlı-Ozcan, & Volosovych, 2006; Buthe & Milner, 2006; Jensen, 2003; Pevehouse, 2002).

It is difficult to overstate the importance of credible commitments. The institutional story, however, only gets us so far in understanding the pattern of international investment. Even

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countries with high quality institutions or that are members of a large number of international agreements may have difficulty accessing international capital markets. Consider the relationships in figures 2 and 3 which plot the log of portfolio investment against indicators of domestic and international commitments for the year 2002. In the aggregate these figures show a positive relationship between portfolio investment and these institutions.² But for every India -- high on both investment and institutions -- there is a China -- high on investment but low on institutions.

While not dismissing the importance of institutions, we argue that investors are faced with tremendous asymmetries of information when considering alternative investment environments. Investors may not know about investment opportunities within various countries. Further, investors may not know the extent to which policy makers in particular countries are committed to protecting foreign investment. We argue that migrant networks--connections between migrant communities in the investing country and the migrant's country of origin--facilitate cross-border investment by decreasing information asymmetries. Because migrants have specific information about language, customs, culture, and regulations in potential markets, they help resolve informational hurdles associated with cross-border investment. Further, because migrants are dispersed across a wide range of countries they can act as an enforcement mechanism, steering investment towards stable markets and directing it away from others. Finally, migrant networks can help separate relevant information from noise--something especially important in an environment when investors are bombarded with massive amounts of information on a daily basis.

We examine the effect of migrant networks on cross-national investment patterns using a dyadic data set composed of investment from 58 source countries into 120 destination countries

² The bivariate correlation between the log of investment and the democracy score (using the POLITY score) is 0.61; the bivariate correlation between investment and the total number of preferential trade agreements is 0.56.

for the year 2002. Empirically we ask how migrant networks influence both portfolio and foreign direct investment.³ Looking at both portfolio and foreign direct investment allows us to evaluate the generality of our argument because these two types of investment are fundamentally different. While portfolio investors purchase stocks and bonds in open markets, foreign direct investors own a fixed stake in plant or machinery. Additionally, portfolio and foreign direct investment differ in terms of their heterogeneity: while portfolio investment opportunities are bounded by the offerings of private and public entities, foreign direct investments represent a seemingly endless set of options. Both the ownership structure and heterogeneity of these investments means that investors are faced with investment opportunities that differ in terms of both their risk and their expected return.

Viewing migrant networks as an information transmission mechanism influencing investment is a natural extension of existing work trade in the absence of formal institutions. Drawing on Grief's (1989, 1993) work on the Maghribi traders of the 11th century, Rauch and Trindade (2002) provide empirical evidence that the overseas Chinese help link buyers to sellers across national borders. Giving pride of place to migrant networks in explaining the cross-national distribution of capital allows us to speak to a number of seemingly disparate literatures. Broadly speaking, our emphasis on cross-national migrant networks as a conduit for capital flows is a natural extension of Keohane and Nye's (1974) work on transnational--or nongovernmental--relations between states. While other scholarship from international relations fits within the category of transnationalism, it tends to focus on non-governmental or inter-governmental organizations (e.g., Keck and Sikkink 1998; Slaughter 2004).

Emphasizing the importance of migrant networks in cross-national investment provides another mechanism--this one non-institutional--by which we can understand the growing

³ Javorcik, Ozden, Spatareanu and Neagu (2006) explore the link between migrant networks in the US and US foreign direct investment.

degree of interdependence that exists within the international system. From the perspective of international relations theory our emphasis on migrant communities beyond borders allows us to contribute to a growing interest in diaspora politics--scholarship examining the extent to which nativist or ancestral ties lead migrant populations to influence policies in their homeland (e.g., Shain and Barth 2003; Sheffer 2003). And by privileging human networks, we highlight the importance of mechanisms other than formal institutions for transmitting information and for sanctioning defection.

Following a brief literature review, the argument linking migrant networks to cross-national investment is developed and hypotheses are derived in section 2. Section 3 discusses the sample, data and measures used to test our hypotheses and section 4 contains empirical results. Section 5 concludes.

I. Determinants of International Investment

Consider an investor in country j deciding whether to purchase stocks and/or bonds in a foreign country i_1 . The investor compares the expected return on an investment in country i_1 to the expected return in country j as well as the expected return in country i_2 . How does an investor decide where to invest? One set of scholarship explicitly assumes that investors are risk averse and use the international asset pricing model (ICAPM) to understand international portfolio diversification. ICAPM models conclude that in the absence of information asymmetries and transaction costs, investors should hold domestic assets in their portfolio in proportion to their country's share of global market capitalization.⁴ The intuition behind this result is that the risk of an individual's entire portfolio can be reduced by holding foreign assets

⁴ See Lane (2005) and Lane and Milesi-Ferretti (2004) for studies of bilateral investment that are explicitly derived from the ICAPM model. Elton, Gruber, Brown and Goetzmann (2003) is a textbook exposition of capital asset pricing models.

that are negatively correlated returns in the home country. This allows an investor to achieve at least average returns while minimizing the overall variance of the portfolio.

Empirical work, however, finds little support for the result of the ICAPM and documents the existence of a “home bias”—a situation where investors prefer to invest at home rather than abroad.⁵ The “home bias” is puzzling because it means that investors are not only foregoing higher returns from investing abroad but they are also holding a portfolio that is not sufficiently diversified. Scholars have argued that a large measure of the home bias can be explained in terms of information asymmetries. Kang and Stulz (1997), for example, document that foreign investors in Japan disproportionately own more shares of those firms whose information is more readily available. More generally, Tesar and Werner (1995, p.479) argue that factors such as “language, institutional and regulatory difference” explain the propensity of investors to invest at home rather than abroad. French and Poterba (1991) also account for home bias with reference to a set of factors they broadly categorize as “familiarity” effects.

Though not explicitly rooted in the ICAPM, scholars studying global capital flows have been concerned with the prospect that investors will not realize a return on their investment due not to the poor performance of the investment itself but rather because of expropriation risk. These studies are rooted in the commitment problem: investors in country j make decision to invest in country i_1 at time t and hope to realize a return at time $t+1$. Once the investment has been made, politicians in country i_1 have an incentive to expropriate the investment either directly through nationalization or indirectly by changing tax rules, altering investment requirements, and/or imposing capital controls. Knowing this, investors will be less likely to invest in country i_1 , preferring instead to invest in country i_2 or in country j if they believe the risk of expropriation is lower either of the latter two countries.

⁵ See French and Poterba (1991) and Tesar and Werner (1995). Lewis (1999) contains a review of the relevant literature.

Rather than focus on the decision of an investor in country j , scholarly work in this tradition centers on understanding how politicians in country i demonstrate that they are credibly committed to the preservation of stable and liberal markets. Empirically these studies ask whether different institutional structures help solve the commitment problem and provide borrowing countries with better access to international capital markets.

One set of scholarly contributions argues that domestic political institutions can signal a commitment to the protection of property rights. These contributions are of two related types. The first identifies the nature of the political regime and argues that democracies are better able than autocracies to commit to the protection of private property rights and, consequently, are less likely to engage in expropriation. Two mechanisms are identified in this literature. On the one hand, democratic institutions usually have a larger number of checks and balances than autocracies which makes rapid and dramatic policy reversals difficult or impossible, and which, in turn, provides investors with relatively stable expectations (Hiensz 2000). Another stream of literature argues that democratic leaders face large “audience costs” which translate into negative electoral consequences if they renege on publicly made commitments (Jensen 2003). Regardless of whether democratic institutions provide checks and balances or audience costs, the implication is that democracies should attract more international investment than autocracies.

While the democratic institutions literature focuses on the stability of policy, a related literature concerns itself with aggregate measures related to institutional quality and good governance (Alfaro, et al 2006). Drawing on the theoretical contributions of Douglass North (1981, 2005), these studies view governance and institutional quality as a cluster of characteristics including the protection of private property rights, the existence of an independent judiciary, the provision of constitutional rights, and the absence of public

corruption. Countries that have these institutional characteristics are favored by international investors who value transparency, the rule of law and low corruption (Wei 2000).

A second strand of literature argues that international--rather than domestic--institutions play a pivotal role in allowing politicians to demonstrate their commitment to stable economic policies. Membership in regional trade agreements (RTA), preferential trade agreements (PTA), and multilateral organizations (e.g., the World Trade Organization) provide a mechanism with which politicians can signal both domestic and international audiences (investors) that they are committed to political and economic reform (Pevehouse 2002). And membership in an international agreement can serve as a signal of a government's commitment even if the agreement itself has nothing to do with investment. Fernandez-Arias and Spiegel (2003) provide a discussion of the spill over effects of RTAs and conclude that they "can serve as credibility-enhancing mechanisms that induce additional foreign capital flows into Southern partner countries." Buthe and Milner (2006) amass broad cross-national and time-series evidence and find that the number of PTAs that a country is a member of increases that country's ability to attract direct foreign investment.

The literatures discussed thus have an important difference: ICAPM models explicitly focus on the relationship between two countries--the source of the investment (country j) and the destination of the investment (country i)--while institutional stories assume an aggregate capital pool that interprets institutional indicators identically. Consider again figures 2 and 3 which plots the log of portfolio investment (stocks + bonds) against measures of domestic and international institutions.⁶ While it does appear that there is a positive bivariate relationship between aggregate portfolio investment and institutions a large number of countries do not fit this pattern. We can view this relationship in another way: in figure 4 we plot the log of

⁶ Plotting portfolio investment against measures of institutional quality--defined below--reveals a similar pattern.

portfolio investment in both China and India and identify the source of the investment (country j). The pattern is again informative: both the United States and the United Kingdom invest roughly equal amounts in both China and India—two countries that are almost polar opposites in terms of their domestic and international commitment institutions. Arguments concerning familiarity and the commonality of language/institutions derived from the home bias literature could likewise explain US and UK investment in India but would have difficulty understanding similar investment in China. The same can be said about Austrian, South African and Israeli investment across these two destinations.

We argue that both the ICAPM and institutional arguments are useful starting points for understanding investment. In the next section we develop our arguments and hypotheses connecting migrant networks to cross-national portfolio investment.

II. Migrant Networks as a Conduit for Capital

A network can be understood as a group of actors that either know or can learn about each other's characteristics (Granovetter 1973). Scholars have long recognized the importance of social networks for fostering economic exchange either when formal institutions are absent or when they are incomplete (e.g., North 2005).⁷ We argue that migrant networks help facilitate cross-national investment by helping reduce asymmetries of information between source (j) and destination (i) countries and by mitigating transaction costs that may otherwise prevent economic exchange. First, investors in a source country (j) can become familiar with characteristics of a destination country (i) through their connections to, and observation of, migrant communities that exist in their country. This “familiarity effect” allows investors to make inferences about the quality of labor, the work ethic and/or business culture that exists in

⁷ The relational approach to economic sociology focuses on relations between parties to a transaction rather than on the transaction itself. This view, that economic processes are “embedded” in social relations, has been used to study labor markets (Granovetter 1973), business transactions (Uzzi 1996), and foreign direct investment (Bandelj 2002).

a particular destination. Second, migrants may have specific and actionable information about business opportunities in their home country, information that they can either share with investors or use directly. We call this a “matching effect.” Finally, migrant networks have a “reputation effect” by which they can share information across countries of residence about the credibility of government policies in their home country.⁸ We discuss these mechanisms in more detail in what follows.

As already noted, investors may choose opportunities at home rather than abroad when they have limited information. In the aggregate there is some evidence that familiarity--conceived of in various ways--can decrease this home bias and can increase bilateral economic transactions. Gravity models of international trade, for example, find that bilateral trade is larger between countries that share a common colonial heritage or that have a common official language (Goldstein, Rivers, & Tomz, 2007; Rose, 2000). A growing literature examining the effect of culture on economic exchange also finds that countries that share a common “culture” have more trust in one another and, consequently, engage in more bilateral trade and direct foreign investment (e.g., Guiso, Sapienza and Zingales 2005).

We argue that migrant networks play a part in cross-national investment that is similar to that played by common language and colonial origin in studies of international trade. A migrant community from India residing in the United States, for example, can provide US investors with a signal of the work ethic, labor quality and business culture that exists in India. These signals enhance the quality of information that US investors have about India allowing them to make forecasts about their ability to invest in potentially profitable assets offered on

⁸ We should note that there are other mechanisms by which migrant networks channel capital back to their home country. Studies of overseas migrant communities have documented the role that co-ethnic networks play in transmitting technical information and investment capital back to their country of origin (e.g., Saxenian, 2002, 2006). More recent contributions have demonstrated the importance of migrant networks for channeling capital in the form of remittances (Gupta, 2005; Leuth & Ruiz-Arranz, 2006; Ratha & Shaw, 2007).

the Indian market. In his study of the Indian community residing in the United States, Kapur (2001) explains how the mere presence of that community enhances investment opportunities in India: “Companies like Yahoo, Hewlett Packard and General Electric have opened R&D centers in India largely because of the confidence engendered by the presence of many Indians working in their US operations. This points to the cognitive effects arising from the projection of a coherent, appealing, and progressive identity on the part of the diaspora which signals an image of prosperity and progress to potential investors and consumers.”⁹

Along with the provision of an image of their home country, migrant networks can provide business opportunities through formal (e.g., business) or informal (e.g., familial) contacts in their home country. These linkages have been extensively documented in studies of specific industries and migrant communities, although they are likely best documented in studies of the overseas Chinese (Rauch and Casella 2001). In their study, the *Bamboo Network*, Weidenbaum and Hughes (1996) detail the comparative advantage overseas Chinese have when it comes to investing in China and argue that it goes well beyond commonality of language, knowledge of cultural and legal barriers, and pre-existing familial connections. Wang’s study shows how ethnic Chinese residing abroad provide a “linkage between China and the rest of the world [in that they] facilitate the understanding of and access to *guanxi* networks by other foreign investors. Without the agency of ethnic Chinese, it would have been much more difficult for foreign companies to use informal personal networks to complement and compensate for the weak formal legal institutions in China” (Wang, 2000).

These familiarity effects are important as they help investors overcome general problems associated with information asymmetries. Migrant communities can also play a more direct role in facilitating cross-national portfolio investment by helping reduce barriers to entry--

⁹ Kapur and McHale (2006) refer to this as “branding” and argue that the Indian diaspora has created a brand name by signaling the potential productivity and trustworthiness of their countrymen.

through knowledge of language, institutional rules and/or regulatory hurdles—that may otherwise prevent a foreign investor from purchasing equities or bonds. This knowledge of on-the-ground conditions is costly (and not necessarily private) and provides investors with the ability to “match” investments with investment opportunities as they exist. This “matching” function of migrant networks has been observed in studies of international trade where Rauch and Trindade (2002) find that migrant generated information helps match buyers with sellers; a function that becomes more importance as goods become increasingly heterogeneous.¹⁰ We return to the importance of heterogeneity below.

Migrant networks provide investors with an informational advantage as they are in a position to have information regarding investment opportunities in their home country. Bandelj (2002) provides some evidence concerning the investment behavior of Western European and North American investors after the opening of markets in Eastern Europe. Investment in Eastern European countries was “often based on ethnic ties between sizable and relatively affluence expatriate communities and their home countries” (p.421). There was an informational advantage as “firms amassed information about investment opportunities through their business or personal ties” (Bandelj 2002, p.412). This informational advantage can translate into higher than average expected returns if the migrant herself has a higher level of human capital. In his assessment of the Armenian diaspora, Freinkman notes that “when compared to the average economic agent, diaspora businessmen and professionals face a lower risk of becoming the first movers. They benefit from a specific informational advantage: common cultural background and established social links between diaspora and local entrepreneurs help them to reduce transaction costs of new entry and building new partnerships” (Freinkman, 2002).

¹⁰ The role of migrant networks in facilitating bilateral trade has been studied by Gould (1994) for the United States and by Head and Reis (1998) for Canada.

Connections between migrant communities across countries effect cross-national investment even when these connections do not provide information about investment opportunities. In his work on the Maghribi traders of the 11th century, Grief argues that this trading network was effective because it was able to credibly threaten collective punishment by all merchants if even one of them defected (Grief 1989, 1993). Grief shows that this co-ethnic network was able to share information regarding the past actions of actors (they could communicate a reputation); something that was essential for the efficient functioning of markets in the absence of formal legal rules. Weidenbaum and Hughes reach a similar conclusion about the effectiveness of the Bamboo Network, remarking that “If a business owner violates an agreement, he is blacklisted. This is far worse than being sued, because the entire Chinese networks will refrain from doing business with the guilty party” (1996, p.51).

We hypothesize that larger migrant networks, because they provide costly and private information, will exert a positive influence on cross-border investment. The effect of migrant networks should increase when the migrants themselves are the entrepreneurs because there will be lower barriers to entry and even smaller asymmetries of information. But, not all information, however, is positive. Migrant networks may pass on information that the regime in their home country is corrupt or that the potential for expropriation is high. Migrant communities that carry negative information about their home country should actually serve to decrease investment into their country of origin.

The positive effect of migrant networks on cross-national investment is predicated not only on the transmission of information in general, but on the provision of information that allows the investor to make a higher than expected return. In efficient markets investors can profit by exploiting costly or private information—information that is not (yet) available to all market participants. We argue that migrant networks facilitate cross-border investment by providing

private information—either directly or through the familiarity channel—to investors. The aggregate nature of our data makes it difficult to directly test the effect of private information so we follow Rauch and Trindade (2002) and argue that migrant networks should play a larger role in the trade of heterogeneous assets than in trade in homogenous assets. This is because the information asymmetries associated with heterogeneous assets are significantly larger than those associated with homogenous assets. Foreign direct investment opportunities vary by commodity class and by ownership stake and constitute a more heterogeneous class of investment opportunities than portfolio investment opportunities which are defined by the issuing agency. Because FDI faces higher risks of expropriation, information about the investment environment is more valuable. We hypothesize, therefore, that the effect of migrant networks on foreign direct investment will be larger than the effect of migrant networks on portfolio investment, all else equal.

In the next section we discuss the empirical model, data and variables used to test these hypotheses. Empirical results follow.

III. Empirical Model, Sample, Data and Variables

We embed our hypothesis tests within a gravity model of trade in financial assets. While traditionally used to study trade in commodities, the gravity model has recently been used to examine bilateral trade in financial assets.¹¹ The gravity model stipulates that trade between two countries should be positively associated with their two masses (as measured by the size of their economies) and negatively associated with the distance between them. Economic size should be positive as larger economies have more opportunities to engage in economic

¹¹ Rose (2000) applies the gravity model to international trade in commodities and Goldstein, Rivers and Tomz (2007) likewise use a gravity model to explore the effect of the WTO on international trade. Portes, Rey and Oh (2001), Lane and Milesi-Ferretti (2004), Portes and Rey (2005), Lane (2005), and Eichengreen and Luengnaruemitchai (2006) use a gravity model to examine bilateral investment in equities and bonds.

exchange. Distance, on the other hand, proxies for the cost of transporting goods between two countries. Empirical implementations of gravity models have modified this basic model to include other measures associated with transportation, transaction and information costs. Studies of bilateral trade find, for example, that countries that share a common language (a proxy for transaction costs) trade more with each other as do countries that have a common colonial history (a proxy for information costs). When applied to trade in financial assets, studies have also found that cross-national investment is a positive function of economic size, common language, shared colonial history, and a negative function of distance (e.g., Eichengreen & Luengnaruemitchai, 2006; Portes & Rey, 2005). We take this augmented gravity model as our point of departure and use it to investigate the effect of migrant networks.

To examine the link between migrant networks and bilateral portfolio investment we use data from the International Monetary Fund's Coordinated Portfolio Investment Survey (CPIS). The CPIS collects information on the stock of cross-border investments in equities and in short and long-term bonds broken down by issuer's country of residence. For the 2002 CPIS 62 countries participated and reported holdings for over 150 destination countries.¹² Because of data constraints we are able to use data on the investment portfolio of 58 origin (reporting) countries and 120 destination countries. The list of origin and destination countries is contained in appendix 2 while descriptive statistics and specifics regarding data sources are in appendix 1.

Our data on FDI come from the OECD's International Direct Investment Statistics which reports aggregate annual measures. This source is limited in that it only provides data for

¹² Lane and Milesi-Ferretti (2003) and Eichengreen and Luengnaruemitchai (2006) point out some advantages and disadvantages of the CPIS data. In designing the survey the IMF has attempted to ensure comparability across countries; to that end the surveys are structured to prevent double counting. That said, the CPIS does not report the domestic holdings of investors, which makes testing theories of portfolio allocation and home bias difficult with this data, and it is possible that there is some under-reporting. Most significantly for our purposes, it does not have data on the foreign holdings of a few large origin countries including China and Saudi Arabia (though it does have these countries as destinations).

outflows from OECD countries. Therefore our sample is restricted to a sample of 26 origin countries and 120 destination countries.

Our key independent variable—that of migrant networks—measures the stock (or total number) of migrants from country i residing in country j . This data comes from a World Bank project on South-South migration and remittances and is based on data from national statistical bureaus (censuses and population registers) and secondary sources (OECD, ILO and UN). A 162 x 162 matrix of the migrant stock in country j from country i classified according the migrant's country of birth is constructed from these national sources (Ratha and Shaw 2007). While some of the underlying data is from the late 1990s the majority corresponds to migrant stock for 2000 or 2001. We assume that population does not change dramatically over time and treat it as measuring migrant stock in 2001.

Following the gravity approach to trade we measure the size of the origin and destination economies in terms of their total gross national product using data from the Penn World Tables (Mark 6.2) augmented with data from the World Bank's World Development Indicators. We also account for the distance between the origin and destination countries as well as whether they have a common colonial heritage and if, by law, they have the same official language. These three variables are from the CEPII bilateral distance dataset.

Taking our cue from earlier work applying the gravity model to trade in financial assets we add measures of the destination country's capital account policy and capital stock. Specifically we include a variable from the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* that is coded 1 if the destination country has controls on capital market securities and 0 otherwise. We proxy for the capital stock by including a variable that measures the average years of education obtained by the population in the destination. The use of a human capital measure has two advantages over using indicators of financial capital. First, the stock of

financial capital—even lagged—is likely correlated with the stock of portfolio investment in the destination. Second, as we are interested in the influence of migrant networks, controlling for the stock of human capital in country i should decrease the effect of these networks if it is only the highly educated who emigrate.

We include a variable measuring the correlation in growth rates between the source and destination country as a means of accounting for risk diversification: ICAPM models hold that source countries should invest in destinations with dissimilar business cycles to diversify their portfolios. To minimize the risk of reverse causality—running from investment to correlated growth rates—we calculate the correlation in growth rates using a 5 year moving average.

Countries are, all things equal, more likely to invest where risks of exchange rate depreciation are smaller and where there are minimal transactions costs associated with converting foreign to domestic currency. We therefore include a variable that is coded 1 if the source and destination countries either share the same currency (e.g., dollarization) or they both peg to the same currency. Along these lines we also control for the existence of a dual tax treaty—a bilateral agreement that prevents double taxation.

Following our discussion of the existing literature we use two different variables to measure domestic institutional constraints, one that taps political stability and one that captures institutional transparency. The first is a measure of institutional democracy, which, all things being equal, should proxy for the stability of the political environment in the destination country. We use the Polity measure of democracy which is a 21 point scale running from -10 to +10 with higher values indicating more democratic institutions. We also measure the quality of domestic institutions using measures from the World Bank's project on governance. For our measure of governance we sum the indicators corresponding to voice and accountability, political stability, regulatory quality, rule of law and control of corruption.

Destination countries with higher values on this index have better and more transparent political institutions.

We use three measures to account for international institutional constraints. We include a dichotomous measure that is coded 1 if both countries i and j are members of the World Trade Organization. We measure membership in preferential trade agreements in two ways. First, we include a variable indicating that both the source and destination have a bilateral PTA. Second, in an effort to see if credibility can be imported from other countries, we include a measure of the total number of PTAs that the destination country has, less a PTA with the source country.

Finally we include the logged value (in US dollars) of bilateral trade between the source and destination countries. Inclusion of this variable serves several purposes. First, pre-existing trading between the source and destination is an indicator of a level of information flow between the two countries; something we claim is captured by the measure of migrant networks. Second, the measures of preferential trade agreements and membership in the World Trade Organization could simply be proxying for bilateral trade. Explicitly including trade means that the aforementioned institutional measures will more accurately capture institutional solutions to the credibility problem. Finally, the inclusion of bilateral trade allows us to see how three factors—trade, investment and migrants—are related to one another.

We estimate the effect of migrant networks on bilateral investment for the year 2002. To decrease the potential for reverse causality all independent variables are lagged one year with the exception of governance which is lagged two years as the World Bank did not compile it for 2001. Because the dependent variable (and most of the independent variables) corresponds to country pairs—source to destination—we report robust standard errors.

IV. Results

Column 1 of table 1 contains results from estimating a gravity model of country j 's portfolio investment in country i for 2002. Variables used in other gravity-based models of portfolio investment enter with the expected sign and significance: investment is greater between economically larger countries and between countries that have a common colonial history, share a common official language, that peg their exchange rates to a common currency, that have signed a dual taxation treaty, and that have similar growth cycles. Countries with higher average levels of education—our measure of human capital—receive more portfolio investment while those with capital account restrictions receive less.

Our results also reinforce the odd finding from prior research—that distance has a statistically significant and negative effect on bilateral portfolio investment. Recall that the standard ICAPM model would suggest a positive relationship as countries farther away from one another would be less likely to experience similar economic shocks. The negative finding, however, is consistent with earlier findings and may reflect what Portes, Rey and Oh (2001) refer to generically as “informational frictions.”¹³

The indicators of domestic political commitments are also as expected: countries with credible domestic institutions (higher values of governance and the polity score) receive larger amounts of portfolio investment, a result that is consistent with aggregate studies of foreign investment (e.g., Alfaro, et al 2006; Jensen 2003)¹⁴. The results for international commitment mechanisms are mixed: membership in the WTO or having a bilateral PTA has no statistically

¹³ Coval and Moskowitz (1999) also find that distance has a negative effect on investment decisions as US investors and portfolio managers have a preference for geographically proximate investments because they have better information about them. In a study of stockholdings in Finland, Grinblatt and Keloharju (2001) find that distance—their proxy for dissimilarity in language and culture—influences portfolio choice. Hau (2001) reaches a similar conclusion with regard to German traders who consistently earn higher average returns when compared with foreign investors trading on the same exchange.

¹⁴ Adding these two variables separately does little to alter their parameter estimates and does not decrease their level of statistical significance.

significant effect on investment but the total number of PTAs does which indicates that the sheer number of PTAs serves as a signal that politicians in country i are committed to the protection of property rights.¹⁵

Tuning to our variable of interest—that of total migrant stock—we find the estimated parameter is positive and statistically significant. An advantage of using a logarithmic transformation for both migrant stock and investment is that the point estimate can be interpreted as an elasticity. Our results, then, show that increasing the migrant stock from country i in country j by 1 percent increases portfolio investment by .15 percent.

Column two repeats this analysis substituting foreign direct investment for portfolio investment as the dependent variable. While there are some differences in terms of the parameter estimates on trade and trade institutions—differences we discuss in greater detail below—the effect of migrant networks remains strong (an elasticity of almost .5) and statistically significant.

The results thus far support the hypothesis that migrant networks encourage cross-border investment because they provide investors with information about investment opportunities across particular destinations. We expect that this effect will be more pronounced when the migrant themselves are involved in the investment process. Unfortunately we cannot directly measure migrant-based investment so we proxy for it using the percentage of migrants from country i living in country j that have higher (tertiary) education.¹⁶ We also include the log of the total number of migrants so that the former variable is not capturing the effect of the latter variable.

¹⁵ This is a confirmation of the finding regarding the importance of PTAs for aggregate direct foreign investment reported in Buthe and Milner (2006).

¹⁶ We use data from the OECD's Immigration and Expatriate Database. This database only has information on immigrants into OECD countries; consequently the sample size is greatly reduced.

The results in columns 3 and 4 of table 1 support the role of highly educated immigrants in the investment process. Highly skilled immigrants increase both portfolio and foreign direct investment to their home country; a conclusion consistent with the anecdotal evidence from Saxenian (2002, 2003), Kleman (1996), and Kapur (2001). We should point out that inclusion of a variable measuring the human capital of migrants does not render our measure of migrant stock statistically significant; a result that would occur if only entrepreneurial migrants were the ones investing.

In columns 5 and 6 of table 1 we attempt to account for the fact that migrants can often provide “bad” information; information that would lead investors away from their country of origin. Again, we cannot measure this concept directly so we proxy for it using the number of refugees (asylum seekers) in country j that originate in country i . Refugees, by definition, are designated as such, because of the adverse conditions that exist within their country of origin; conditions that likely are not conducive to investment.

Inclusion of the size of the refugee stock (logged) along with the size of the migrant population provides substantively and statistically compelling results. Countries that are the source of large refugee populations received smaller amounts of investment (both portfolio and foreign direct). And inclusion of this variable does little to change the effect of the migrant stock—our primary measure of information networks.

We check the robustness of our central findings—those in columns 1 and 2 of table 1—in a number of ways. In table 2 we include fixed effects for source countries, for destination countries and for both source and destination countries.¹⁷ While the parameter estimate on migrant stock changes across specifications it remains positive and statistically significant,

¹⁷ As we are working with a cross-section we cannot add dyad specific dummy variables.

providing us with more confidence that our earlier results are not due to the omission of variables that are correlated with both bilateral portfolio investment and migrant networks.¹⁸

It is also plausible that investment and migrants move in the same direction; that is, both investment and migrants move from country j to country i with one following the other. We test for this by substituting the migrant stock from country j residing in country i . When we include this latter measure by itself—as we do in table 3—it appears that investment follows migration. This, however, is misleading because when we add migrant stock in both the investing country and the investor country we find that the original result dominates.

Table 3 also explores the possibility that it is the information content of migrant networks differs across migrant communities. Drawing on the literature on the economic consequences of social networks we explore the possibility that denser networks are better situated to influence investment through the provision of information (e.g., Smith-Doer and Powell, 2005). To that end we construct a measure of the density of the migrant network as the ratio of migrants from country i living in country j divided by the total population of country j . When we include this variable we find support for the importance of dense networks for portfolio investment but not for FDI; something that is a likely consequence of the differences across these asset classes.

We also performed a number of robustness tests to assess the sensitivity of our specification. As these tests would result in a proliferation of tables we report rather than display the results. First, we experimented with the baseline gravity specification (a) by entering the economic size of countries i and j separately rather than multiplicatively and (b) by including measures of the total population for countries i and j in addition to their economic

¹⁸ The inclusion of source and destination dummy variables also causes the effect of bilateral trade to become negative and statistically significant. This again points both to the sensitivity of the relationship between trade and portfolio flows as well as to the problems theorists have had in coming up with definitive models relating factor flows to one another (e.g., Markusen, 1983).

size. Neither of these specifications resulted in substantively different results than those we report. Second, we included a dummy variable measuring whether countries i and j have signed a bilateral investment treaty (BIT). This variable consistently entered the models with a negative and statistically significant sign; a consequence of the fact that no BIT is signed between a pair of rich countries. The inclusion of this variable did not alter the effect of variables capturing domestic or international commitment mechanisms and did not have any substantive impact on the migrant networks variable.

Finally, cognizant of the fact that investment into China—as displayed in figures 1 and 2—may be a consequence of above average expected returns we included a variable measuring the historical performance of equity markets in country i which we calculate over the period 1996-2001 to minimize problems of simultaneity. We use data from MSCI to calculate historical returns which limits the set of destination (country i) countries to 48; significantly reducing the sample size. The results from this analysis are supportive of the idea that investors chase returns—historical returns have a positive and statistically significant effect on portfolio investment—and inclusion of this variable does not alter our principle conclusion regarding the effect of migrant networks overall.

Endogeneity

It is plausible that the results we report are spurious. It may be the case that countries have similar immigration and investment policies and that an omitted variable influences both of these choices. Or it may be the case that we have the relationship leading from migrant networks to portfolio investment backwards—that migrants chase investment. We investigate these possibilities in two ways.

First, we use data on the stock of migrants from country i residing in country j in the year 1991; that is, migrant stock lagged 10 years.¹⁹ This alteration does not change our fundamental finding that migrant networks increase investment activity.

Second, we instrument the migrant stock from country i residing in country j . Finding valid instruments is no easy task as most plausible instruments for cross-national migration are also determinants of cross-national investment.²⁰ Prior research (Leblang, Fitzgerald and Teets 2007) has found that migrants are drawn to countries that grant citizenship based on birth (*jus solis*) rather than by blood (*jus sanguinis*). The determination of *jus solis v jus sanguinis* is based on legal tradition and country norms and we are confident that it does not have an independent effect on a country's decision to invest abroad. Our instrument for the migrant stock from country i living in country j is citizenship policy which is coded 1 if country j provides for citizenship by birth.

The results from our IV model are contained in table 5. The effect of our instrumented measure of migrants from country i residing in country j is positive and statistically significant at conventional levels. The instrument is strong in both the portfolio and the fdi models with F-statistics far exceeding the rule-of-thumb cutoff of 10 and the substantive results are consistent with our expectations.

Migrant Networks and Heterogeneous Investments

¹⁹ This data comes from a collection used in Leblang, Fitzgerald and Teets (2007). It is limited in that it only has migrant stock for 19 source (j) countries. These countries are: Australia, Austria, Belgium, Canada, Denmark, Finland, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.

²⁰ A discussion of push and pull factors influencing cross-national migration is contained in Leblang, Fitzgerald and Teets (2007). Javorcik, et al (2006) use instrumental variables in their study of the effect of migrants on US direct foreign investment and instrument using passport costs in country i as their instrument for migrant stock. While theoretically reasonable, this variable is highly correlated with governance structures in country i (countries with worse governance charge more for passports than countries with better governance), so we remain skeptical about whether it satisfies the exclusion restriction (McKenzie, 2005).

Our next hypothesis suggests that migrant networks facilitate cross-border investment through the provision of private information. Following Rauch and Trindade (2002) we argue that the informational role of migrant networks should be more important for trade in heterogeneous commodities; commodities where private information has greater value. As mentioned above, we believe that foreign direct investment opportunities are significantly more heterogeneous than portfolio investment opportunities. Not only are there an infinite number of FDI opportunities—ranging from joint ownership to greenfield investments—they also differ in that they are risky as the possibility of expropriation is higher. Portfolio investment, on the other hand, can only be made in assets that are publicly issued by either governmental or corporate interests; entities that provide relatively more information to markets. And because portfolio investment is more liquid, it can more easily be moved from market to market and from asset to asset, something that requires relatively less information than foreign direct investment. We therefore expect that migrant networks should be substantively more important for FDI than for portfolio investment.

We examine this hypothesis in table 6 where we estimate a seemingly unrelated regression of the determinants of both portfolio investment and bilateral trade in commodities. Rather than report standard errors we provide bootstrapped 95% confidence intervals which permits us to test the null hypothesis that the effect of migrant networks on portfolio investment is equal to its effect on trade in commodities.²¹

Table 6 contains the results of this analysis. We find that larger migrant networks increase both portfolio investment and foreign direct investment but that the effect on FDI is substantively larger, and statistically different, from the effect on portfolio investment. In fact

²¹ Hypothesis testing using seemingly unrelated regression assumes that the errors from both equations are asymptotically normal. In the case of trade the residuals are not due to a large number of zeros. We therefore calculate standard errors and associated confidence intervals using bootstrap resampling with 50 replications. Varying the number of replications up to 500 only serves to increase the strength of our conclusions.

the substantive effect for FDI is almost twice that for portfolio investment. This is consistent with our expectations: as portfolio investment represents a more homogenous opportunity set, private information provided by migrant networks becomes increasingly valuable for investors evaluating more heterogeneous options.

V. Conclusion: Harnessing the Diaspora

Access to international capital markets is a perennial problem confronted by all countries. Students of international political economy have invested considerable time trying to understand the theoretical and empirical connections across countries and markets. One general conclusion from these efforts is that information asymmetries represent a large cost to cross-border economic transactions. We have demonstrated that migrant networks—connections between co-ethnics across countries—play an important role in decreasing asymmetries and in promoting portfolio investment. And we have presented evidence that migrant networks do this by providing information about investment opportunities that exist across countries.

Given that migrant networks serve as a conduit for international investment flows, how can governments harness their diaspora in the face of the continuing competition for capital? One mechanism that governments use to demonstrate their commitment to their external populations is through the provision of voting rights to expatriates. In table 7 we offer some suggestive evidence of the importance of these rights. In columns 1 and 3 of table 7 we include a dummy variable that is coded “1” for emigration countries (country *i*) that allow their expatriates to vote in national elections. Countries that allow expatriate voting generate larger portfolio investment; we find no statistically significant effect on foreign direct investment. Countries, however, differ in how they allow their expatriates to vote. Countries such as Mexico require that expatriates go to embassies or consulates in order to vote in person while

others such as Brazil allow voting by mail. In columns 2 and 4 we break down these policies and find, unsurprisingly, that postal voting has a substantively larger and statistically significant effect on generating bilateral investment. It is indeed a signal of the emigration country's desire to maintain contact with its overseas population.

How do these findings square with the extant literature on immigration and capital flows? Recent studies have already documented that migrant laborers remit a substantial amount of capital (Gupta 2005; Leuth and Ruiz-Arranz 2006; Ratha and Shaw 2007). Our findings suggest that migrant driven investment is yet another way in which diaspora communities influence developments in their home countries. And these two flows of capital likely have different effects on inequality and poverty; providing an interesting avenue for future work connecting diasporas to development.

There is still quite a bit we do not know. Is migrant led investment counter-cyclical? When a destination experiences a shock—a natural disaster or a financial crisis—is migrant led investment more stable than traditional investment channels? What about the effects of migrant networks on other channels of investment such as direct foreign investment and cross-border mergers and acquisitions behavior? Connecting these processes will help us better understand institutional and non-institutional determinants of global investment.

Finally, our focus on migrant networks continues a line of research that identifies alternative ways with which nations are connected with one another. We do not claim that networks are substitutes for international organizations and future work along these lines would certainly be enriched by considering them as complements.

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Table 1
Effect of Organizations, Institutions and Information on Cross-Border Investment

	Effect of Immigration		Educated Immigrants		“Bad” Information	
	Portfolio	FDI	Portfolio	FDI	Portfolio	FDI
Log(Migrant Stock)	0.19**	0.48**	0.16**	0.45**	0.19**	0.48**
	(0.01)	(0.03)	(0.03)	(0.04)	(0.01)	(0.03)
% with Tertiary Education			1.21**	0.97**		
			(0.35)	(0.41)		
Log(Refugee Stock)					-0.30**	-0.31**
					(0.08)	(0.10)
GDP(i)xGDP(j)	0.32**	0.23**	0.43**	0.26**	0.32**	0.23**
	(0.03)	(0.06)	(0.05)	(0.07)	(0.03)	(0.05)
Log(Distance)	-0.30**	-0.18**	-0.30**	-0.31**	-0.30**	-0.18**
	(0.06)	(0.09)	(0.09)	(0.10)	(0.06)	(0.09)
Shared Colonial Origin	0.99**				0.99**	
	(0.28)				(0.28)	
Common Official Language	0.49**	0.22	0.54**	0.27	0.50**	0.21
	(0.12)	(0.16)	(0.16)	(0.18)	(0.12)	(0.16)
Human Capital (D)	0.05**	-0.16**	0.10**	-0.14**	0.05**	-0.16**
	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)
Capital Controls (D)	0.13	-0.27**	0.20	-0.25*	0.13	-0.29**
	(0.09)	(0.13)	(0.13)	(0.15)	(0.09)	(0.13)
Log(Bilateral Trade)	0.02	0.23**	0.05	0.22**	0.02	0.22**
	(0.02)	(0.05)	(0.04)	(0.05)	(0.02)	(0.05)
Correlation of Growth Rates	0.52**	0.62**	0.91**	0.86**	0.52**	0.63**
	(0.07)	(0.11)	(0.11)	(0.12)	(0.07)	(0.11)
Common Currency Peg	1.20**	0.80**	1.65**	0.94**	1.21**	0.78**
	(0.16)	(0.21)	(0.21)	(0.22)	(0.15)	(0.21)
Both in WTO	0.16	-0.08	-0.25	-0.11	0.14	-0.10
	(0.12)	(0.24)	(0.23)	(0.28)	(0.12)	(0.24)
Dual Taxation Treaty	0.71**	0.40**	0.25*	0.36**	0.71**	0.41**
	(0.11)	(0.14)	(0.14)	(0.16)	(0.11)	(0.14)
Polity Score (D)	0.05**	0.01	0.08**	0.01	0.05**	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Governance (D)	0.16**	0.15**	0.19**	0.15**	0.16**	0.15**
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)
Bilateral PTA	0.15	-0.38**	0.09	-0.51**	0.17	-0.35*
	(0.11)	(0.19)	(0.20)	(0.22)	(0.11)	(0.19)
Total PTAs (D)	0.00**	-0.00**	0.00**	-0.00**	0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	-14.49**	-13.12**	-20.64**	-13.65**	-14.65**	-13.27**
	(1.26)	(2.03)	(2.14)	(2.49)	(1.26)	(2.02)
Adjusted R-squared	0.570	0.673	0.670	0.675	0.573	0.675
F-Statistics	276.223	281.419	275.937	224.624	265.095	265.619
Observations	3462	1508	1726	1207	3462	1508

* p<0.10, ** p<0.05

Cell entries are OLS estimates with robust standard errors in parentheses.

Table 2
Fixed Effects

	Country i	Portfolio Country j	Country i & j	Country i	FDI Country j	Country i & j
Log(Migrant Stock)	0.20** (0.01)	0.07** (0.02)	0.08** (0.01)	0.52** (0.03)	0.17** (0.03)	0.17** (0.03)
GDP(i)xGDP(j)	0.30** (0.03)	0.63** (0.04)	0.43** (0.04)	0.30** (0.06)	0.46** (0.05)	0.75** (0.06)
Log(Distance)	-0.56** (0.06)	-0.43** (0.06)	-0.81** (0.06)	-0.35** (0.10)	-0.50** (0.08)	-0.87** (0.10)
Shared Colonial Origin	0.97** (0.29)	0.34 (0.26)	0.68** (0.25)			
Common Official Language	0.26** (0.11)	0.40** (0.10)	0.08 (0.10)	-0.01 (0.17)	0.66** (0.15)	0.52** (0.16)
Human Capital (D)	0.00 (0.00)	0.01 (0.02)	0.00 (0.00)	0.00 (0.00)	-0.05* (0.03)	0.00 (0.00)
Capital Controls (D)	0.00 (0.00)	-0.10 (0.07)	0.00 (0.00)	0.00 (0.00)	-0.03 (0.11)	0.00 (0.00)
Log(Bilateral Trade)	-0.06** (0.02)	-0.01 (0.02)	-0.11** (0.02)	0.18** (0.05)	0.17** (0.04)	0.10** (0.04)
Correlation of Growth Rates	0.42** (0.07)	0.38** (0.06)	0.26** (0.06)	0.49** (0.13)	0.38** (0.09)	0.21** (0.10)
Common Currency Peg	1.21** (0.15)	1.08** (0.12)	1.02** (0.11)	0.71** (0.22)	0.75** (0.16)	0.82** (0.17)
Both in WTO	0.48** (0.16)	-0.06 (0.14)	0.15 (0.44)	0.00 (0.00)	-0.01 (0.21)	0.00 (0.00)
Dual Taxation Treaty	0.80** (0.12)	0.58** (0.09)	0.54** (0.09)	0.56** (0.17)	0.18 (0.12)	0.33** (0.15)
Polity Score (D)	0.00 (0.00)	0.06** (0.01)	0.00 (0.00)	0.00 (0.00)	0.02 (0.01)	0.00 (0.00)
Governance (D)	0.00 (0.00)	0.15** (0.01)	0.00 (0.00)	0.00 (0.00)	0.15** (0.02)	0.00 (0.00)
Bilateral PTA	-0.25** (0.11)	0.50** (0.09)	0.37** (0.10)	-0.13 (0.23)	-0.18 (0.17)	0.00 (0.22)
Total PTAs (D)	-0.31** (0.04)	0.00 (0.00)	-0.11** (0.04)	0.03 (0.06)	-0.00 (0.00)	0.12** (0.05)
Constant	5.04** (2.43)	-27.68** (1.45)	-8.23** (2.76)	-17.62** (3.57)	-20.42** (2.03)	-36.46** (3.65)
Adjusted R-squared						
F-Statistic	163.020	310.634	105.903	261.362	147.370	186.090
Observations	3462	3462	3462	1508	1508	1508

* p<0.10, ** p<0.05

Cell entries are OLS estimates with robust standard errors in parentheses.

Table 3
Additional Robustness Checks

	Portfolio		FDI		Density	
	Stock in i	Stock in i & j	Stock in i	Stock in i & j	Portfolio	FDI
Log(Migrant Stock) in Source		0.20** (0.01)		0.45** (0.04)	0.18** (0.01)	0.47** (0.03)
Log(Migrant Stock) in Dest.	0.05** (0.02)	0.02 (0.02)	0.10** (0.02)	0.03 (0.02)		
Migrant Density					16.91** (7.09)	6.96 (7.25)
GDP(i)xGDP(j)	0.36** (0.04)	0.30** (0.04)	0.35** (0.08)	0.20** (0.06)	0.32** (0.03)	0.23** (0.06)
Human Capital (D)	0.06** (0.02)	0.03* (0.02)	-0.15** (0.03)	-0.16** (0.03)	0.04** (0.02)	-0.16** (0.03)
Log(Distance)	-0.49** (0.06)	-0.29** (0.06)	-0.33** (0.10)	-0.17* (0.09)	-0.29** (0.06)	-0.18** (0.09)
Shared Colonial Origin	0.51* (0.28)	0.72** (0.30)			0.93** (0.28)	
Common Official Language	0.61** (0.13)	0.42** (0.13)	1.17** (0.15)	0.25 (0.17)	0.45** (0.12)	0.20 (0.16)
Capital Controls (D)	0.16* (0.09)	0.17* (0.09)	-0.18 (0.14)	-0.26** (0.13)	0.13 (0.09)	-0.27** (0.13)
Log(Bilateral Trade)	0.11** (0.03)	0.03 (0.02)	0.44** (0.07)	0.26** (0.06)	0.02 (0.02)	0.23** (0.05)
Correlation of Growth Rates	0.56** (0.08)	0.58** (0.08)	0.65** (0.12)	0.61** (0.12)	0.51** (0.07)	0.62** (0.11)
Common Currency Peg	1.37** (0.17)	1.23** (0.16)	0.64** (0.22)	0.76** (0.21)	1.17** (0.16)	0.80** (0.21)
Both in WTO	0.58** (0.12)	0.11 (0.13)	0.04 (0.27)	0.16 (0.27)	0.17 (0.12)	-0.08 (0.24)
Dual Taxation Treaty	0.82** (0.11)	0.76** (0.11)	0.62** (0.15)	0.48** (0.15)	0.73** (0.11)	0.41** (0.14)
Polity Score (D)	0.04** (0.01)	0.04** (0.01)	0.01 (0.02)	-0.02 (0.02)	0.05** (0.01)	0.01 (0.01)
Governance (D)	0.10** (0.01)	0.16** (0.01)	0.06** (0.03)	0.14** (0.02)	0.16** (0.01)	0.15** (0.02)
Bilateral PTA	-0.04 (0.12)	0.09 (0.12)	-0.54** (0.21)	-0.40** (0.20)	0.14 (0.11)	-0.37** (0.19)
Total PTAs (D)	0.00 (0.00)	0.00** (0.00)	-0.00* (0.00)	-0.00* (0.00)	0.00** (0.00)	-0.00** (0.00)
Constant	-16.19** (1.43)	-13.67** (1.40)	-18.99** (2.51)	-12.51** (2.23)	-14.61** (1.26)	-13.2** (2.04)
Adjusted R-squared	0.533	0.575	0.633	0.677	0.572	0.673
F-Statistic	223.761	257.001	204.108	252.755	261.772	272.053
Observations	3194	3109	1364	1364	3462	1508

* p<0.10, ** p<0.05

Cell entries are OLS estimates with robust standard errors in parentheses.

Table 4
Migrants Lagged 10 Years

	Portfolio	FDI
Log(Migrant Stock) _{t-10}	0.08** (0.02)	0.05** (0.02)
GDP(i)xGDP(j)	0.50** (0.08)	0.28** (0.08)
Human Capital (D)	0.06** (0.03)	-0.18** (0.04)
Log(Distance)	-0.26** (0.10)	-0.52** (0.11)
Common Official Language	0.50** (0.15)	0.29 (0.18)
Capital Controls (D)	-0.05 (0.11)	-0.20 (0.15)
Log(Bilateral Trade)	0.26** (0.08)	0.58** (0.08)
Correlation of Growth Rates	0.52** (0.11)	0.59** (0.14)
Common Currency Peg	1.05** (0.16)	-0.23 (0.23)
Both in WTO	-0.25 (0.25)	-0.29 (0.33)
Dual Taxation Treaty	0.38** (0.13)	0.47** (0.18)
Polity Score (D)	0.10** (0.01)	0.02 (0.02)
Governance (D)	0.19** (0.02)	0.13** (0.03)
Bilateral PTA	0.31* (0.18)	-0.64** (0.24)
Total PTAs (D)	0.00* (0.00)	-0.00 (0.00)
Constant	-27.46** (2.46)	-15.11** (2.66)
Adjusted R-squared	0.804	0.726
F-Statistic	431.919	175.556
Observations	1249	826

* p<0.10, ** p<0.05

Cell entries are OLS estimates with robust standard errors in parentheses.

Table 5
Endogeneity

	Portfolio		FDI	
	2 nd Stage	1 st Stage	2 nd Stage	1 st Stage
Log(Migrant Stock)	0.11** (0.04)		0.75** (0.09)	
GDP(i)xGDP(j)	0.36** (0.04)	0.45** (0.04)	0.10 (0.06)	0.44** (0.04)
Human Capital (D)	0.05** (0.02)	0.08** (0.02)	-0.16** (0.03)	0.05** (0.02)
Log(Distance)	-0.40** (0.08)	-1.33** (0.08)	-0.07 (0.09)	-0.59** (0.07)
Shared Colonial Origin	0.93** (0.27)	-0.60* (0.36)		
Common Official Language	0.62** (0.13)	1.00** (0.15)	-0.40 (0.25)	1.79** (0.15)
Capital Controls (D)	0.12 (0.09)	-0.12 (0.12)	-0.27** (0.13)	0.16 (0.10)
Log(Bilateral Trade)	0.05* (0.03)	0.32** (0.03)	0.13** (0.05)	0.29** (0.027)
Correlation of Growth Rates	0.52** (0.07)	0.09 (0.10)	0.60** (0.12)	0.15* (0.09)
Common Currency Peg	1.24** (0.16)	0.48** (0.20)	0.88** (0.22)	-0.41** (0.18)
Both in WTO	0.33** (0.14)	1.78** (0.16)	-0.06 (0.25)	0.01 (0.19)
Dual Taxation Treaty	0.75** (0.11)	0.51** (0.14)	0.28* (0.15)	0.41** (0.11)
Polity Score (D)	0.05** (0.01)	0.02** (0.01)	0.00 (0.01)	0.04** (0.10)
Governance (D)	0.14** (0.02)	-0.21** (0.012)	0.18** (0.02)	-0.10** (0.01)
Bilateral PTA	0.09 (0.11)	-0.73** (0.15)	-0.36* (0.19)	-0.17 (0.15)
Total PTAs (D)	0.00** (0.00)	-0.01** (0.001)	-0.00** (0.00)	0.001 (0.001)
Jus Solis (D)		1.77** (0.11)		1.36** (0.09)
Constant	-16.09** (1.50)	-14.77** (1.57)	-7.43** (2.61)	-17.58** (1.45)
Adjusted R-squared	0.565	0.46	0.655	0.70
F-Statistic	251.040	192.17	225.007	244.66
F-Stat for Excluded Inst.		290.00		223.22
Observations	3462	3462	1508	1508

* p<0.10, ** p<0.05

Cell entries are instrumental variables estimates with robust standard errors in parentheses.

Table 6
Information and Heterogeneous Investments

	Portfolio	FDI
Log(Migrant Stock)	0.23**	0.45**
	[0.15, 0.31]	[0.36, 0.54]
GDP(i)xGDP(j)	0.56**	0.14*
	[0.40, 0.72]	[-0.01, 0.29]
Human Capital (D)	0.07*	-0.14**
	[-0.01, 0.16]	[-0.23, -0.06]
Log(Distance)	-0.25**	-0.29**
	[-0.46, -0.03]	[-0.48, -0.10]
Log(Bilateral Trade)	0.04	0.35**
	[-0.11, 0.19]	[0.17, 0.53]
Common Official Language	0.99**	0.16
	[0.53, 1.44]	[-0.15, 0.47]
Capital Controls (D)	-0.24	-0.18
	[-0.54, 0.07]	[-0.45, 0.09]
Correlation of Growth Rates	0.85**	0.78**
	[0.62, 1.09]	[0.54, 1.01]
Common Currency Peg	1.54**	0.69**
	[0.98, 2.10]	[0.22, 1.17]
Both in WTO	-0.18	-0.18
	[-0.86, 0.50]	[-0.89, 0.52]
Dual Taxation Treaty	0.02	0.25
	[-0.30, 0.33]	[-0.16, 0.65]
Polity Score (D)	0.07**	0.00
	[0.04, 0.11]	[-0.02, 0.03]
Governance (D)	0.20**	0.14**
	[0.14, 0.26]	[0.09, 0.20]
Bilateral PTA	-0.29	-0.73**
	[-0.71, 0.12]	[-1.09, -0.37]
Total PTAs (D)	0.00	-0.00
	[-0.00, 0.01]	[-0.01, 0.00]
Constant	-27.06**	-9.30**
	[-32.77, -21.34]	[-14.29, -4.32]
Observations	1080	

* p<0.10, ** p<0.05

Cell entries are seemingly unrelated regression estimates with bootstrapped 95% confidence intervals in square brackets.

Table 7
External Voting Rights

	Portfolio		FDI	
Log(Migrant Stock)	0.19**	0.19**	0.48**	0.48**
	(0.01)	(0.01)	(0.03)	(0.03)
External Voting	0.20**		0.16	
	(0.08)		(0.11)	
Voting via Post		0.36**		0.29**
		(0.09)		(0.14)
Voting in Person		0.00		-0.01
		(0.10)		(0.15)
GDP(i)xGDP(j)	0.32**	0.32**	0.23**	0.23**
	(0.03)	(0.03)	(0.06)	(0.05)
Human Capital (D)	0.04**	0.05**	-0.16**	-0.15**
	(0.02)	(0.02)	(0.03)	(0.03)
Log(Distance)	-0.30**	-0.30**	-0.18**	-0.17**
	(0.06)	(0.06)	(0.09)	(0.09)
Shared Colonial Origin	1.02**	1.00**		
	(0.28)	(0.28)		
Common Official Language	0.49**	0.48**	0.21	0.18
	(0.12)	(0.12)	(0.16)	(0.16)
Capital Controls (D)	0.10	0.17*	-0.29**	-0.21
	(0.09)	(0.09)	(0.13)	(0.13)
Log(Bilateral Trade)	0.03	0.02	0.22**	0.22**
	(0.02)	(0.02)	(0.05)	(0.05)
Correlation of Growth Rates	0.50**	0.52**	0.60**	0.62**
	(0.07)	(0.07)	(0.11)	(0.11)
Common Currency Peg	1.21**	1.21**	0.81**	0.81**
	(0.16)	(0.16)	(0.21)	(0.21)
Both in WTO	0.19	0.18	-0.04	-0.07
	(0.12)	(0.12)	(0.24)	(0.24)
Dual Taxation Treaty	0.69**	0.68**	0.38**	0.39**
	(0.11)	(0.11)	(0.14)	(0.14)
Polity Score (D)	0.05**	0.05**	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Governance (D)	0.16**	0.14**	0.15**	0.14**

	(0.01)	(0.01)	(0.02)	(0.02)
Bilateral PTA	0.14	0.16	-0.39**	-0.35*
	(0.11)	(0.11)	(0.19)	(0.19)
Total PTAs (D)	0.00**	0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	-14.53**	-14.58**	-13.20**	-13.31**
	(1.26)	(1.26)	(2.03)	(2.02)
Adjusted R-squared	0.571	0.572	0.674	0.674
F-Statistic	260.982	249.160	267.294	252.848
Observations	3462	3462	1508	1508

* p<0.10, ** p<0.05

Cell entries are OLS estimates with robust standard errors in parentheses.

Figure 1
Growth of Global Capital Markets

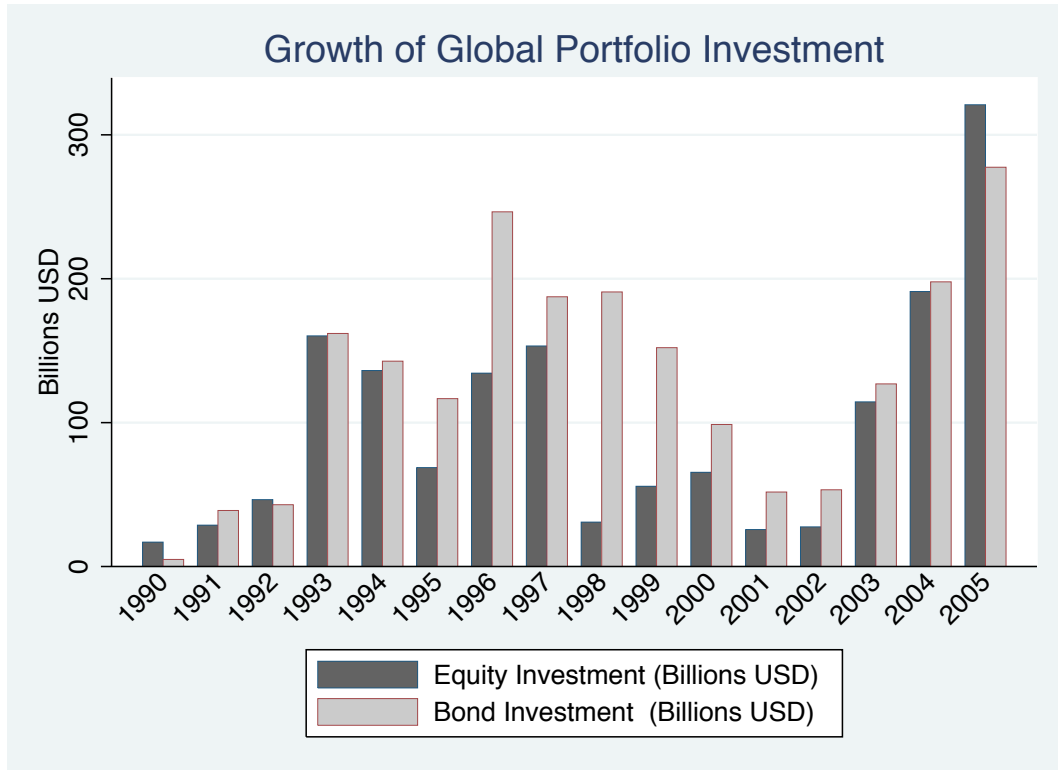
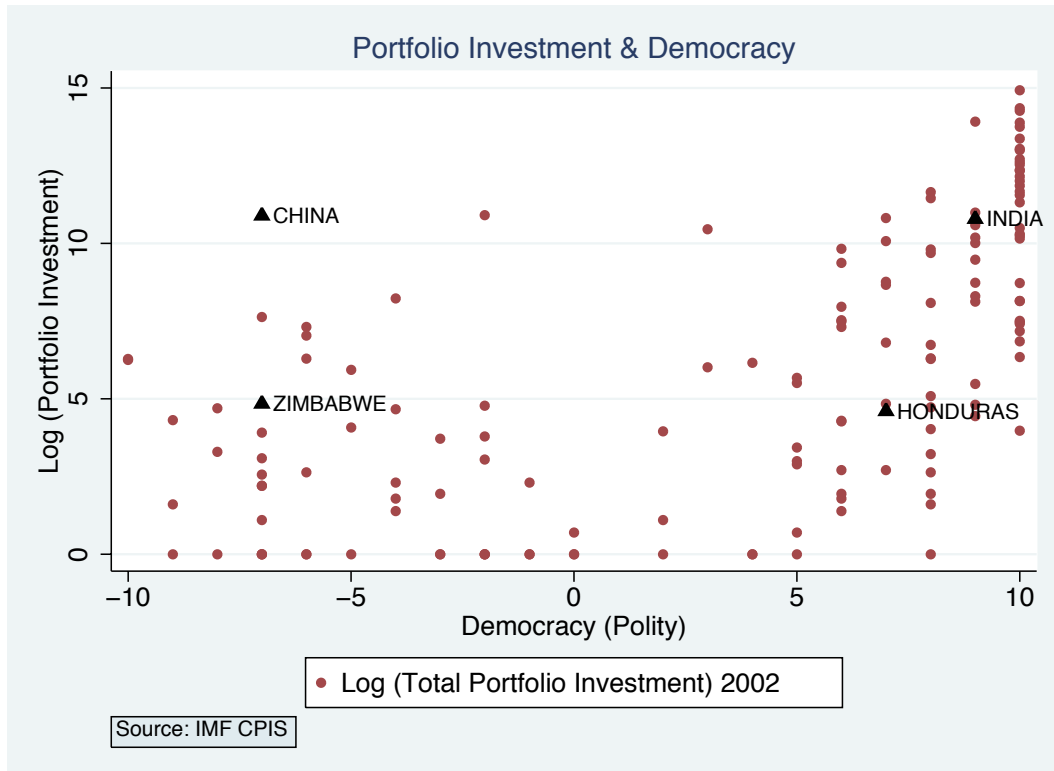
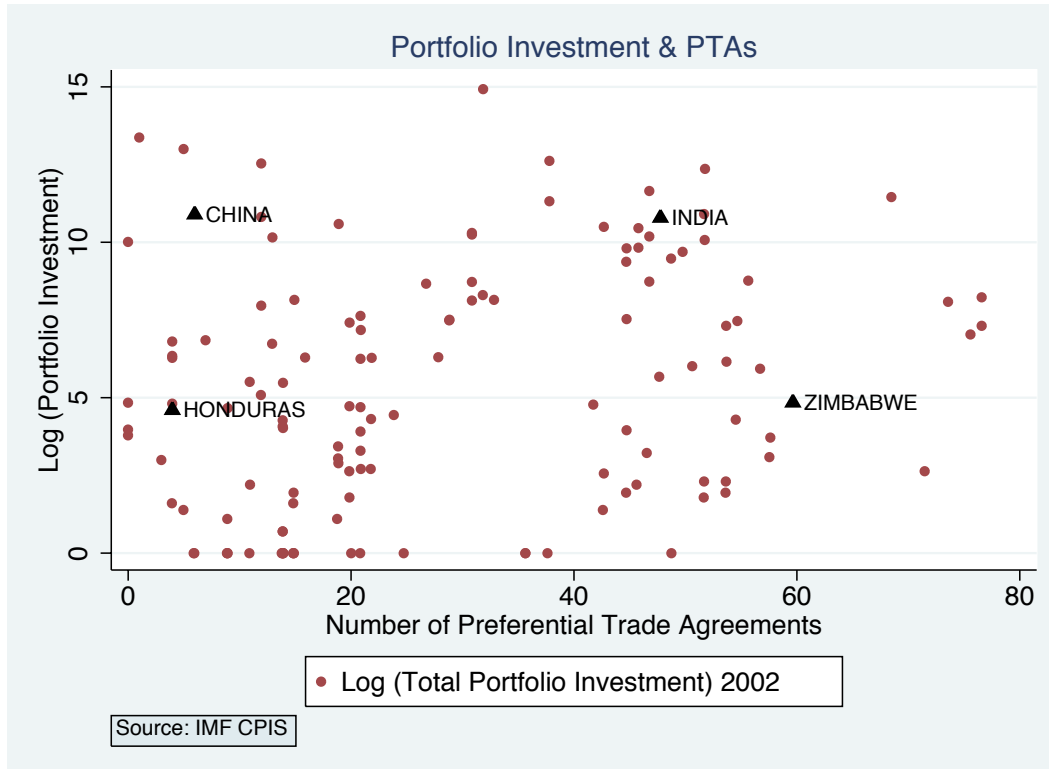


Figure 2



Domestic Commitments and Portfolio Investment

Figure 3



International Commitments and Portfolio Investment

Figure 4



Bilateral Portfolio Investment into China and India