

MIGRANTS, INSTITUTIONAL CHANGE AND THE GEOGRAPHY OF FOREIGN
DIRECT INVESTMENT

By

PALLAVI SHUKLA

A dissertation submitted to the

Graduate School-Newark

Rutgers, The State University of New Jersey

in partial fulfilment of the requirements

for the degree of

Doctor of Philosophy in Management

written under the direction of

Professor John Cantwell

and approved by

Newark, New Jersey, USA

October, 2016

Copyright page:

© 2016

Pallavi Shukla

ALL RIGHTS RESERVED

ABSTRACT OF THE DISSERTATION

Migrants, Institutional Change and the Geography of Foreign Direct Investment

By PALLAVI SHUKLA

Dissertation Director: Professor John Cantwell

Increased cross-border human migration has led to a significant increase in the number of foreign-born workers in the business and the society of several recipient countries. In this dissertation, I examine the role of migrants in influencing the foreign direct investment (FDI) patterns between their country of origin (COO) and their country of residence (COR). Drawing on the extant international business, management and macroeconomics literature, I propose a novel theoretical framework on migrants, institutions and FDI, that extends conventional thinking on the drivers of FDI by relating the literature on FDI determinants to the institutional economics and the migration literature streams. Using migrant roles as an anchor for this framework, three roles are identified – (1) Migrants as carriers and conduits of knowledge; (2) Migrants as creators of institutional affinity; (3) Migrants as connectors of institutional environments; this framework forms the basis for the three empirical studies in this dissertation.

In my first study, I examine the role of migrants as creators of institutional affinity (with respect to their COO), and as connectors of institutional environments of their COO and COR, using panel data estimation methods. In my second study, I zoom in to examine the effect of migrant induced institutional affinity and institutional connectedness on FDI at the regional level. In my third study, I examine the extent to which migrant decision-

makers influence outward FDI to their COO. I build a novel database for measuring migrant induced institutional changes in the United States (U.S.) context. In addition to that, I rely on the data from the U.S. Census Bureau and the U.S. Bureau of Economic Analysis. I find that institutional affinity in the migrants' COR with respect to their COO, is a strong predictor of future inward FDI from the migrants' COO for firms from developing countries. Second, I find that migrant decision-makers (from a COO) in a COR are a strong predictor of outward FDI to their COO, when the COO is a developing country. Lastly, I find that institutional connectedness provided by migrants has a positive effect on inward FDI for both, developing and developed countries.

Acknowledgements

First and foremost, I want to thank my advisor and mentor, Professor John Cantwell, for giving me the opportunity to pursue my dream of earning a doctorate in the field of International Business (IB). If he had not agreed to meet with me in the spring of 2010, it is quite likely that I would not be writing this dissertation. Throughout my doctoral journey, his guidance and support has been rock solid. Professor Cantwell has always given me the liberty to choose my own research interests, while ensuring that my work is grounded in theory. His constructive feedback on the theoretical development and the conceptual positioning of my research in IB has greatly helped me in defining the goals of my dissertation, as well as the objectives of my ongoing research. Aside from his unquestionable expertise in the field of IB, Professor Cantwell's patience and responsiveness is commendable. Despite his hectic schedule, my requests for meetings were always accepted and those acceptances were always kept. He patiently and respectfully listened to me, as I explained my ideas and/or my research findings, and often questioned them; but after each meeting, I came back with a clearer picture of my goals and objectives, and with an enriched theoretical lens with which to view the phenomenon of interest. I am grateful to Professor Cantwell for all his efforts in helping me navigate this process.

I cannot thank Professor Roger Smeets enough, for his contributions to this dissertation and to my learning. Over the last four years, I have spent countless hours in his office, listening to his comments on my papers, going over measures and controls used in my models, deciding on estimation methods, and often running estimations with

him. I thank Professor Smeets for his sincerity and dedication, and for being an incredible guide. My Ph.D. journey would not have come this far, without his support.

Thanks are due to Professor Mariana Spatareanu for showing her confidence in me, as well as in my research. She has always responded to my requests for help, whether it was regarding a proposal that we were putting together, or for my data needs. I thank Professor Spatareanu for all her support in this journey. I also want to thank my external committee member, Professor Ram Mudambi for his support and guidance over the years. His detailed feedback and comments have helped me in refining my work.

I want to thank a few other professors in the international management domain. I would like to acknowledge the contribution of Professor Mariko Sakakibara, who provided detailed comments on my dissertation proposal that I had presented at the Doctoral Consortium, organized by the International Management Division at the Academy of Management annual meeting in Orlando, Florida in August 2013. Thanks are also due to Professor Gurneeta Vasudeva Singh and Professor Laszlo Tihanyi for their constructive feedback at the IMD Doctoral Consortium in 2013. Their comments helped me in zooming in, and focusing on resolving some issues early on, in the dissertation research process.

Last but not least, I want to thank my family for their incredible support and immense patience over these years. My husband, Nikhil, has been more supportive of me, and my dream of pursuing a Ph.D., than words can express. His achiever mindset creates a positive environment, which has helped me to keep going. I am grateful for everything he has done to help me in my journey.

When I joined the program, my daughters (Gaurvi and Shefali) were too young to understand what a Ph.D. is, but now as middle-school students, they often provide editing help to me. I thank them for their love and support. I would also like to thank my parents (my mom and my late dad) for always showing profound confidence in my abilities, and for instilling in me, the importance of not giving up (an attribute that is especially relevant and much-needed during the Ph.D. journey). Special thanks are due to my mom, who has always stood by my side (many times literally, to help take care of my twin girls). I also want to thank my brothers (Manish and Pradeep) and their families, my in-laws, and all my friends for their sustained encouragement and patience.

Table of Contents

1	Introduction	1
1.1	The main argument	3
1.2	Thesis outline	4
2	Migration and foreign direct investment: Literature review and a conceptual framework.....	8
2.1	Introduction.....	8
2.2	Standing on the shoulders of giants	9
2.2.1	Determinants of foreign direct investment	10
2.2.2	Determinants of international migration	14
2.2.3	International migration and international business: taking stock	17
2.3	Development of a new conceptual framework	27
2.3.1	Migrants as carriers and conduits of knowledge.....	28
2.3.2	Migrants as creators of institutional affinity	34
2.3.3	Migrants as connectors of cross-border institutional environments	40
2.4	Chapter summary	44
3	Data.....	46
3.1	Introduction.....	46
3.2	Dependent variable: Foreign direct investment	47
3.2.1	Foreign Direct Investment in the United States (FDIUS) Survey data.....	47
3.2.1.1	Country-level analysis	48
3.2.1.2	Regional-level analysis	49
3.2.2	United States Direct Investment Abroad (USDIA) Survey data	50
3.3	Independent variables	52
3.3.1	Migration data.....	52
3.3.2	Tax-exempt organization data.....	56
3.4	Tax haven countries	61
3.5	Developing and developed countries	63
3.6	Chapter summary	66
4	Migrants and inward foreign direct investment: A country-level analysis	67

4.1	Introduction.....	67
4.2	Hypotheses.....	68
4.2.1	Migrants as creators of institutional affinity.....	68
4.2.2	Migrants as connectors of cross-border institutional environments	71
4.3	Methodology.....	74
4.3.1	Data.....	74
4.3.2	Empirical analysis.....	85
4.3.3	Results.....	87
4.3.4	Two-stage estimation.....	95
4.4	Chapter summary.....	99
5	Migrants and inward foreign direct investment – A regional analysis.....	102
5.1	Introduction.....	102
5.2	Hypotheses.....	103
5.2.1	Migrants as creators of institutional affinity.....	103
5.2.2	Migrants as connectors of cross-border institutional environments	104
5.3	Methodology.....	105
5.3.1	Research setting	105
5.3.2	Data.....	105
5.3.3	Empirical Analysis.....	115
5.3.4	Results.....	117
5.4	Chapter summary.....	127
6	Migrants and outward foreign direct investment: A country-level analysis	130
6.1	Introduction.....	130
6.2	Hypotheses.....	131
6.2.1	Migrants as carriers and conduits of knowledge.....	131
6.2.2	Migrants as connectors of cross-border institutional environments	133
6.3	Methodology.....	136
6.3.1	Data.....	136
6.3.2	Empirical Analysis.....	144
6.3.3	Results.....	147
6.3.4	Two-stage Estimation	156

6.4	Chapter summary	160
7	Conclusion	163
7.1	Contributions.....	163
7.1.1	Contribution to the literature.....	164
7.1.2	Institutional affinity as a determinant of FDI	165
7.1.3	Methodological contribution.....	166
7.2	Implications.....	167
7.3	Limitations	168
7.4	Future research.....	170
8	References	172
8.1	Bibliography	172
8.2	Appendix.....	xiv

List of Tables

Table 3-1: Top 10 countries with highest investment position in U.S. in 2012	49
Table 3-2: Top 10 investment destinations of U.S. investors	52
Table 3-3: Top countries of origin of migrants in the U.S.....	54
Table 3-4: National Taxonomy of Exempt Entities.....	59
Table 3-5: Tax-exempt categories for International, Foreign Affairs and National Security Organizations	60
Table 3-6: List of tax haven countries	62
Table 3-7a: List of developed countries.....	63
Table 3-7b: List of developing countries	65
Table 3-8: Summary view of independent and dependent variables	66
Table 4-1: Data definitions and sources.....	84
Table 4-2: Pairwise correlation matrix	87
Table 4-3: Tobit estimates with cluster-robust standard errors (full sample).....	90
Table 4-4: Tobit Estimates with cluster-robust standard errors (high-income country sample).....	91
Table 4-5: Tobit Estimates with cluster-robust standard errors (low-income country sample).....	92
Table 4-6: GLS random-effects estimates with cluster-robust standard errors	94
Table 4-7: Tobit estimates with cluster-robust standard errors (including tax haven and outliers)	95
Table 4-8: Heckman estimates for full sample (excluding tax havens and outliers)	96
Table 4-9: Heckman estimates for entire sample (including tax havens and outliers)	98
Table 5-1: Data definitions and sources.....	113
Table 5-2: Pair wise correlation matrix	117
Table 5-3: OLS Regression estimates for FDI-Sales (with robust standard errors)	121
Table 5-4: OLS Regression estimates for FDI-Employment (with robust standard errors)	122
Table 5-5: Coefficient estimates for key explanatory variables (outliers included).....	123
Table 5-6: Coefficient estimates for key explanatory variables using 1997 FDI values	123
Table 5-7: OLS Regression estimates (robustness check).....	126
Table 5-8: OLS Regression estimates (robustness check).....	127
Table 6-1: Data definitions and sources.....	143
Table 6-2: Pair wise correlation matrix	147
Table 6-3: Tobit estimates with cluster-robust standard errors (full sample).....	148
Table 6-4: Tobit Estimates with cluster-robust standard errors (high-income country sample).....	151

Table 6-5: Tobit Estimates with cluster-robust standard errors (low-income country sample).....	152
Table 6-6: Estimated coefficients using alternative econometric approaches	154
Table 6-7: Estimated coefficients using alternative econometric approaches (including tax havens and outliers)	155
Table 6-8: Heckman two-step estimation (full sample).....	157

List of Figures

Figure 1-1 Trends in foreign-born population in developed receiving economies.....	1
Figure 2-1: Primary causal factors influencing FDI patterns.....	13
Figure 2-2: Primary causal factors influencing FDI patterns and migration	16
Figure 2-3: Conceptual Positioning of my dissertation in the FDI determinant literature	27
Figure 2-4 Migrants as conduits of knowledge in their COR.....	33
Figure 2-5: Migrants as creators of institutional affinity in their COR	37
Figure 2-6: Migrants as connectors of cross-border institutional environments	42
Figure 3-1: Trends in FDI in the U.S.....	49
Figure 3-2: Total U.S. direct investment abroad.....	51
Figure 3-3: Migrant Population in the USA	54
Figure 3-4: Migrant manager and migrant entrepreneur stock in U.S.....	56
Figure 3-5: Migrant Organizations in U.S.	60
Figure 3-6: Trends in U.S. Direct Investment in tax haven countries versus all other countries.....	61
Figure 4-1: Trends in FDI in the U.S. in the recent decades	75
Figure 4-2a: Trends in FDI in the U.S. for low and high-income countries.....	75
Figure 4-2b: Detailed view of FDI in U.S. from low-income countries.....	76
Figure 4-3a: Total Migrant Stock in the U.S.	77
Figure 4-3b: Total Migrant Stock in the U.S. (excluding Mexico)	78
Figure 4-4: Migrant organization stock in the U.S	79
Figure 4-5: Tertiary educated migrant stock in the U.S.....	80
Figure 4-6: Stock of international migrant organizations in the U.S.....	81
Figure 4-7a: Non-immigrant stock in the U.S.	81
Figure 4-7b: Non-immigrant stock in the U.S. (excluding Mexico).....	82
Figure 4-8: Scatterplot of FDI stock (log) versus Migrant Organization Stock (log)	87
Figure 5-1: Institutional affinity (<i>Migrant Stock</i>) and the geography of FDI in the U.S.	109
Figure 5-2: Institutional affinity (<i>Migrant Org Stock</i>) and the geography of FDI in the U.S.	110
Figure 5-3: Institutional affinity (<i>Migrant Stock</i>) and the detailed geography of FDI in the U.S.	111
Figure 5-4 Scatterplot of FDI-Sales and (a) Migrant Org Stock (b) Migrant Stock.....	117
Figure 6-1: Trends in U.S. Direct Investment in low-income versus high-income countries.....	137
Figure 6-2: Trends in U.S. Immigration with regard to migrant managers	138
Figure 6-3: Trends in U.S. Immigration with regard to migrant entrepreneurs.....	138
Figure 6-4: Tertiary-educated migrant stock in the U.S	139
Figure 6-5: Migrant tax-exempt (International) organizations in the U.S.	140
Figure 6-6a: Non-immigrant population in the U.S.....	141

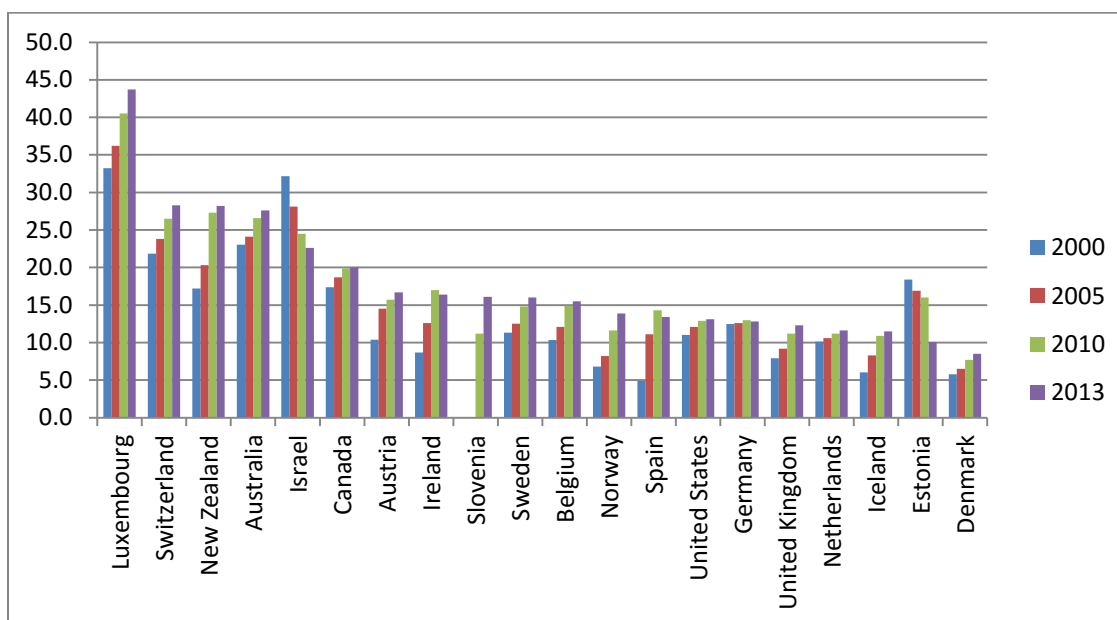
Figure 6-6b: Non-immigrant population in the U.S. (excluding Mexico).....	141
Figure 6-7: Scatterplot of FDI stock (log) versus Migrant Stock (log)	146

1 Introduction

Migration is not a new phenomenon in the history of mankind, but technological advancements in the transportation industry since the 1980s, in conjunction with the increasingly open-border policies of governments in many developed countries (attributed to various factors, such as low-birth rates, aging population and increased demand for science and technology workers, etc.), as well as the economic and political instability in several countries in the recent decades, has resulted in the increased cross-border movement of people. The Department of Economic and Social Affairs at the United Nations estimates that 244 million persons are living outside their country of birth worldwide as of 2015 (UnitedNations, 2016). This has led to a dramatic increase in the number of foreign-born population in the business and the society of the receiving countries. Figure 1-1 shows the trends in foreign-born population as a share of their total population, for some of the highest receiving countries among the developed economies.

This phenomenon has prompted macro-level researchers in both, sending and receiving countries to examine the causes and consequences of migration in their respective countries. A small, but growing, number of macroeconomic studies (e.g. Bhattacharya & Groznik (2008), Buch, Kleinert & Toubal (2006), Foad (2012), Javorcik, Ozden, Spatareanu & Neagu (2011), Kugler & Rapoport (2005)) have examined the direct effect of migration on foreign direct investment (FDI); these studies inform us that, generally speaking, a positive relationship exists between migration and FDI.

Figure 1-1 Trends in foreign-born population in developed receiving economies



Source: Immigrant and foreign population (OECD, 2016)

The increase in the number of foreign-born workers in the firms of many developed countries has also piqued the interest of micro-level researchers in management and international business, who have examined the contributions of foreign-born workers in influencing international economic activities in the context of teams (Chaganti, Watts, Chaganti, & Zimmerman-Treichel, 2008), entrepreneurial firms (Ndofor & Priem, 2011, Neville, Orser, Riding, & Jung, 2014, Sequeira, Carr, & Rasheed, 2009), capital flows (Martinez, Cummings, & Vaaler, 2015, Vaaler, 2011) and knowledge flows (Kerr, 2008, Levin & Barnard, 2013, Oettl & Agrawal, 2008). Relatively little attention (exceptions include: Hernandez (2014) and Zaheer, Lamin & Subramani (2009)), however, has been paid by international business researchers to explicitly examine the role of migrants (or persons born in one country, but living permanently in another) and migrant groups from a COO in affecting the FDI activities of multinational firms.

The studies in both these streams of literature allude to either, reduced transaction costs through social networks and community sanctions as mechanisms (Javorcik, Özden, Spatareanu, & Neagu, 2011, Tong, 2005), or view common country bonds as channels of knowledge (Hernandez, 2014). Still others suggest that often, migrants, themselves, engage in investments in their countries of origin (Aharoni, 1966, Saxenian, 2006, Saxenian, 1999). The migration-FDI literature in macroeconomics as well as the international business literature has ignored the notion that, over time, migrants and migrant groups from a country of origin (i.e. the place of birth of a foreign-born person) bring about changes in the institutional environment of their country of residence (or the migrant-receiving country); these formal and informal institutional changes make the location somewhat similar to the migrants' country of origin (COO). In this dissertation, I argue that this reduced liability of foreignness (Hymer, 1960) is viewed as a locational advantage by the firms from migrants' COO, and that, in turn, leads to increased resource commitment in that location. In addition to that, I draw insights from my review of these literature streams and propose a novel conceptual framework for understanding the migration-FDI relationship in the context of international business.

1.1 The main argument

Drawing on North's theory of institutional change (North, 1990), in this dissertation, I argue that increased concentration of migrants from a COO by virtue of their interactions and exchange in the business and the society of their COR, bring about changes in the institutional environment of their COR. Institutions refer to the formal and informal constraints that guide human interaction and behavior in a society (North, 1991). Institutional environment "includes political institutions such as the regime type, the

national structure of policy-making and the judicial system, economic institutions such as the structure of the national factor markets and the terms of access to international factors of production and socio-cultural factors such as inform norms, customs, mores and religions” (Mudambi & Navarra, 2002), as well as social, economic, educational, and legal organizations that are the creators and the keepers of institutions in the context of a country.

The changes brought about by migrant groups from a COO in the institutional environment of their COR, take the form of adapted rules, modified business practices, alternative means of financing, creation of new associations as well as founding of new for-profit and non-profit organizations. I argue that these changes in the subnational regions of migrants’ COR, make the location somewhat similar to migrants’ COO. This social effect that I call institutional affinity is viewed as a locational advantage by multinational firms from migrants’ COO. I argue that increased institutional affinity in the migrants’ COR with respect to the migrants’ COO, facilitates increased resource commitment (in the form of FDI) by firms from the migrants’ COO. The central finding of this dissertation is that institutional affinity is a determinant of FDI for firms from emerging market economies.

1.2 Thesis outline

The rest of this dissertation is organized as follows. In Chapter 2, I review and summarize the streams of literature that this dissertation builds upon. The purpose of Chapter 2 is twofold – first, to show the conceptual positioning of this dissertation in the international business literature, and second, to elaborate on the mechanisms through which one would

expect migrants to influence the FDI activities of multinational firms. To this end, I conduct a systematic review of the mainstream business, management and economics literature to understand, collate and identify the contributions of migrants to international economic activities. Combining insights from my review of the literature, with insights derived from case studies focused on low-skilled migrants in ethnic communities (Portes & Sensenbrenner, 1993) and high-skilled migrants in the Silicon Valley region (Saxenian, 2005, Saxenian, 1999), I propose a theoretical framework that seeks to not only collate the knowledge dispersed across several disciplines, but also provide a cohesive conceptualization of the migration-FDI phenomenon in the context of international business. Three roles are identified – (1) Migrants as carriers and conduits of knowledge; (2) Migrants as creators of institutional affinity; (3) Migrants as connectors of institutional environments. The 3C's migrant framework proposed in this chapter forms the basis for the three empirical studies presented in Chapters 4, 5, and 6 of this dissertation.

In Chapter 3, I briefly present the rationale for choosing the United States (U.S.) as the research context for the three empirical studies in this dissertation. This is followed by a description of the key explanatory and the dependent variables used in the empirical studies. Also included are details about the data and the sources of these data. Several charts, showing the trends in migration and FDI in the context of the U.S., are provided in this chapter.

In Chapter 4, I present the first empirical study of this dissertation. Drawing on the conceptual framework introduced in Chapter 2, in this country-level study, I examine the extent to which the second and the third roles of migrants (i.e. creators of institutional

affinity and providers of institutional connectedness, respectively) facilitate the FDI activities of firms from their COO. In this study, the U.S. is a host location from an FDI perspective. Using panel data estimation methods and addressing endogeneity concerns, I find that institutional affinity in the migrants' COR with respect to their COO is a significant predictor of future inward FDI from the migrants' COO for firms from developing countries. In addition, I find that institutional connectedness provided by migrants has a positive effect on FDI for both, developing and developed countries.

In Chapter 5, I present the second empirical study of this dissertation. In this study, similar to the study in Chapter 4, I examine the effect of institutional affinity and institutional connectedness on FDI, but at the regional level in the U.S. context. In this cross-sectional study, the 50 states of the U.S. serve as the host from an FDI perspective. Using establishment level data of foreign multinational firms in the U.S., I find that while migrants from a COO are a predictor of future inward FDI from that COO in their state of residence, other measures of institutional affinity are not. As this study is based on a few high-income countries, this finding corroborates the findings in Chapter 4, where I find significant findings primarily for developing countries. The role of institutional connectedness in positively affecting inward FDI is reconfirmed by the findings of this regional study.

In Chapter 6, I present the third empirical study of this dissertation. Drawing on the conceptual framework introduced in Chapter 2, in this country-level study, I examine the extent to which migrant decision-makers (i.e. the first migrant role in the framework) and the institutional connectedness provided by migrants, influences the outward FDI activities of firms in their COR. In this study, the U.S. is a home country from an FDI

perspective. Using panel data estimation methods, and relying on alternative econometric approaches, I find that the presence of migrant managers in a COR is a strong predictor of outward FDI to their COO, when the COO is a developing country. Similar to the finding in Chapter 4, with regard to institutional connectedness, I find that connectedness provided by migrants plays an important role in positively influencing outward FDI to their COO for developing countries.

In Chapter 7, I present the contributions of this dissertation to the theoretical and the methodological literature. This is followed by the limitations of the empirical studies presented in this dissertation. I conclude with directions for future research.

2 Migration and foreign direct investment: Literature review and a conceptual framework

2.1 Introduction

“Long-distance migrations have shaped the contours of the world economy throughout history. The transfer of skill and know-how that accompanies the movement of individuals and groups within and between nations can have an enduring impact on patterns of economic development, as with the modernization of Japan during the Meiji restoration in the nineteenth century, or the transfer of British textile and German steel technology to the United States during the nineteenth century. Economic historians have documented the contributions of personnel recruitment to knowledge transfer and have demonstrated that the experience, relationships, and tacit knowledge that reside in individuals and their communities play a central role in long-distance transfers of technology and economic institutions.” (Saxenian, 2006: 17)

It is clear from the above quote that migration across national borders is not a new phenomenon. It also reflects the role of human migration in contributing to the transfer of technological knowledge and economic institutions for decades. In the recent years, migration has become an interesting area of research in international business due to the spillover effect it generates by influencing economic transactions between foreign-born persons' country of origin (COO) and country of residence (COR). This effect has been accentuated by technological advancements since the 1980s, in the so-called information age, which has facilitated greater, frequent and more elaborate communication possibilities between humans across the globe. Enhanced communication possibilities have enabled the maintenance of people-based relationships over long and short distances, both within and across borders. Emigrants or people who leave their country of birth to live permanently in others, often do not migrate with all their social connections; as a result, they maintain contact with their familial, social and business contacts in their COO. These ties whether originating from work relationships or from social relationships

of foreign-born persons facilitate knowledge flows between their COO and COR. In addition to these knowledge connections provided by foreign-born persons, the changes they bring about in the local regions of their COR also play a role in international business activities. Foreign-born persons are carriers of their national cultural heritage and tend to have a different set of informal constraints or institutions (norms, values, beliefs etc.) that guide their behavior, in comparison to the natives in their COR. Transplanted foreign-born persons in an effort to adjust in their new environment bring about changes in the institutional environment of their COR. These changes in the form of new or adapted rules, and new organizations in the business and social domains of their COR, alter the formal and informal institutional environment that makes the location somewhat similar to their COO. Building on these themes, in this chapter, I offer a conceptual framework that elaborates on the mechanisms through which one would expect foreign-born persons to affect the foreign direct investment (FDI) activities of multinational corporations (MNCs), both in their COO and COR.

2.2 Standing on the shoulders of giants

Beginning with the seminal work of Hymer (1960), and the path breaking work of scholars like Caves (1971) and Dunning (1958, 1973, 1988, 1995, 1980) , there is now a huge literature in the international business (IB) domain that examines the determinants and effects of FDI activities of MNCs. I do not attempt to review the extant literature on FDI that deals with various facets of the investment activities of MNCs; these include, but are not limited to, the motives and determinants of FDI, performance of multinationals, impact of FDI activities on home and host countries, exchange rates and tax effects, and policy implications in home and host countries. For a broader discussion

of these papers, readers are referred to Caves (1996), Dunning (1988, 1993), Blomstrom, Kokko, Globerman (2001), Blonigen (2005), Kuemmerle (1999), Smeets (2008) and Faeth (2009). In the next section, I briefly discuss the literature on the determinants of FDI in relation to this dissertation.

2.2.1 Determinants of foreign direct investment

Dissatisfied with the neoclassical explanation of interest-rate differentials as the factor influencing direct capital investments of firms, Hymer (1960) laid out the specific motives that induced firms to engage in direct, as opposed to portfolio investments across borders. Hymer (1960), drawing on Coase's (1937) work, was the first scholar to clearly articulate the concept of firm-specific advantages. He argued that firms choosing to invest abroad must possess some type of firm-specific advantages that outweigh the costs of operating in a foreign location. Hymer viewed firm-specific advantages as deviations from perfect competition, and it were these market imperfections, that enabled a firm to carve out a position of market power in domestic home markets (Ietto-Gillies, 2012: 53). Drawing on the notion of industrial concentration and entry barriers, as proposed by Bain (1959), Hymer argued that MNCs invest in foreign production to reduce competition and increase barriers of entry in their industry. While Hymer did not elaborate on the kinds of firm-specific advantages that firms may use to expand internationally (Yamin, 2000), Kindleberger (1969) reformulated Hymer's work in the industrial organization tradition and provided insights into these market imperfections. Kindleberger (1969) noted that product differentiation, special marketing skills, patented technology, access to capital, differences in skills of managers, internal and external economies of scale, and government restrictions on output or entry all constituted *monopolistic advantages*.

Drawing on the concept of transaction costs, as conceived by Coase (1937), internalization approach scholars (Buckley & Casson, 1976) argue that a firm would engage in FDI as opposed to licensing or exporting, when it is cheaper to transact within the boundary of the firm as opposed to engaging in a market exchange. The rationale is that firms would engage in FDI to reduce costs associated with opportunism, bounded rationality and uncertainty in international transactions.

Dunning (1988, 1980, 1977) acknowledged the importance of firm-specific advantages as conceived by Hymer (1960), and the notion of internalization as proposed by Buckley and Casson (1976), but argued that these two advantages are not enough for firms to engage in FDI. He noted that firms would engage in FDI in a location, only if the location offered certain advantages above and beyond the home country of the investing firm. Dunning combined these three types of advantages – Ownership (or O) advantages, Location (or L) advantages and Internalization (or I) advantages into what he called the OLI framework or the Eclectic paradigm of FDI, that outlines the three conditions that determine whether or not a firm would engage in FDI. The first condition, O, seeks an answer to the question - *Why firms go abroad?* The second condition, L, seeks an answer to the question - *Where do firms locate their productive activities?* The third condition, I, seeks an answer to the question - *How do firms enter cross border locations?* Dunning (1988) argued that ownership advantages, which give some firms a competitive advantage over their rivals, are the result of both tangible assets (such as patents, trademarks, copyrights, etc.) and intangible assets (like managerial capabilities, technological knowledge, etc.).

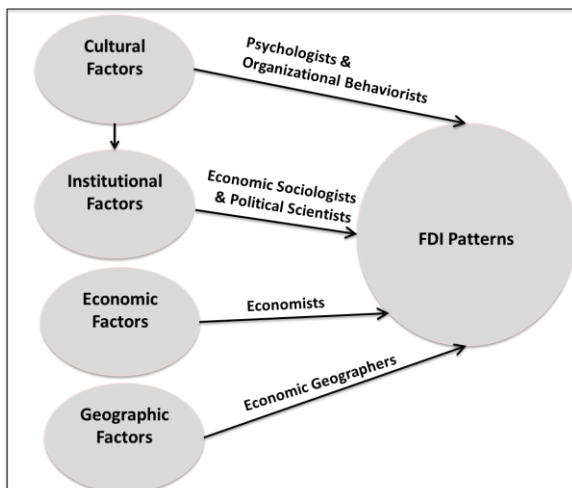
While the theories mentioned so far, view internationalization in a static framework, Johanson and Vahlne (1977) developed a dynamic model of the process of internationalization of the firm, where a firm incrementally increases its resource commitment in a market. Authors argue that resource commitment in subsequent stages of investment is greater, as the firm learns from its experience in foreign markets and uses this learning to make more informed subsequent decisions. Their approach draws on the behavioral theory of the firm (Cyert & March, 1963) and on Penrose's (1959) focus on experiential knowledge of human resources within firms. While their earlier model focused primarily on the marketing function (and not on production) and was based on the assumption that knowledge about foreign markets and operations can be obtained mainly through firm's operations abroad, Johanson and Vahlne (2009) have revisited their internationalization process model in the light of the developments in the information age. They now view the business environment as a "web of relationships" (Johanson & Vahlne, 2009: 1411) and argue, "Outsidership, in relation to the relevant network, more than psychic distance, is the root of uncertainty" (Johanson & Vahlne, 2009: 1411).

Since the 1980s, economic globalization, dramatic advances in information and communication technologies and increasingly complex nature of technology (Cantwell & Santangelo, 2002) has brought some fundamental changes not only in the ways by which MNCs engage in cross-border activities, but also in their motives for engaging in direct investment. As firms are increasingly using a variety of modes to enter international locations and the motives include both, complementing as well as exploiting their firm-specific advantages (Kuemmerle, 1999, Kuemmerle, 1997), the kinds of questions that

international business scholars are researching have now changed. Their enquiries have led to a variety of studies focusing on FDI determinants from the perspective of home-country specific factors, host country specific factors, cultural factors, and policy instruments, among others. Broadly speaking, however, FDI determinants fall into four major groups – cultural factors, institutional (or administrative) factors, geographic factors and economic factors, often referred to collectively as the CAGE distance framework (Ghemawat, 2001). Several scholars have examined the effects of these factors that are conceptualized in terms of distance between FDI home and host countries. These distances are as follows: cultural distance (Kogut & Singh, 1988), economic distance (Tsang & Yip, 2007), geographic distance (Grosse & Trevino, 1996), and institutional distance (Berry, Guillen, & Zhou, 2010, Kostova & Zaheer, 1999, Xu & Shenkar, 2002). Figure 2-1 shows the primary causal factors (not necessarily the only factors) that tend to influence the FDI patterns that we observe¹. It also shows, broadly speaking, scholars from which disciplines, have examined the relationships between the various factors and FDI.

Figure 2-1: Primary causal factors influencing FDI patterns

¹ Note that the model in Figure 2-1 shows the net effects of these factors; causality tends to run in both directions for most of arrows shown in Figure 2-1



Next, I examine the determinants of international human migration.

2.2.2 Determinants of international migration

Great advances in transportation technologies, in combination with the changing political and economic landscape of the world that saw the fall of communism in Eastern Europe in the 1990s, opening up of China since the 1980s and the economic liberalization of India since the 1990s, has greatly facilitated both capital as well as human flows across borders. Massey et al. (1993) write, and I quote them –

“Most of the world’s developed countries have become diverse, multiethnic societies, and those that have not reached this state are moving decisively in that direction.”

(Massey, Arango, Hugo, Kouaouci, Pellegrino, Taylor; 1993: 431)

Macroeconomists in the neoclassical tradition argue that geographic differences in the demand and supply of labor leads to labor migration. Microeconomists, on the other hand, tend to model migration as an individual choice, where an individual seeks gains in wages, and therefore undergoes the costs of moving, searching for a job and adapting to a new culture, business environment among other things. Both macro and micro economists seem to agree that migration decisions arise due to discontinuities between

labor markets; other markets do not seem to have significant effects on global migration (Massey et al. (1993)). Another stream of research critiques the microeconomic model, which deals with the rational behavior of the individual emigrant; instead it proposes that migration should be viewed as a family decision as opposed to a decision by an individual (Stark, 1984). This view, according to Massey et al. (1993) does not see wage differential as a necessary condition for international migration to occur.

While neoclassical theorists focus on micro-level decision models (made by rational individual or the household), dual labor market theory views international labor migration as demand-based, where employers in developed societies recruit foreign-born workers from foreign countries when the demand for labor is high and release these resources when the demand falls. This gives rise to dual labor markets called primary (for more secure and skilled jobs) and secondary sector (for relatively unstable and unskilled jobs) (Massey et al., 1993). World system theory, on the other hand, takes into consideration the changes in the global political economy, in terms of economic liberalization and expanding global market to posit that international migration is a result of the capitalist market formation in the developing world and that it is especially likely between countries with colonial ties due to cultural, linguistic, administrative and communication links (Massey et al., 1993).

The theories of migration discussed so far, focus on either the push or the pull factors that initiate individuals to migrate across borders. Some scholars, however, have taken a network-based stance with regard to migration. According to the theory of cumulative social networks, the greater is the number of emigrants a person in a sending region knows, the greater is the likelihood that he or she will also emigrate (Massey &

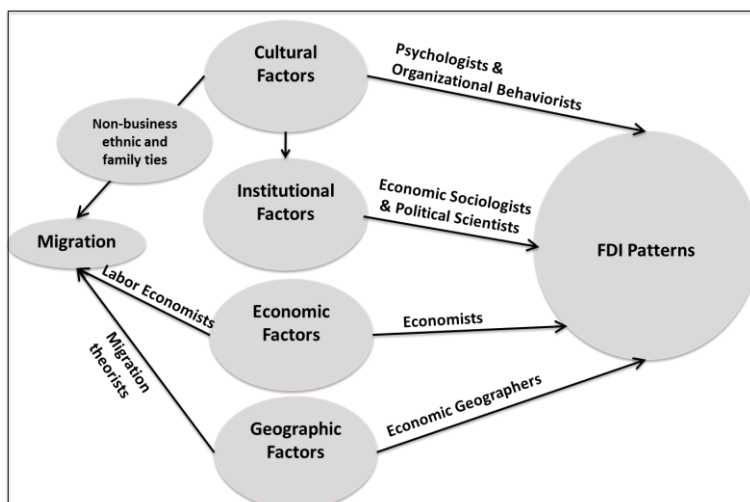
Espana, 1987). Massey et al. (1993) note that these network connections are a stronger predictor of international migration, because the obstacles in international migration are greater. Beine et al. (2011) provide empirical evidence for this phenomenon from the perspective of diaspora communities. Using a bilateral data set on international migration from 195 countries to 30 OECD countries in 1990 and 2000, Beine et al. (2011) find that existing diasporas in a COR increase inflow of foreign-born persons from the respective COO. They also find that these new foreign-born persons, on average, tend to have lower educational level than those in the diaspora community.

To sum up the discussion on the determinants of international migration, I quote, Freeman (2006), who writes –

“Why Do Immigrants Come? For economic gain, says the economist. Because of social networks says the sociologist. Over short distances, says the geographer. For family reasons, says the rules for visas in many countries. All are right.” (Freeman, 2006: 152)

The above quote succinctly tells us that migration is, in effect, bound up with all the factors that influence FDI patterns. In other words, the model shown in Figure 2-1 can be enhanced to include migration as well. Figure 2-2 shows that migration is also affected by cultural, institutional, economic and geographic factors. Individuals tend to migrate to countries that (1) are culturally similar and/or, (2) have immigrant friendly policies and/or, (3) provide economic benefits and/or, (4) are geographically proximate.

Figure 2-2: Primary causal factors influencing FDI patterns and migration



With increased labor mobility between countries, there has been a surge in interest in migration related studies in many areas of business and economics. Several studies, in the recent years, have shown that increased migration facilitates both capital and goods' flows, by reducing transaction costs and by improving information flows between the countries of origin and countries of residence of foreign-born persons. In the next section, I review the related literature that focuses on the effects of migration on international trade and investment in the fields of management, international business and economics.

2.2.3 International migration and international business: taking stock

“My personal motivation for investment within Israel was prompted primarily by my long association and emotional interest in Israel...”

“The main reason we went into this venture was emotional reaction. We wanted to help Israel’s economy, and to reduce its need for charity or sales of bonds.”

“Money goes where money is attracted. Sentiment helped to make Jews contribute money, but I have never seen anybody - Jew or non-Jew – who was

willing to talk seriously of investment in Israel unless he saw possibilities of good profits.”

- Respondents in the study by Aharoni (1966: 200-203)

Aharoni (1966) is one of the first scholars to talk about the social nature of the decision-making process and to examine the role of foreign-born workers in facilitating investments in their COO (specifically, American Jews investing in the State of Israel). Aharoni (1966) emphasizes the importance of ‘social system’ in the decision-making process and argues that “decision making in complex organizations is a very long *social* process, not solely an intellectual exercise” (Aharoni, 1966: 219; emphasis added). The first two quotes shown above reflect the social nature of the decision-making process, but the third quote reminds us that a balance between social embeddedness of economic actions (Granovetter, 1985) and the realization of firm profits needs to be struck. Though the focus of Aharoni’s study is to provide a clearer explanation of the decision-making process with regard to foreign investments, his study provides valuable insights to my research.

Building on the notion of embeddedness (Granovetter, 1985), Portes and Sensenbrenner (1993) use examples of ethnic communities (Dominicans in New York city and Cubans in Miami) to illustrate how social structure plays a role in economic activity in these communities through mechanisms of *value introjection*, *reciprocity transactions*, *bounded solidarity* and *enforceable trust* (Portes & Sensenbrenner, 1993: 1326). This stream of sociological literature has focused on low-skilled migration, ethnic entrepreneurship and ethnic enclaves, which Portes (1995) defines as “spatially clustered networks of businesses owned by members of the same minority” (Portes, 1995: 27). I

acknowledge the contribution of sociologists (Massey, Arango, Hugo, Kouaouci, Pellegrino, & Taylor, 1993, Tilly, 1990) to my understanding of the migration process and economic activity in ethnic communities (Portes & Sensenbrenner, 1993), and draw inspiration from their case studies, thereby integrating their view of the effect of social relationships of foreign-born workers in influencing the selection and the organization of economic goals in firms.

Some of the most extensive case studies that examine the role of high-skilled Asian immigrants in affecting regional and international economic activities are by Anna Lee Saxenian (Saxenian, 2006, 1999, Saxenian, 2002, Saxenian & Hsu, 2001). Saxenian (2006, 1999) shows in her case studies, how the highly-skilled foreign-born workers of Indian, Chinese and Taiwanese origin have contributed to the regional economy in California. She also examines the role of Asian scientists, engineers and entrepreneurs in helping to build long-distance social networks between Silicon Valley and Asia; she calls these networks - transnational communities (Saxenian, 2002). I draw inspiration and insights from the above-mentioned scholarly works to arrive at my conceptual framework. Next, I examine the studies related to my research in the IB and macroeconomic literature streams.

Migration studies in international business and management literature

Relatively few studies have explicitly examined the migration-FDI relationship in the business and management literatures. A systematic review of the business and management literature to identify journal articles that have looked at the role of foreign-born workers in affecting international economic activities resulted in 182 articles. I read

the abstracts of these 182 articles to assess their relevance to my research (detailed steps for data collection and cleaning are set out in the appendix, 8.2.1). After several steps for cleaning the data were taken, I identified a sample of thirty-two articles for detailed review. Table 8-2 in the appendix shows the list of these thirty-two articles; author/s, title, year of publication, theoretical underpinnings, and the key findings of these studies are provided. I grouped these thirty-two articles in five categories depending on the area of their research. I find, however, that only a handful of these articles are directly relevant to my research; these are discussed below.

Drawing on Granovetter's (1973) notion of social ties and Burt's (1992) concept of bridge ties, several studies in the international business and management literature have emphasized the importance of business and familial ties in international market entry decisions. For example, Ellis (2000) argues that "knowledge of foreign market opportunities is contingent upon the idiosyncratic benefits of each individual's social network" (Ellis, 2000: 448). As a result, "information search activities would appear to be selectively influenced by those existing social ties linking the initiating decision-maker (i.e., seller, buyer, or third party) with others that are in some way connected to a particular foreign market" (Ellis, 2000: 448). Ellis (2000) examines the foreign market entries of toy manufacturers in Hong Kong (in 1997-1998), and consistent with the claim of social network theorists, the results of his case study show that information about foreign market entry opportunities is "commonly acquired via existing social ties" (Ellis, 2000: 462). The importance of social ties as an informal mechanism for coordinating exchanges (Granovetter, 1985, Uzzi, 1997) is evident in several empirical studies (e.g.

Wong & Ellis (2002), Chung & Tung, (2013), and Sheng, Zhou & Li (2011)) in the literature.

Zaheer, Lamin & Subramani (2009) examine the extent to which social ties as opposed to knowledge spillovers found in a cluster influence location choice for new entrants. To this end, authors use 108 location decisions across 11 city clusters in the information technology-enabled service industry in India. Authors suggest that emerging markets, such as India, lack formal institutional structures to support entrepreneurial activity, therefore CEO's social ties with key stakeholders (i.e. bankers, firm employees, bureaucrats etc.) will be important in the early stages of location decision-making. They find that ethnic networks exert greater influence than cluster capabilities on location decisions. Similarly, Hernandez (2014) examines the role of immigrants in the United States in influencing the location choice and the survival of subsidiaries of firms from twenty-seven countries (in the United States) between 1998 and 2003. He finds that the chances of locating operations and surviving in a state rise with increased concentration of same-nationality immigrants and that these effects are stronger for inexperienced firms. He also finds that the effects are stronger for locations where immigrants can help facilitate industry-specific knowledge spillovers and for knowledge-seeking subsidiaries.

Viewing humans as carriers of globalization, Madhavan and Iriyama (2009) argue that highly educated foreign-born workers who remain embedded in their COO, while establishing themselves in their adopted COR, function as "*opportunity-sensing, value-adding, and monitoring devices*" (Madhavan & Iriyama, 2009: 1242). These professional and technical workers, they argue, often work with their venture capital partners in their

COR to seek funding for new ventures in their COO. Using venture capital flow data from 1982 to 2002 and lagged migration data, authors find support for their argument.

Building on the premise that knowledge flows tend to be geographically localized (Jaffe, Trajtenberg, & Henderson, 1993), and are facilitated by social relationships (Almeida & Kogut, 1999), Oettl and Agrawal (2008) examine knowledge flows when an inventor moves across borders. Using a 21-year panel data set (1980-2000) of patent citation counts, authors find that the COR of the inventor benefits from knowledge flows to a greater extent than the firm that hires the inventor. Authors also find that inventor's prior firm in his COO benefits from increased knowledge flows from the inventor's hiring firm and also from the new COR of the inventor. Levin and Barnard (2013) demonstrate the value of inter-personal connections, between individuals in less-developed countries and their compatriots in advanced countries, in gaining access to useful business knowledge. Authors argue that while weak ties are a source of novel knowledge and new ideas, as they generally operate in different social circles (Granovetter, 1973, Levin & Cross, 2004), strong ties have the benefit of increased 'willingness to share' that plays a crucial role in cross-border knowledge transfer due to the inherent complexity of coordination arising from time zone differences, schedule conflicts, and long-distance communication (Levin & Barnard, 2013: 680). Using survey data from 249 South African middle managers, authors find that "overseas knowledge is preferred when there is a strong interpersonal tie, when there is a need for new-to-industry knowledge and when the transfer of knowledge does not require a long discussion" (Levin & Barnard, 2013: 676).

Migration related studies in macroeconomics

Several macroeconomic studies have examined the relationship between migration and international economic activity, specifically trade and FDI, in the recent decades. One of the first scholars to look at the effects of immigration on trade is Gould (1994). He argues that ties of immigrants to their countries of origin can play an important role in enhancing bilateral trade linkages. Gould notes that immigrants' knowledge of opportunities in their COO, familiarity with language and local contacts can help reduce trading transaction costs. Using the data on 47 trading partners of the United States (U.S.) from 1970 through 1986, Gould finds that immigrants positively influence bilateral trade flows. He also finds that U.S. exports seem to be affected more by immigrants than U.S. imports. Following Gould's seminal study, numerous scholars have contributed to this stream of research examining the migration-trade link. Girma and Yu (2002) examine the effect of immigrants on trade between United Kingdom (U.K.) and its 48 trading partners from 1981 through 1993. They categorize the countries in their study into two groups - commonwealth and non-commonwealth. They find that immigrants from non-commonwealth countries tend to positively influence trade between their COO and the U.K., but no significant positive effect is found for commonwealth countries. Girma and Yu (2002) conclude that it is likely that immigrants from non-commonwealth countries bring additional information that was not previously known to, or available to the U.K. residents, and hence the pro-trade effect. Studies looking at the relationship between immigrants and trade have been done in many different country contexts. For an extensive summary of findings from the literature investigating the immigrant-trade link, reader is referred to the recent work by White and Tadesse ((2011): 20-24).

The relation between immigration and FDI is not a new phenomenon (Clemens & Williamson, 2000). However, better availability of migration data and the dramatic increase in the international flow of humans in the recent decades, has led to an increased traction in this area of research by macroeconomists. For example, Groznik (2003) analyzes six different aggregate data sets that span different periods to find that migration flows precede and help to explain direct investment flows. Gao (2003) uses a cross-sectional dataset to examine the role of ethnic Chinese population in investor countries in facilitating FDI in China. Gao (2003) finds that a 1% point increase in the ethnic Chinese population share abroad, leads to a 3.7% or higher increase in cumulative FDI in China. Kugler and Rapoport (2005) use the U.S. data on bilateral labor inflows and capital outflows to measure if migration and FDI are complements or, substitutes as the standard trade theory would predict. They find that labor inflows and capital outflows are negatively correlated contemporaneously, but that skilled labor inflow is positively correlated with future increases in FDI outflows to immigrants' COO. Kugler and Rapoport (2005) argue that the presence of immigrants can facilitate the creation of linkages needed for efficient procurement, sales, distribution and establishment of the subsidiary.

Following this stream of literature, Bhattacharya and Groznik (2008) examine if national origin is a factor in the U.S. investments abroad. They also examine if this effect is in same or reverse direction for FDI versus portfolio investments. Authors find that U.S. investments, both direct and portfolio are positively affected by the size of the immigrant population living in the United States. Along similar lines, Foad (2011) uses foreign-born population data across 28 countries to estimate the effect of foreign-born

population on foreign equity position of these countries across a total of 41 foreign equity markets. He finds that inward migration is positively correlated with increased foreign equity positions and reduced home bias. Similarly, Javorcik et al (2011) argue that foreign-born workers promote information flows by virtue of their cross-border social and business networks, in addition to serving as a contract enforcement mechanism in international FDI activities. They find that tertiary-educated foreign-born workers are more likely to facilitate FDI into their COO. Unlike the macroeconomic studies described above, two studies have examined the migration-FDI relationship at the regional level. Buch, Kleinert and Toubal (2006) find that inward FDI in German states is positively related to the presence of large foreign population from the same COO. Similarly, Foad (2012) examines the regional distribution of migration and FDI from ten source countries to the U.S. states; this study finds that immigration is positively correlated with FDI and tends to lead it.

The studies described above suggest that immigrants influence trade and investment flows by acting as information hubs between investors in their COR and COO. Their preference for culture-specific products also influences trade and investment flows. Some studies list reduced transaction costs through social networks and community sanctions as mechanisms (Javorcik, Özden, Spatareanu, & Neagu, 2011, Tong, 2005), while others have examined the role of common country bonds as channels of knowledge (Hernandez, 2014). Still others suggest that immigrants, themselves, are often involved in facilitating investments in their countries of origin as illustrated by the case study of Jewish diaspora investments in Israel (Aharoni, 1966), and by studies of

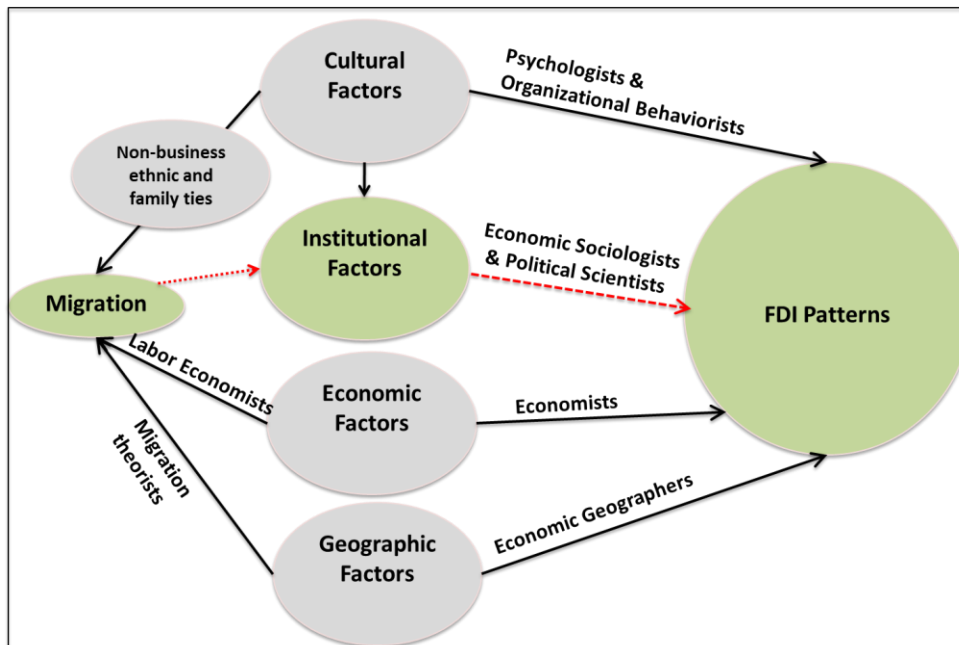
Asian engineers and scientists in the information and communication technologies industry (Saxenian, 2006, Saxenian, 1999).

My review of the two main literature streams, which have examined the role of foreign-born persons in influencing international economic activities, suggests that a common thread runs through most of these studies. These studies seem to emphasize one or both of the following two factors in contributing to the relationship between migration and FDI: (1) the role of social ties and embeddedness, drawing on the relational governance perspective (Burt, 2000, Granovetter, 1985, Uzzi, 1997), and (2) the role of idiosyncratic knowledge held by foreign-born workers. The underlying assumption is that international economic activities carry higher transaction costs (Coase, 1937, Williamson, 1981) due to increased liability of foreignness (Hymer, 1960, Zaheer, 1995), and foreign-born workers help in lowering these costs. Ties bring social benefits of trust, reciprocity, and commitment, and these translate into economic terms as lower search, transaction, and transformation costs in international transactions (Ellis, 2011). Knowledge of business opportunities, potential partners, human resources, language, and negotiation skills give foreign-born workers an edge over natives, when exchange involves ethnic goods and services, or investment in their COO.

In this dissertation, I argue that there is a third factor that influences the migration-FDI relationship. Drawing on North's theory of institutional change (North, 1994, North, 1990), I argue that increased concentration of migrants (or persons born in one country but living as permanent residents in another country) from a COO, in the subnational regions of a country, and their day-to-day interactions and exchange in the social, economic, and political domains, over time, lead to changes in the institutional

environment of a location. These changes make the location somewhat similar to migrants' COO (hence less foreign), thus making the location attractive to COO firms seeking to invest overseas. In this dissertation, I examine the effect of migration and migration-related institutional changes in the COR of migrants, on the FDI patterns between their COO and COR. To this end, I propose a theoretical framework that collates the knowledge of the migration-FDI phenomenon dispersed across several disciplines. Figure 2-3 shows the updated model that reflects the positioning of the studies in this dissertation (shaded in green) with regard to the extant FDI literature in global strategy and business.

Figure 2-3: Conceptual Positioning of my dissertation in the FDI determinant literature



2.3 Development of a new conceptual framework

Drawing on the key themes and mechanisms identified through the review of the extant literature, I propose three roles by virtue of which migrant workers may influence

investment activities of firms in their adopted COR and their COO. These roles are as follows: (1) Migrants as carriers and conduits of knowledge; (2) Migrants as creators of institutional variety; (3) Migrants as connectors of cross-border institutional environments. This role-based 3C's (carriers, creators and connectors) migrant framework rests on several assumptions. First, I assume that migrants have some prior knowledge of their COO's business environment, and have had a first-hand experience of its institutional environment and the political economy for an extended period of time. For example, a person, who attended college in his COO or was employed in his COO, before he immigrated to another country, would fit this criterion. Second, I assume that there is a knowledge gap between migrants' COR and COO, and this gap gives migrants a comparative advantage over natives in migrants' COR. Knowledge gap may be in any (or any combination) of the relevant business domains, such as technological knowledge, or formal institutional knowledge, or informal institutional knowledge, or product or process-related knowledge, among others. Lastly, my focus is primarily on first-generation migrants, as second and third generation migrants are less likely to maintain connections with their parents' COO. They are less likely to have been exposed to their parents' COO and so they are less likely to have social and business contacts in those locations. In the next three sub-sections, I elaborate on each of these migrant roles that facilitate international economic activity between migrants' COO and COR. Although I focus specifically on FDI activity in this dissertation, the framework is applicable to other international economic activities as well.

2.3.1 Migrants as carriers and conduits of knowledge

Knowledge carriers

Each individual is a carrier of his or her own knowledge world – a world formed and continuously updated by one's life experiences, both sensory and internal, in the business and society of a country. Informal constraints that guide human interaction in a society vary from one country to another and are passed down from one generation to another as “customs, taboos, and myths that provided cultural continuity” (North, 1994: 363).

Despite sub-national cultural and linguistic differences, a person of Indian origin is likely to have experiences that are common with other persons of Indian origin, due to their exposure to similar economic, educational, legal and political system across the India states. In other words, migrants from a COO are likely to have some shared experiences and a common understanding of the economic, political, social, legal and educational systems of that country. These experiences are likely to provide migrants with some tacit knowledge (Polanyi, 1961) of their COO and this knowledge, as noted by several theorists of organizational culture, is unlikely to be gained by other persons new to that country, explicitly by reading a book. Given the importance of knowledge in the foreign expansion of firms (Kogut & Zander, 1993), migrants can use their knowledge (as compared to natives) in their COR to help lower transaction costs and informal barriers arising from linguistic differences in business communications (Gao, 2003, Gould, 1994, Javorcik, Özden, Spatareanu, & Neagu, 2011). They can act as middlemen during the long drawn investment process and during project execution in locations in their COO, as they are more likely to understand both what is being said and what is left unsaid (Chung, Naruemitmongkonsuk, & Enderwick, 2010). This idiosyncratic knowledge may become a valuable and inimitable resource for firms (Barney, 1991, Zaheer, Lamin, & Subramani, 2009) seeking to expand overseas. Migrant's tacit knowledge about customer preferences

for differentiated ethnic products is useful to firms in those industries (Gould, 1994) and have known to influence market entry decisions (Chung, Naruemitmongkonsuk, & Enderwick, 2010).

In sum, migrants by virtue of their experiences, interactions, and affiliations at school, and at their place of work in their COO are likely to carry a variety of knowledge that may be relevant to their business and social community in their COR. As a result of their prior interactions in their occupational industry as well as upstream and downstream industries in their COO, some migrants are likely to carry knowledge pertaining to the quality of labor, work culture, employees' attitude toward work, customer preferences, domestic competition, regulations, suppliers, and distributors in their COO. This knowledge can be a valuable resource for the firms in the migrants' COR.

Knowledge conduits

Migrants by virtue of their interactions with others, in the firms that they work for, or the organizations in their social community (such as professional associations, cultural associations, etc.), are likely to engage in exchange and combination of knowledge through such "mechanisms as meetings and telephone conversations" (Nonaka, 1994: 19) in their COR. Combination of migrants' tacit knowledge and explicit knowledge through interactions with natives, and other migrants leads to new knowledge creation in their COR (Almeida, Phene, & Li, 2015, Oettl & Agrawal, 2008). This knowledge, depending on the context and on the educational qualification and expertise of the migrant, could be of various types, such as industry-specific technological knowledge, product-specific knowledge, cultural knowledge, knowledge of business and social practices in their COO,

knowledge of business contacts, and knowledge of investment opportunities, among others. Through this process of converting tacit knowledge into explicit knowledge that can be shared with others in various contexts, in addition to assimilating explicit knowledge transmitted by other workers (natives and other migrants) in a firm (Nonaka, 1994), migrants are engaged in the process of sharing knowledge (or externalization) as well learning (or internalization as Nonaka calls it) in their adopted COR. Migrants' experiential knowledge of their COO is likely to interact with firm-specific tangible and intangible assets in their COR leading to the creation of new capabilities (Teece, Pisano, & Shuen, 1997) and ownership advantages (Dunning, 1988, Dunning, 1980) in the firms in migrants' COR. In sum, migrant (human) resources in a COR firm, drawing here on Penrose's (1959) notion of resources, could substitute for the experience gained by personnel in a foreign subsidiary, which is a critical factor in renewed commitment of resources in the internationalization process (Johanson & Vahlne, 1977). This, in turn, is likely to expedite the internationalization process of firms.

It is to be noted here that migrants may not have complete knowledge of all aspects of business and culture in their COO, and they may not intentionally, without any incentive, be willing to share it in the organizations that they are a part of. Usability of their idiosyncratic knowledge will depend on level of information already available in the COR. Equally importantly, it is likely to depend on the ability of the migrants to share it in the organizations that they are a part of (Gould, 1994). But one can reasonably expect migrant CEOs or migrant executives or senior managers, by virtue of their position of responsibility, to share idiosyncratic knowledge of business opportunities (or lack thereof) in their COO with regard to their functional domains. Filatotchev et al. (2007)

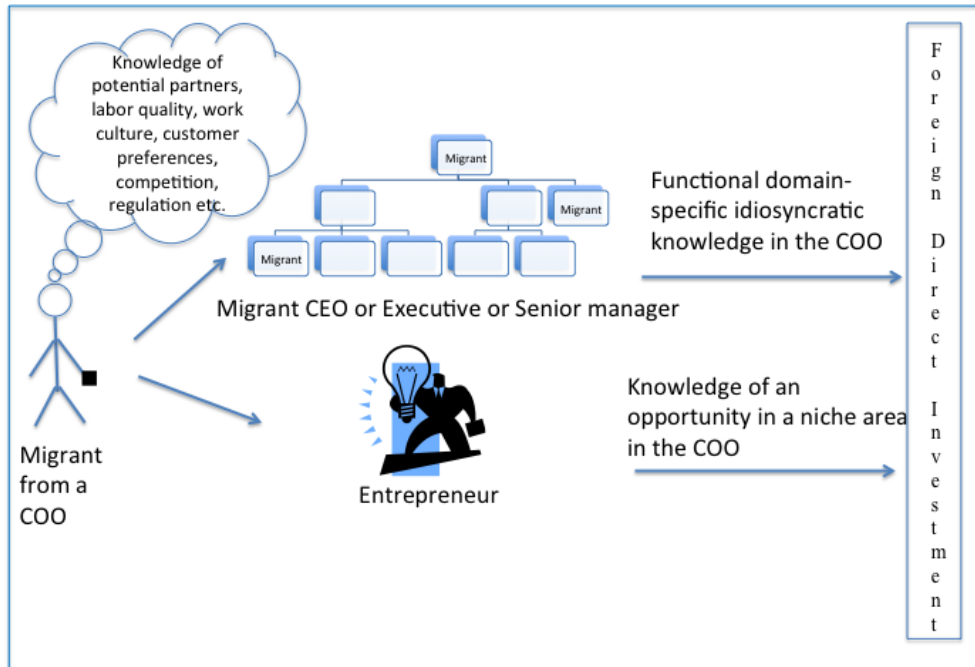
provide anecdotal evidence for this phenomenon in the China-Taiwan migration context. Authors note that the chairman of Formosa Plastic Group (a Taiwanese family-owned firm), Wang Yung-Qing, originally from Fujian province in China, had made large investments in the power-generating sector in that province (Filatotchev et al., 2007: 564). Similarly, personal linkages of chairman, Li Rui-Ho, also from the Fujian province, are noted as a contributing factor in the investment that led to the creation of the biggest tea producer in China – The Ten-Ren Group (Filatotchev, Strange, Piesse, & Lien, 2007).

Highly-skilled migrant workers, such as engineers and scientists, in decision-making positions are likely to possess domain-specific knowledge of products and processes, and may be able to identify tangible and intangible resources in their COO that could be used for more efficient product development in the COR (Pandey, Aggarwal, Devane, & Kuznetsov, 2006). Empirical evidence suggests that tertiary-educated migrants are more likely to facilitate FDI to their COO (Foley & Kerr, 2012, Javorcik, Özden, Spatareanu, & Neagu, 2011, Kerr, 2008). While some decision-makers seek economic benefits from such investments, others may have altruistic motives for engaging in investment in their COO (Aharoni, 1966, Gillespie, Riddle, Sayre, & Sturges, 1999). For example, Saxenian notes that Radha Basu, who set up the Indian development center for Hewlett-Packard (HP) in 1985, strongly identified with and committed herself to India's economic development, and this commitment helped her in taking personal risks in order to establish HP's Indian operations. Saxenian notes that Basu used her credibility to gain confidence and trust of both the HP management and Indian bureaucrats to successfully establish the HP-India development center (Saxenian, 2006: 282).

Some migrants may be individual risk-takers or entrepreneurs, who may capitalize on their differential knowledge of an opportunity in a niche area to fund a start-up in their COO. Recent studies in the international entrepreneurship literature (Ellis, 2011, Neville, Orser, Riding, & Jung, 2014, Sequeira, Carr, & Rasheed, 2009) provide evidence that migrant entrepreneurs ²leverage their unique knowledge and experience of their COO for their startup firms. Figure 2-4 summarizes how migrants, as carriers of idiosyncratic knowledge, influence foreign direct investment decisions in their COR. In sum, migrants are carriers of institutional and experiential knowledge of their COO. Migrants in decision-making positions in firms capitalize on their knowledge for economic as well as altruistic reasons, and in doing so they contribute to the ownership advantages of firms. These resources may become unique and inimitable (Barney, 1991, Dierickx & Cool, 1989) for some firms seeking to expand resources in international locations.

Figure 2-4 Migrants as conduits of knowledge in their COR

² For example, Hidehito Uki came from Japan in the 1980, identified a gap in the market for noodles – custom-made fresh noodles. He overcame numerous financial and linguistic barriers to start his company in 1981 in Oahu, Hawaii. Since then, Sun noodles has expanded on the East and West coasts of the U.S. Source: Beck, Katie. August 2015. Noodle makeover: How one Japanese migrant made it in the US. Honolulu: BBC News.



Source: Author's work using icons from the Microsoft PowerPoint clipart library

2.3.2 Migrants as creators of institutional affinity

I argue in this dissertation that independent of the traditional determinants of FDI, there is an additional factor that comes about as a social effect due to increased concentration of migrants in subnational regions of a host country. Drawing on North's theory of institutional change (North, 1991, North, 1990), I argue that migrants recreate several aspects of their native institutions as a result of their continued business, social, political, and religious interactions in their COR; I call this social effect - *institutional affinity*. I elaborate on the notion of institutional affinity, next.

“Institutions provide the basic structure by which human beings throughout history have created order and attempted to reduce uncertainty in exchange. Together with technology employed, they determine transaction and transformation costs and hence the profitability and feasibility of engaging in economic activity.” (North, 1990; pg. 118)

This quote by North reflects the importance of institutions in influencing economic activity, be it of firms, regions or states. Institutions, according to North, consist of “formal constraints (e.g., rules, laws, and constitutions), informal constraints (e.g., norms of behavior, conventions, self-imposed codes of conduct) and their enforcement characteristics”, and together they define how incentives are structured in societies (North, 1994: 360). Constraints, both formal and informal, help in reducing uncertainty “by establishing a stable (but not necessarily efficient) structure to human interaction” (North, 1990: 6). Formal and informal constraints limit the set of choices available to individuals and firms (Peng, Sun, Pinkham, & Chen, 2009). For example, the transaction costs of operating a plant in a region where corruption is rampant are likely to be much higher than the cost of operating the same plant in a region with little or no corruption. Similarly, an informal constraint in the form of a social obligation, such as the sharing of financial resources by well-to-do members of a family with other members (who are lacking those resources) as observed in many collectivist countries, is likely to influence the economic activity (e.g. presence of more business groups or even poor economic growth due to increased burden on a few able individuals) in the region. In sum, “it is the complex interaction of formal rules and informal constraints, together with the way they are enforced,” (North, 1990: 83) that guides our daily activities in the social, economic and political realm.

If organizations “are groups of individuals bound by some common purpose to achieve objectives”(North, 1990: 5) and include “political bodies (political parties, the Senate, a city council, a regulatory agency), economic bodies (firms, trade unions, family farms, cooperatives), social bodies (churches, clubs, athletic associations), and

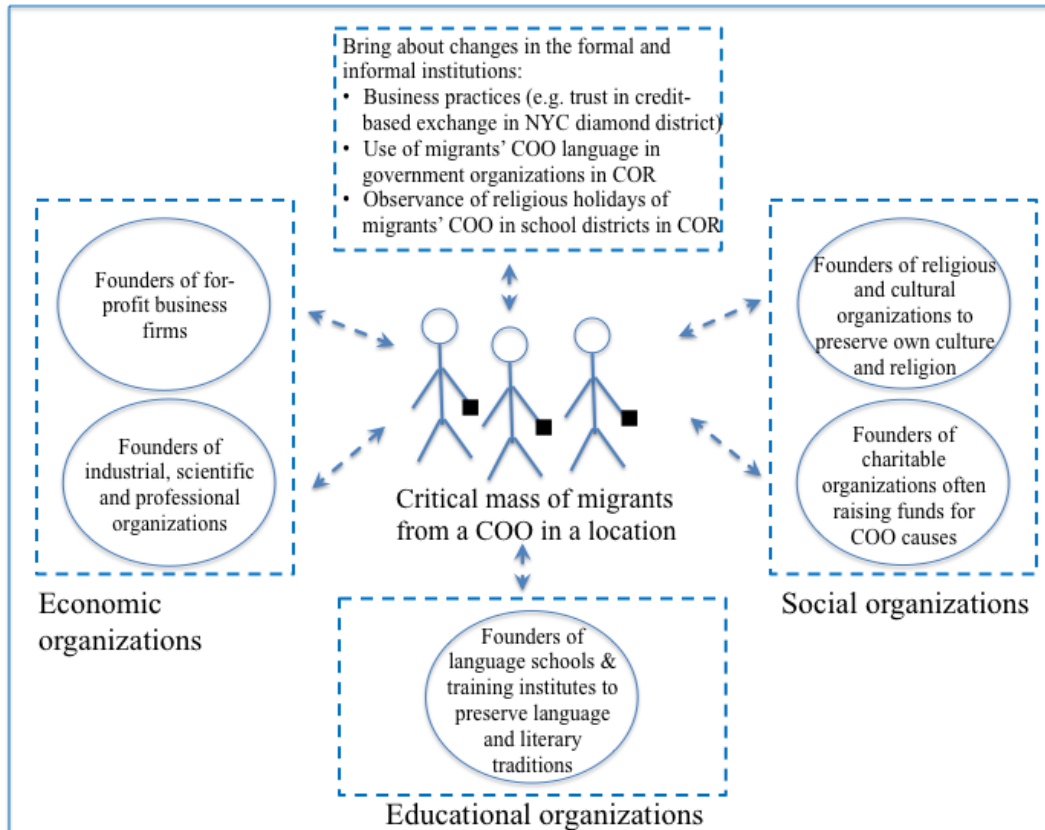
educational bodies (schools, universities, vocational training centers)” (North, 1990: 5), then migrant groups are often involved in the creation of new organizations (aka new players in the game in North’s terms) in an effort to solve problems that the new environment poses. These problems are likely to vary, but broadly speaking, they may include a lack of understanding of a new culture, or possibly a new language, unfamiliarity with the business environment, lack of business and social connections, little or no resemblance to the sights and sounds of one’s home country, and lack of access to ethnic products and services, among others. Ethnic proximity, in addition to the challenges posed by the business environment were the major motivating factors for the founding of numerous engineering, professional and entrepreneurial associations by Asian scientists and engineers in the Silicon Valley region of the United States (Saxenian, 2006). According to Tong (2005), Chinese living in foreign countries often form formal and informal associations based on “kinship, dialect and place of origin in China,” (Tong, 2005: 564) with the goal of assisting new Chinese migrants.

Hirschmann (2004) examines the religious practices of migrants in the American context and finds that migrants tend to become more religious after their arrival; he observes that “one of the first acts of new immigrants is to found their own church, temple or mosque” (Hirschmann, 2004: 1208). These religious organizations (temples, churches, mosques or synagogues) not only assist migrants in adapting to the new COR environment by providing spiritual healing and familiar sights and sounds (of their native country), but often, also provide “status recognition and social mobility that is denied in the broader society” (Hirschmann, 2004: 1229). The support system provided by these organizations, whether religious, cultural or professional helps migrants (both highly

educated as well relatively less educated) in adapting to their new environment. While language, religious affiliation, and associated practices are visible parts of what may make a group of migrants different in an environment that does not share those identities (Hofstede, 1980) , values tend to be implicit; values “belong to the invisible software of our minds” (Hofstede, 1980: 23). The explicit (language, religious practices etc.) and the implicit (values and beliefs) aspects of a migrant group influence their behavior in a new institutional environment, which in turn is affected by their behavior and interactions.

Increased presence of foreign-born population from a COO in a location is likely to influence the institutional environment (business practices, local market needs, capital funding etc.) through other mechanisms as well. Migrants are likely to start their own companies in niche areas that either serve the local ethnic community (Landolt, Autler, & Baires, 1999) or in specific business sectors that have proven successful to other migrants in their community. For example, Kerr and Mandorff (2015) find that Korean Americans are more likely than other migrants to operate dry cleaning businesses, and Gujarati-speaking Indian Americans are more likely than other migrants to manage motels in the United States.

Figure 2-5: Migrants as creators of institutional affinity in their COR



In addition to the founding of new economic organizations (e.g. businesses and scientific knowledge creating organizations), new social and educational organizations to preserve and promote their cultural and linguistic traditions, a critical mass of migrants often bring about changes in the formal and informal rules in their COR. The use of migrants' COO language in the some aspects of official documentation in regional government organizations³ (as in the case of U.S. department of motor vehicles in many states) is one such example. In sum, a critical mass of migrants in a location, contribute to the creation, over time, of an institutional variety in the COR. These changes, as illustrated in Figure 2-5, in the institutional environment manifest themselves in the form

³ The department of motor vehicles in many states in the U.S. offer the written part of the driving tests in many foreign languages.

of new or adapted rules (such as observance of religious holidays, or use of COO language in local offices), and new migrant organizations in the social, economic and educational domains. These changes in the institutional environment in subnational regions, though marginal from the perspective of national institutional structure of the host country, help create a social environment, which is *somewhat* similar to that in migrant group's COO. This social effect that I call *institutional affinity*, may be viewed as a locational advantage.

I argue in this dissertation that all other things being equal, increased institutional affinity with regard to migrants' COO makes a location relatively less foreign to investing firms; this reduced liability of foreignness (Hymer, 1960, Zaheer, 1995) contributes to increased resource commitments by COO firms seeking to invest in cross-border locations. Firms are more likely to locate or expand their operations in areas with increased institutional affinity with regard to their home-country to help alleviate problems related with expatriate failure; inability of managers and their spouses to adjust to a different physical or cultural environment, and family problems have been identified as the main reasons for expatriate failure (Hung-Wen, 2007, Tung, 1982) in foreign locations of MNCs. Migrants preference for home-country goods and services, especially when substitutes for those differentiated ethnic goods (such as ethnic foods, ethnic clothing and print media) are not available in migrants' COR, have been shown to have a positive effect on imports from migrants' COO (White & Tadesse, 2011). As the migrant population in a region grows, thereby expanding the market for cultural and differentiated elite products, firms from COO may find it profitable to invest in production in migrants' COR. But, most importantly, common country bonds are likely to reduce barriers in

knowledge transfer and economic exchange due to homophily (McPherson, Smith-Lovin, & Cook, 2001) and a shared understanding of the goals among parties (Hernandez, 2014, Nahapiet & Ghoshal, 1998). In sum, I view the institutional affinity of a COR region as high (relative to other locations), when the institutional environment of the region is either visibly familiar in terms of sights and sounds with regard to migrants' COO (as in ethnic enclaves), or provides a space that allow migrant knowledge networks to be formed and sustained, or a combination of both. These geographic locations offer advantages (to COO firms) in the form of access to knowledge from conational individuals, access to cultural, religious and economic organizations, and access to human resources who share a common cultural heritage.

2.3.3 Migrants as connectors of cross-border institutional environments

“The analysis of processes in interpersonal networks provides the most fruitful micro-macro bridge. In one way or another, it is through these networks that small-scale interaction becomes translated into large-scale patterns, and that these, in turn, feed back into small groups.” (Granovetter, 1973: 1360)

Granovetter (1985, 1973) emphasizes the role of personal ties in “generating trust and discouraging malfeasance” (Granovetter, 1985: 490) in transactions. He argues that information obtained from a trusted person is better because it is less costly to obtain, and is more detailed, richer and accurate, possibly due the economic and social motivations of the informant (Granovetter, 1985). Transplanted migrants often leave behind social and business connections in their COO. These connections can become valuable sources of knowledge both, for migrants as well as their compatriots back home. Extant studies suggest that migrant's ethnic ties play a role in helping match buyers and sellers in international markets (Rauch, 2001, Rauch & Trindade, 2002), and in location decisions

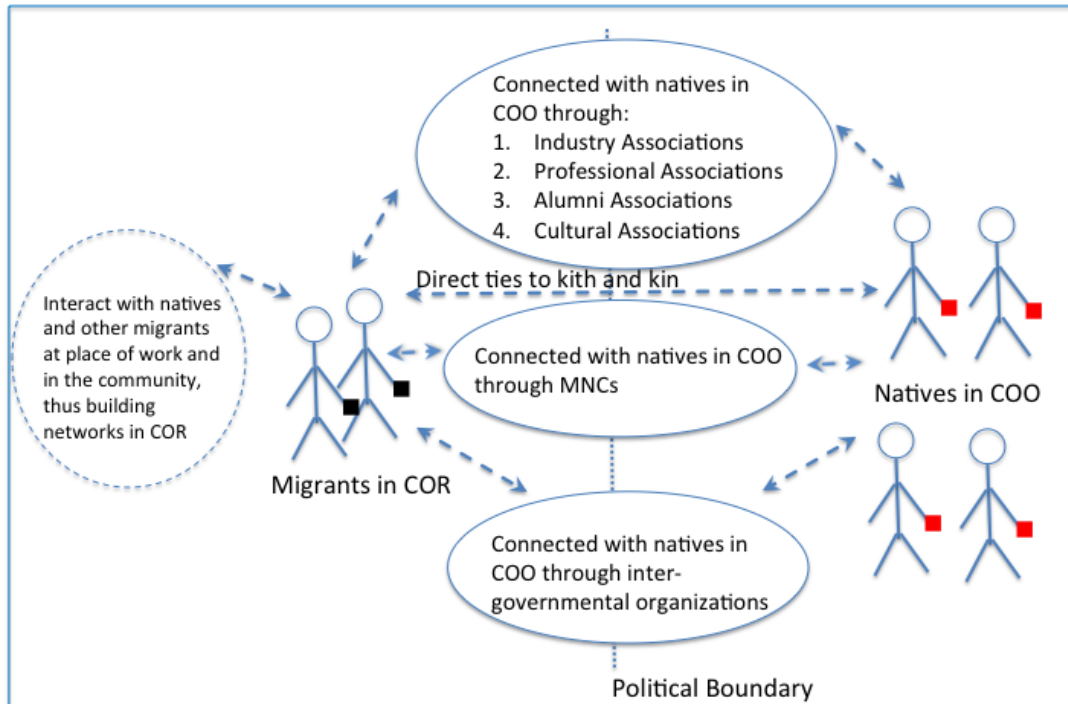
of firms (Zaheer, Lamin, & Subramani, 2009). Linkages – in the form of personal relationships and ethnic networks – between migrants' COO and COR have been shown to provide valuable knowledge flows over a wide range of related industries and technologies between those countries (Lorenzen & Mudambi, 2013, Sonderegger & Taeube, 2010). Technological knowledge flows resulting from the international mobility of skilled workers (Agrawal, Kapur, McHale, & Oettl, 2011, Hornung, 2014, Kerr, 2008, Oettl & Agrawal, 2008) provide further evidence that migrants act as connectors of institutional environments of their COO and COR.

In addition to direct transfers of knowledge, migrants often help facilitate changes in the institutional environment in their COO (Saxenian & Sabel, 2008). Riddle and Brinkerhoff (2011) demonstrate through a case study of an entrepreneurial firm – Thamel.com – started by a Nepalese-born migrant in the U.S., how acculturation of migrant entrepreneurs in their new institutional environment can facilitate ripple effects in the institutional environment of migrant's COO. In other words, highly-skilled workers for various reasons – seeking to fulfill personal business aspirations (Saxenian, 2006) or seeking to give back to their countries of origin (Glennie & Chappell, 2010) or for maintaining friendly connections with ex-coworkers (Oettl & Agrawal, 2008) – play a role in bridging the knowledge worlds of their countries of origin and residence. This connectedness provided by migrants that I call - institutional connectedness - helps facilitates increased international economic activity between migrants' COO and COR.

Through participation in industry, professional, alumni and other cultural organizations (Saxenian, 2006, Saxenian, 1999), as well as inter-governmental organizations (Alcacer & Ingram, 2013, Rangan & Sengul, 2009) that span cross-border

locations, skilled migrants are likely to be embedded in the institutional environments of their COO as well as their COR. This embeddedness in the form of organizing (or participating in) cultural, professional, or charitable events in their COO and COR helps migrants in developing new connections, while maintaining the old ones. Migrants as well as their compatriots back home are likely to use these networks to help reduce search and transaction costs in market exchange. Increased connectedness of environments through participation of migrants and their compatriots in these international organizations is likely to facilitate increased knowledge flows between the countries, and help firms, in both COO and COR, seeking to invest overseas ‘see’ opportunities for business growth. In comparison to firms that only conduct a formal, systematic search for opportunities to expand into a foreign country, firms that also tap into their skilled migrant connections will be able to assess the true value of their investment. Thus, skilled migrants play a crucial role in bridging the institutional environment of their countries of origin and residence. Figure 2-6 summarizes the institutional connectedness provided by migrants between their COO and COR.

Figure 2-6: Migrants as connectors of cross-border institutional environments



Institutional connectedness provided by temporary migrants (aka non-immigrants such as students, business travelers, seasonal workers etc.) and return migrants (Saxenian, 2005) is equally important in facilitating international economic activity between their COO and COR. Non-immigrants bring fresh knowledge of their COO to a COR, thereby providing vital updates to the existing knowledge base of resident migrants. While many non-immigrants may have the intention of staying permanently, the uncertainty with regard to the length of their stay (often due to delayed visa-processing and other legal constraints) in the new COR encourages them to keep close connections with their peers in their COO. This contributes to increased connectedness between migrants' COO and COR. Similarly, return migrants or returnees often serve as a direct mechanism for flow of knowledge between countries. For example, Choudhury (2015) examines the role of returnee managers in the Indian context to find that returnee managers (from the U.S.) and their direct reports are more innovative (i.e. they file more patents) than their

indigenous counterparts. He also finds that patents filed by returnees (or their direct reports) have higher citation rates, thus providing further evidence for knowledge transfer across borders resulting from inventor mobility. In sum, the institutional connectedness provided by migrants is likely to facilitate increased resource commitment between migrants' COO and COR due to an increase in knowledge flows.

2.4 Chapter summary

This chapter begins with a review of the determinants of both FDI and migration. A systematic review of the business, management, economics, sociology and finance literatures to identify key articles that have examined the relationship between migrants and international economic activities led to thirty-two articles in five research areas – (1) Market entry and performance; (2) Entrepreneurship; (3) Foreign investment, trade and remittances; (4) Innovation and knowledge flows; (5) Macroeconomics. The majority of the work that has specifically examined the migration-FDI relationship lies in the domain of macroeconomics, so I also reviewed the literature on migration, trade and FDI in macroeconomics. Drawing insights from my review of these literature streams, I propose a conceptual framework for understanding the migration-FDI relationship. I identify three roles by virtue of which migrant workers influence FDI strategies of firms, these are as follows: (1) Migrants as carriers and conduits of knowledge; (2) Migrants as creators of institutional variety; (3) Migrants as connectors of cross-border institutional environments. These migrant roles are not mutually exclusive. Thus, a Chinese-born executive, who resides in the U.S. and works for an automobile firm in the U.S., may be a carrier of idiosyncratic knowledge of market opportunities and customer preferences in China (as defined by the first role in my framework), but she may also be a founder of

non-profit organization that promotes Chinese culture in the U.S. (as defined by the second role in my framework). She may also be an active volunteer for an organization that seeks to improve labor rights for workers in Chinese factories (as defined by the third role in my framework). It should be noted that in some roles, migrants are likely to influence decision-making at an individual level (as in the case of entrepreneurial investor), whereas in others, a migrant group effect comes into play (as in the case of creators of institutional variety), while in still others, both individual and group effects may be at play.

The conceptual framework proposed in this chapter forms the basis for the empirical studies described in Chapters 4, 5 and 6 of this dissertation. In Chapter 4, I examine the role of institutional affinity and institutional connectedness in influencing inward FDI from migrants' COO to COR at the country-level. In Chapter 5, I zoom in to examine the role of institutional affinity and institutional connectedness in influencing inward FDI from migrants' COO to their COR at the regional-level. In Chapter 6, I examine the role of migrant decision-makers and institutional connectedness in influencing outward FDI from migrants' COR to their COO.

3 Data

3.1 Introduction

The empirical setting for the three studies described in this dissertation is the United States (U.S.). Since the share of the foreign-born, in the population of high-income countries, has tripled since 1960 (Docquier & Rapoport, 2012), the U.S., a high-income country, is an ideal research setting for examining the migration-foreign direct investment (FDI) phenomenon. In addition to that, I chose the U.S. as the research context for several other reasons. First, it is an active host country from an FDI perspective. Second, 13 percent of its population is foreign-born; according to the U.S. Census Bureau, 62 percent of the foreign-born population entered the country in 1990 or later (Grieco, Acosta, Cruz, Gambino, Gryn, Larsen, Trevelyan, & Walters, 2012). Third, it is a net immigrant-receiving country; in 2001-2009, 9.5 million immigrated to the U.S., while 2.8 emigrated out of the U.S. (Shrestha & Heisler, 2011). Lastly, availability of FDI and migrant data from reliable government sources makes the U.S., an ideal research context.

The first study, described in Chapter 4, is a country-level study that examines the relationship between migration and inward FDI. The dependent variable is resource commitment by firms from migrants' country of origin (COO). The second study, described in Chapter 5, is a regional-level study that examines the relationship between migration and inward FDI in the 50 U.S. states. The dependent variable, again, is resource commitment by firms from migrant's COO. The third study, described in Chapter 6, is a country-level study that examines the relationship between migration and outward FDI to migrants' COO.

For these studies, the data for the proxies for the key explanatory variables and the dependent variable comes from three main sources. These sources are as follows – (1) Bureau of Economic Analysis (BEA); (2) Integrated Public Microdata Series (IPUMS)-USA, Minnesota Population Center; (3) Internal Revenue Service (IRS). The data for resource commitment comes from the BEA that collects FDI data from all foreign firms with U.S. affiliates and from all U.S. multinational corporations (MNCs) with affiliates in foreign countries. The data for the proxies for institutional affinity and institutional connectedness have been constructed from IPUMS-USA (referred to as IPUMS hereafter) and IRS data sources. In the following sections, I provide a brief description of these data sources and the data used in this dissertation. More details about the data relevant to each study (including details on control variables) are provided in the respective chapters.

3.2 Dependent variable: Foreign direct investment

3.2.1 Foreign Direct Investment in the United States (FDIUS) Survey data

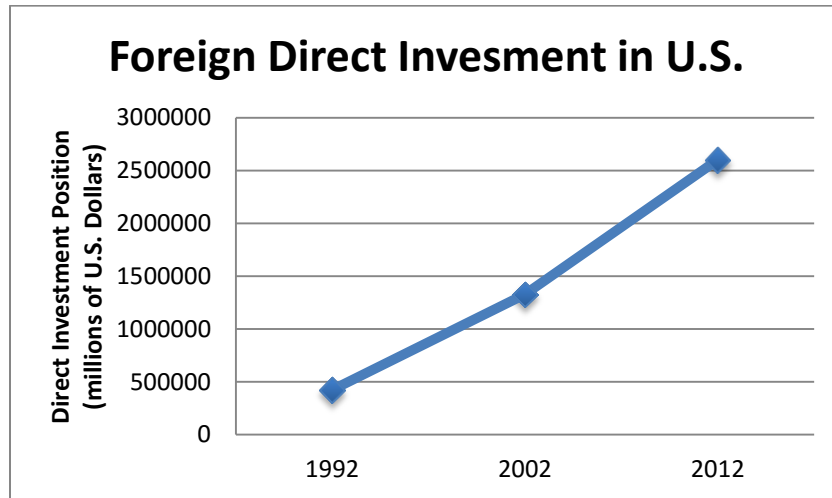
Foreign direct investment in the U.S. is defined “as the ownership or control, directly or indirectly, by one foreign person of 10 percent or more of the voting securities of an incorporated U.S. business enterprise or the equivalent interest in an unincorporated U.S. business enterprise” (Quijano, 1990: 29). FDI data in the U.S. is collected and published by the BEA by means of mandatory survey of the U.S. affiliates of foreign companies every five years and covers the entire universe of U.S. affiliates. The benchmark surveys for FDIUS have been conducted for 1977, 1980, 1987, 1992, 1997, 2002, 2007, and 2012 in the recent decades. The BEA collects three broad sets of data: (1) Balance of payments

and the direct investment position data, (2) Financial and operating data of U.S. affiliates, and (3) Establishment and acquisition data (Quijano, 1990). The establishment and acquisition data provide details on new investments and acquisitions by foreign firms. The financial and operating data provide details on the overall operations of the U.S. affiliates (including total assets and sales). Total assets of the affiliate cover all assets of the affiliate on its balance sheet, irrespective of how the assets are financed (locally or by foreign parent/s). The balance of payments data focus exclusively on the foreign parent group's investment in the affiliate; direct investment position indicates the portion of the affiliate's assets that are financed by the foreign parent or other members of the foreign parent group (Quijano, 1990: 32).

3.2.1.1 Country-level analysis

For the country-level study described in Chapter 4 that examines the extent to which institutional affinity and institutional connectedness affect inward resource commitment by firms from migrants' COO, I use direct investment position stock as the proxy for resource commitment in the U.S. for constructing my panel dataset. I use this measure as it captures exclusively, the foreign parent group's investment in the affiliate. In this study, I use a panel dataset with three time periods. I use the position data for benchmark years 1992, 2002 and 2012; I chose these benchmark years, so that I can get a deep lag in relation to the migrant variables (migration data is for census years 1980, 1990 and 2000) and still have three time periods of comparable position data from the BEA. Figure 3-1 shows the variation in total FDI position in the U.S. over the past three decades. Table 3-1 shows the top ten countries whose firms had the highest investment position in the affiliates located in the U.S. in 2012.

Figure 3-1: Trends in FDI in the U.S.



Source: Bureau of Economic Analysis, FDIUS benchmark survey data

Table 3-1: Top 10 countries with highest investment position in U.S. in 2012

	Country	Position (millions of dollars)
1	United Kingdom	472561
2	Japan	299121
3	Netherlands	274879
4	France	230205
5	Canada	217800
6	Germany	201121
7	Switzerland	195652
8	Luxembourg	191011
9	Belgium	87142
10	United Kingdom Islands, Caribbean	66187

Source: Bureau of Economic Analysis, FDIUS benchmark survey data

3.2.1.2 Regional-level analysis

In Chapter 5, I examine the extent to which institutional affinity and institutional connectedness affect inward resource commitment by firms from migrants' COO at the regional-level in the U.S. in a cross-sectional setting. For the regional-level study, I rely

on establishment-level⁴ data. These data are made available by the BEA and are the result of an ongoing project that links the BEA enterprise-level data on FDI with the establishment-level data collected by the U.S. Census Bureau (U.S. Bureau of Economic Analysis and U.S. Bureau of the Census, 2007). These data are disaggregated by state and by country of ultimate business ownership, but are only available for seven countries. These countries are Canada, France, Japan, Germany, Netherlands, Switzerland and United Kingdom. Data for three other years is available, but these data are not comparable so I use the latest available data for 2002 for this study. For comparison purposes, however, I provide results with FDI values of 1997 as well. I use two proxies of FDI for measuring resource commitment in the fifty states of the U.S. – (1) sales or shipments of establishments of the U.S. affiliates; (2) employment at these establishments.

3.2.2 United States Direct Investment Abroad (USDIA) Survey data

In Chapter 6, I focus on the impact of migrant decision-makers in the U.S. on the resource commitment of U.S. firms in migrants' COO. As I am primarily interested in the funding provided by U.S. parents, I use the direct investment position stock as the proxy for resource commitment by U.S. MNCs. The BEA makes these data available to the public. The BEA began collecting data on the U.S. MNCs in 1929. It produces two broad sets of data on the U.S. MNCs – (1) Balance of payments and direct investment position data; (2) Financial and operating data. The direct investment position data measure the cumulative value of parent firm's investments in their affiliates (Mataloni, 1995). The

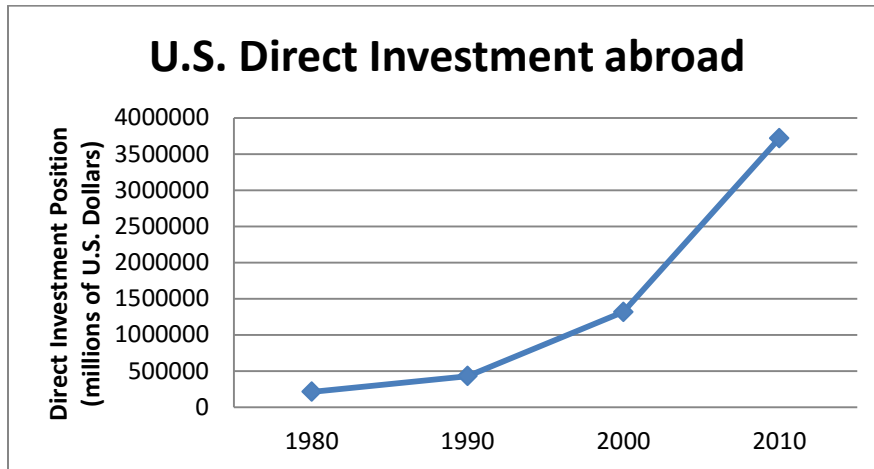
⁴ An establishment is a single physical location where business is conducted or where services are rendered or where industrial operations are performed.

financial and operating data measure the overall domestic and foreign operations of U.S. MNCs, irrespective of the degree of intra-MNC funding (Mataloni, 1995). Total foreign-affiliate assets may be funded through various sources like internal affiliate funds, funds from other unaffiliated persons, as well as funds from U.S. parents.

The BEA collects both these types of data through benchmark surveys that are conducted every five years and cover the entire universe of U.S. MNCs in terms of dollar value. In addition to the benchmark surveys, BEA also conducts quarterly (for balance of payments and direct investment position estimates) and annual sample surveys (for financial and operating estimates). Based on the data collected for sample firms, BEA estimates the data for all other affiliates (that are not in the sample); as a result, the coverage of the U.S. MNC universe is complete in non-benchmark and benchmark periods (Mataloni, 1995).

As noted earlier, in Chapter 6, I use the direct investment position data as a proxy for outward FDI to migrants' COO. These data are a part of the balance of payments data and represent the total outstanding level of direct investment abroad. The benefit of using these data is that they are comparable over a longer period of time. I use a panel dataset with four time periods using position data for 1980, 1990, 2000 and 2010. Figure 3-2 shows the variation in the U.S. FDI abroad at historical costs, since 1980. Table 3-2 shows the top ten investment destinations of U.S. investors as measured by outward FDI position.

Figure 3-2: Total U.S. direct investment abroad



Source: Bureau of Economic Analysis, USDIA survey data

Table 3-2: Top 10 investment destinations of U.S. investors

U.S. Outward FDI Position in 1980 and 2010					
Country	1980	% of Total	Country	2010	% of Total
Canada	101672	29.96	Netherlands	508480	25.90
Germany	34736	10.24	Canada	291645	14.85
France	21063	6.21	Australia	123908	6.31
Netherlands	18115	5.34	Japan	112154	5.71
Brazil	17360	5.12	Germany	102073	5.20
Australia	17248	5.08	Mexico	84717	4.31
Belgium	14104	4.16	China	80205	4.09
Japan	14028	4.13	France	77375	3.94
Mexico	13489	3.97	Brazil	66155	3.37
Italy	12162	3.58	Spain	51758	2.64

Source: Author's calculations based on USDIA data; position is in millions and is represented in 2009 U.S. dollars.

3.3 Independent variables

3.3.1 Migration data

The data on migrants comes from IPUMS-USA that is made available by the Minnesota Population Center. The IPUMS-USA dataset has been created using the federal censuses and the American Community Surveys (ACS) conducted by the Census Bureau (Ruggles, Alexander, Genadek, Goeken, Schroeder, & Sobek, 2010). I downloaded the one-percent

data files containing weighted samples for U.S. population for the census years - 1980, 1990, 2000, and 2010. The one-percent data files are representative of one percent of the U.S. population. Person weights were used to obtain nationally representative statistics for U.S. population. Next, I used the birthplace, citizenship and year of immigration information from the data files to calculate the number of foreign-born adults in the U.S. context.

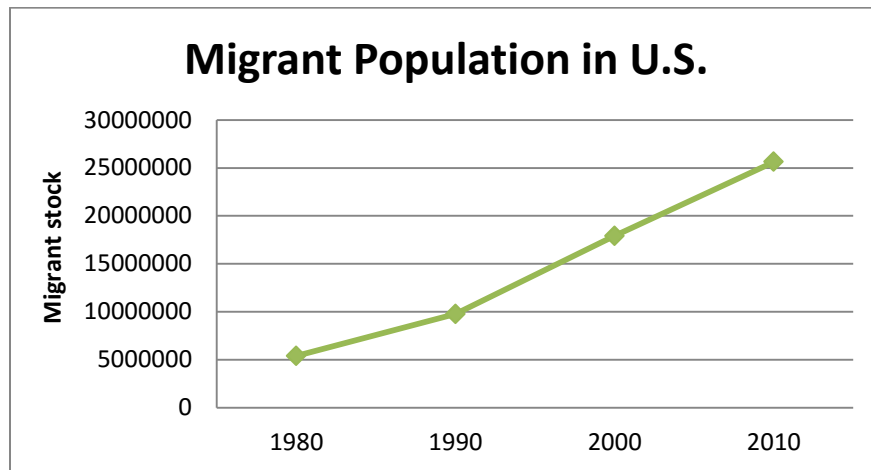
Migrant Stock and Tertiary Migrant Stock

For calculating the stock of migrants, I included only those foreign-born who are either naturalized citizens or have been living in the country for over seven years⁵. The rationale here is that permanent residents are more likely to view the adopted country as their ‘new home’ and are more likely to engage in economic, social and cultural activities thus influencing the institutional environment in that location. These data were then used to calculate the stock of total migrants at the country-level, and also at the regional-level. These data are used as a proxy for institutional affinity, denoted by the variable – *Migrant Stock*. Education-related variables in the downloaded files were used to calculate the stock of tertiary-educated migrants at the country-level and at the regional-level. These data are used as a proxy for institutional connectedness, denoted by the variable – *Tertiary Migrant Stock*.

⁵ Since work-permit visas in the U.S. (called H-1B visas) are valid for a maximum period of six years (issued in two three-year increments), with subsequent one-year extensions allowed for those who have filed their paperwork for permanent residency, I use seven years as the threshold for migrant count calculations in this dissertation.

Since the U.S. census surveys do not ask or differentiate between legal or illegal migrants, these data contain unauthorized migrants (aka migrants who entered the country illegally) as well. Hoefer, Rytina & Baker (2011) estimate that in January 2010 there were 10.8 million unauthorized migrants in the U.S.. In this dissertation, however, I do not differentiate between authorized and unauthorized migrants, as institutional affinity is likely to be affected by *all* working-age resident migrants irrespective of their legal status in the country. Figure 3-3 shows the variation in migrant stock in the U.S. for the recent decades. Table 3-3 shows the top countries of origin of migrants in the U.S. in 1980 and 2010.

Figure 3-3: Migrant Population in the USA



Source: Author's calculations based on IPUMS data on foreign-born workers

Table 3-3: Top countries of origin of migrants in the U.S.

Country	1980	% of Total migrants	Country	2010	% of Total migrants
Mexico	849800	16.94	Mexico	8582646	34.79
Germany	514300	10.25	Philippines	1182613	4.79
Canada	477300	9.52	India	1074544	4.36
Cuba	399400	7.96	Vietnam	937114	3.80
Italy	387200	7.72	El Salvador	897977	3.64
Philippines	204200	4.07	China	878968	3.56

Poland	176800	3.53	Republic of Korea	707783	2.87
China	143100	2.85	Dominican Republic	610581	2.48
Greece	113800	2.27	Cuba	601040	2.44
Portugal	100300	2.00	Guatemala	507796	2.06

Source: Author's calculations based on IPUMS data on foreign-born workers

Non-immigrant Stock

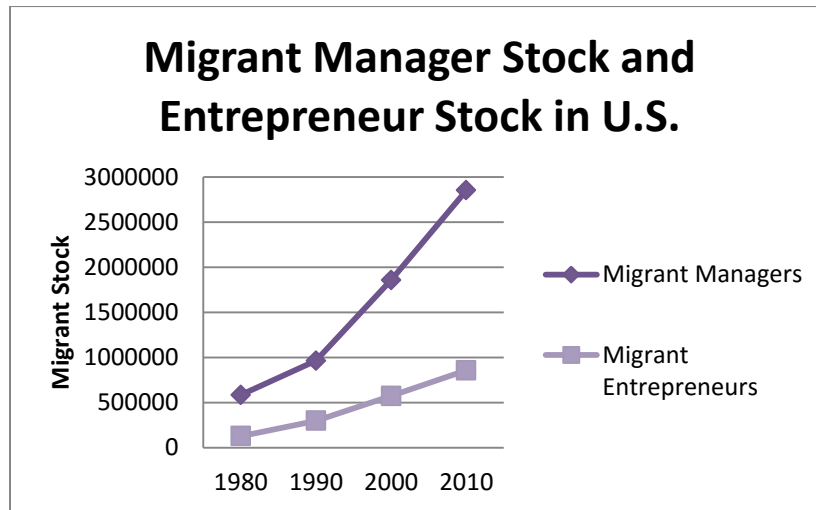
To calculate the number of temporary migrants or non-immigrants, who may be in the U.S. temporarily, I again used the one-percent data files from IPUMS-USA to calculate the number of foreign-born persons who are non-citizens or have been residing in the country for less than or equal to seven years. The idea here is to capture the new knowledge and new connectivity brought by recent foreign-born workers. As some proportion of these foreign-born are likely to return to their COO (as in the case of students, and temporary visa workers), this measure allows me to capture the circulation of new ideas brought about by migrants between their COO and COR. Thus, these data are used as a proxy for institutional connectedness, denoted by the variable – *Non-immigrant Stock*.

Migrant Manager and Migrant Entrepreneur

In addition to the three variables described above, the outward FDI study described in Chapter 6 uses two additional migrant variables – *Migrant Manager* and *Migrant Entrepreneur*; the data for these variables was also calculated using the IPUMS-USA database. These represent measures for migrant decision-makers in U.S. firms. For these variables, I again used the one-percent weighted samples of the U.S. population and relied on the occupational category (specifically, Managerial and Professional category) in conjunction with the class of worker (specifically those who work for wages in the

private industry) to determine the number of migrant managers. For migrant entrepreneurs, I specifically checked if the class of worker is self-employed. Figure 3-4 shows how the stock of these migrant categories has varied over time in the U.S. context.

Figure 3-4: Migrant manager and migrant entrepreneur stock in U.S.



Source: Author's calculations based on IPUMS-USA data on foreign-born workers

3.3.2 Tax-exempt organization data

To measure institutional affinity and institutional connectedness, I use novel measures that rely on non-economic entities in the migrants' COR. The idea here is to capture the changes brought about by migrants in the institutional environment of the COR and the connectedness provided by migrants between their COO and COR. Prior research (Hirschman, 2004, Saxenian, 2006, Saxenian, 1999) shows that migrants are often involved in the founding of religious, cultural, social and professional organizations in their adopted country. Thus, I measure institutional affinity as the stock of migrant organizations that are engaged in domestic activities in the COR. I also use the age of the diaspora community to measure institutional affinity of a location. I measure institutional connectedness, on the other hand, as the stock of international migrant organizations. For

these proxies, I constructed a novel dataset using the data on tax-exempt organizations made available to the public by the IRS. The IRS micro data files (one for each state) contain a list of all organizations that have filed for tax-exempt status, along with the date on which they were granted the tax-exempt status. Each file also contains information about the location and the type of activity that the organization engages in. It, however, does not contain information about the country, whose migrants it serves in the local regions of the United States. To construct a novel measure of institutional affinity, I use these data and take several steps to assign each relevant organization to the correct country.

Migrant Org Stock, Diaspora Age and Migrant Intl Org Stock

Of the over 1.5 million tax-exempt organizations in the IRS database, I identified 18,398 independent tax-exempt organizations (up until 2015) that belonged to migrants from various countries of origin. This process involved searching the organization names for names of countries (such as China, Germany, Italy etc.) as well as the names of people (Chinese, German, Italian etc.) for all countries and assigning each organization to its respective country. For example, the Chinese Association for Science and Technology USA Foundation Inc. was assigned to China. After several iterations and labor-intensive manual checking, this name-matching process resulted in 39,727 tax-exempt organizations, out of the over 1.5 million that I had started out with. Of these records, 881 were assigned to more than one country, as more than one country (or people) name was part of the organization name. I manually checked these and assigned them to the single most appropriate country. In some cases, an organization belonged to more than one

country⁶. After several iterations of manual checks to eliminate organizations such as the Ireland Elementary PTO (clearly not a migrant organization for Ireland), which is a parent teacher organization located in the town of Ireland in the state of Indiana in U.S., and including organizations such as Chinese-Vietnamese Buddhist Association in the count for both China and Vietnam, I had 18,398 independent tax-exempt migrant organizations in my database, which included data up to 2015.

The IRS uses the National Taxonomy of Exempt Entities (NTEE) code to classify organizations in terms of their primary exempt activity. These activities could be in various areas such as arts, culture, education, health, medical research, and international activities, among others. Since the IRS data file contains the NTEE code assigned to each organization, I used this field to divide migrant organizations into two groups – one, that focus primarily on domestic activities and two, that are involved in international activities. Table 3-4 shows the list of NTEE categories that are included in the domestic category. I used these data to calculate the stock of domestic migrant organization at the country and state-level. *Migrant Org Stock* is used as a proxy for measuring institutional affinity in the COR location.

To capture the effect of the institutional connectedness provided by migrant organizations internationally (mostly focused on migrant's COO), I coded all organizations with NTEE code equal to Q as international organizations in my database. Table 3-5 shows the list of organizations that fall under the NTEE code equal to Q.

⁶ For example, Australia New Zealand American Technology Network is associated with both Australia and New Zealand. It was originally founded in 2001 to promote investments from the two countries into U.S.

Migrant Intl Org Stock is used as a proxy for measuring connectedness between migrant's COO and COR. Figure 3-5 shows the stock of migrant organizations in the U.S., over time.

To measure institutional affinity, I use another novel measure - *Diaspora Age*. Diaspora age as the name indicates represents the age of the diaspora community in the migrant's COR. I use the founding year of the oldest migrant organization for a COO to calculate the age of their diaspora. For example, the oldest migrant organization for India in my database has the ruling year equal to 1957, so the Indian diaspora age in the U.S., as of 1990, is 33 years.

Table 3-4: National Taxonomy of Exempt Entities

Code	Description
A	Arts, Culture and Humanities
B	Educational Institutions and Related Activities
C	Environmental Quality, Protection and Beautification
D	Animal-Related
E	Health – General and Rehabilitative
F	Mental Health, Crisis Intervention
G	Diseases, Disorders, Medical Disciplines
H	Medical Research
I	Crime, Legal-Related
J	Employment, Job-Related
K	Food, Agriculture and Nutrition
L	Housing, Shelter
M	Public Safety, Disaster Preparedness and Relief
N	Recreation, Sports, Leisure, Athletics
O	Youth Development
P	Human Services – Multipurpose and Other
R	Civil Rights, Social Action, Advocacy
S	Community Improvement, Capacity Building
T	Philanthropy, Voluntarism and Grant making Foundations
U	Science and Technology Research Institutes, Services
V	Social Science Research Institutes, Services
W	Public, Society Benefit – Multipurpose and Other

X	Religion-Related, Spiritual Development
Y	Mutual/Membership Benefit Organizations, Other

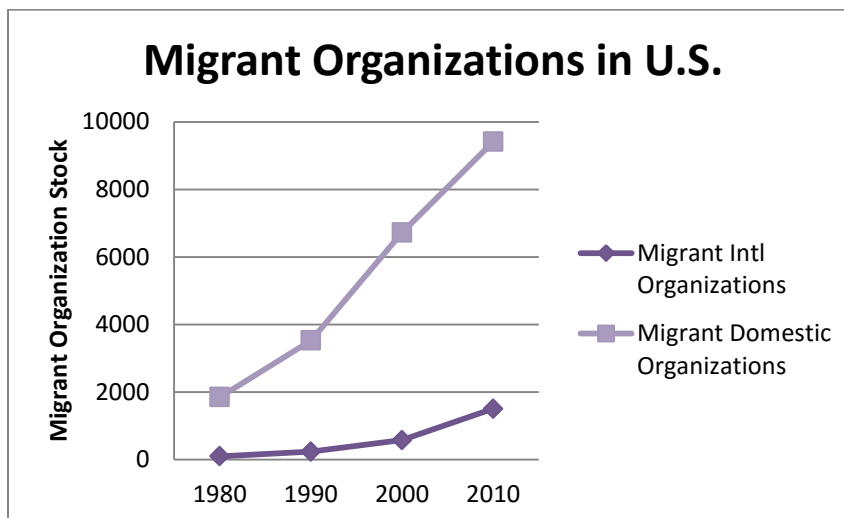
Source: U.S. Internal Revenue Service

Table 3-5: Tax-exempt categories for International, Foreign Affairs and National Security Organizations

NTEE	Types of tax-exempt organizations
Q01	Alliance/Advocacy Organizations
Q02	Management & Technical Assistance
Q03	Professional Societies, Associations
Q05	Research Institutes and/or Public Policy Analysis
Q11	Single Organization Support
Q12	Fund Raising and/or Fund Distribution
Q19	Nonmonetary Support N.E.C.
Q20	Promotion of International Understanding
Q21	International Cultural Exchange
Q22	International Student Exchange and Aid
Q23	International Exchanges, N.E.C.
Q30	International Development, Relief Services
Q31	International Agricultural Development
Q32	International Economic Development
Q33	International Relief
Q40	International Peace and Security
Q41	Arms Control, Peace Organizations
Q42	United Nations Association
Q43	National Security, Domestic
Q70	International Human Rights
Q71	International Migration, Refugee Issues
Q99	International, Foreign Affairs, and National Security N.E.C (not elsewhere classified).

Source: U.S. Internal Revenue Service

Figure 3-5: Migrant Organizations in U.S.



Source: Author's calculations based on tax-exempt organization data

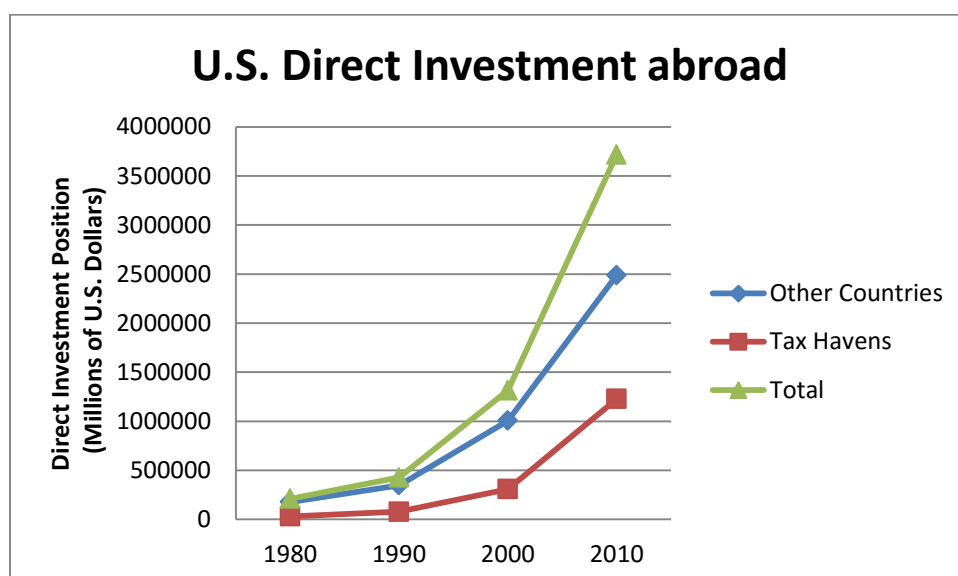
3.4 Tax haven countries

Given the increase in the amount of investments flowing through tax havens or countries with unusually low tax rates (Hines, 2010, Hines & Rice, 1994), I exclude tax havens from my analysis⁷, as these values are likely to bias the coefficient estimates (Beugelsdijk, Hennart, Slangen, & Smeets, 2010) of my models. Figure 3-6 shows the trends in the U.S. direct investment in tax haven countries versus all other countries.

Table 3-6 shows the list of tax havens used in this dissertation.

Figure 3-6: Trends in U.S. Direct Investment in tax haven countries versus all other countries

⁷ For comparison purposes, however, I do provide the estimates for all models with tax havens included in the studies presented in this dissertation.



Source: Author's calculations based on U.S. Bureau of Economic Analysis' USDIA survey data

Table 3-6: List of tax haven countries

Aruba	Lebanon
Andorra	Liberia
Netherlands Antilles	St. Lucia
Antigua and Barbuda	Liechtenstein
Bahrain	Luxembourg
Bahamas	Macau
Belize	Monaco
Bermuda	Maldives
Barbados	Marshall Islands
Switzerland	Malta
Costa Rica	Mauritius
Cyprus	Panama
Djibouti	Singapore
Dominica	San Marino
Micronesia	Seychelles
Grenada	Tonga
Hong Kong	United Kingdom Islands, Caribbean
Ireland	St. Vincent and the Grenadines
Jordan	Vanuatu
St. Kitts and Nevis	

Source: Hines (2010)

3.5 Developing and developed countries

In the country-level studies described in chapters 4 and 6, I propose that the migration-FDI relationship between developing countries and developed countries is likely to differ. For this purpose, I use the data from the World Bank database to classify countries in my sample into their respective group. Using the Gross National Income per capita, the World Bank classifies all countries into four groups – (1) low income; (2) lower middle income; (3) upper middle income; (4) high-income. In this dissertation, developing countries (or emerging market economies or low-income countries) are those that are categorized by the World Bank as low income or lower middle-income countries. Developed countries (or high-income countries), on the other hand, include all countries that are categorized by the World Bank as high income or upper middle-income countries. As the categorization for some countries changed during the observation period of the studies described in this dissertation, I use the categorization for 1990 to assign the 196 countries in my sample into their respective group. Tables 3-7a and 3-7b show the list of developed and developing countries used in this dissertation, respectively.

Table 3-7a: List of developed countries

No.	Country	No.	Country
1	Andorra	36	Liechtenstein
2	Antigua and Barbuda	37	Luxembourg
3	Argentina	38	Macau
4	Aruba	39	Malaysia
5	Australia	40	Malta
6	Austria	41	Mauritius
7	Bahamas	42	Mexico
8	Bahrain	43	Monaco
9	Barbados	44	Montenegro
10	Belarus	45	Netherlands
11	Belgium	46	Netherlands Antilles
12	Bermuda	47	New Zealand
13	Brazil	48	Norway
14	Brunei	49	Oman
15	Canada	50	Palau
16	Chile	51	Portugal
17	Cyprus	52	Qatar
18	Denmark	53	San Marino
19	Estonia	54	Saudi Arabia
20	Finland	55	Serbia
21	France	56	Seychelles
22	Gabon	57	Singapore
23	Germany	58	Slovenia
24	Greece	59	South Africa
25	Greenland	60	Spain
26	Hong Kong	61	St. Kitts and Nevis
27	Hungary	62	St. Lucia
28	Iceland	63	Sweden
29	Ireland	64	Switzerland
30	Israel	65	Trinidad and Tobago
31	Italy	66	United Arab Emirates
32	Japan	67	United Kingdom
33	Korea, Republic of	68	United Kingdom Islands, Caribbean
34	Kuwait	69	Uruguay
35	Libya	70	Venezuela

Source: World Bank Development Indicators

Table 3-7b: List of developing countries

No.	Country	No.	Country	No.	Country
1	Afghanistan	43	Fiji	85	Niger
2	Albania	44	Gambia	86	Nigeria
3	Algeria	45	Georgia	87	North Korea
4	Angola	46	Ghana	88	Pakistan
5	Armenia	47	Grenada	89	Panama
6	Azerbaijan	48	Guatemala	90	Papua New Guinea
7	Bangladesh	49	Guinea	91	Paraguay
8	Belize	50	Guinea-Bissau	92	Peru
9	Benin	51	Guyana	93	Philippines
10	Bhutan	52	Haiti	94	Poland
11	Bolivia	53	Honduras	95	Romania
12	Bosnia and Herzegovina	54	India	96	Russia
13	Botswana	55	Indonesia	97	Rwanda
14	Bulgaria	56	Iran	98	Samoa
15	Burkina	57	Iraq	99	Sao Tome and Principe
16	Burma	58	Jamaica	100	Senegal
17	Burundi	59	Jordan	101	Sierra Leone
18	Cambodia	60	Kazakhstan	102	Slovakia
19	Cameroon	61	Kenya	103	Solomon Islands
20	Cape Verde	62	Kiribati	104	Somalia
21	Central African Republic	63	Kyrgyzstan	105	Sri Lanka
22	Chad	64	Laos	106	St. Vincent and the Grenadines
23	China	65	Latvia	107	Sudan
24	Colombia	66	Lebanon	108	Suriname
25	Comoros	67	Lesotho	109	Swaziland
26	Congo (Brazzaville)	68	Liberia	110	Syria
27	Congo (Kinshasa)	69	Lithuania	111	Tajikistan
28	Costa Rica	70	Macedonia	112	Tanzania
29	Cote D'Ivoire	71	Madagascar	113	Thailand
30	Croatia	72	Malawi	114	Togo
31	Cuba	73	Maldives	115	Tonga
32	Czech Republic	74	Mali	116	Tunisia
33	Djibouti	75	Marshall Islands	117	Turkey
34	Dominica	76	Mauritania	118	Turkmenistan
35	Dominican Republic	77	Micronesia	119	Uganda
36	East Timor	78	Moldova	120	Ukraine
37	Ecuador	79	Mongolia	121	Uzbekistan
38	Egypt	80	Morocco	122	Vanuatu
39	El Salvador	81	Mozambique	123	Vietnam
40	Equatorial Guinea	82	Namibia	124	Yemen (Sanaa)
41	Eritrea	83	Nepal	125	Zambia
42	Ethiopia	84	Nicaragua	126	Zimbabwe

Source: World Bank Development Indicators

3.6 Chapter summary

The research setting for the empirical studies in this dissertation is the United States. This chapter provides details on the data and the data sources for the key explanatory variables and the dependent variables used in this dissertation. I summarize these variables and the studies that use them in Table 3-8. Details about the novel measures of institutional affinity and institutional connectedness are provided in this chapter. Detailed information on the steps used to construct the tax-exempt organization database is also included. In addition to showing the trends in FDI and migration in the U.S. for the recent decades, this chapter also includes the list of tax havens, developing and developed countries. Control variables are not discussed in this chapter; information on control variables will be provided in the relevant chapters.

Table 3-8: Summary view of independent and dependent variables

Study	Analysis	FDI	Dependent variable	Institutional Affinity			Institutional Connectedness			Decision-makers	
				Migrant Stock	Migrant Org. Stock	Diaspora Age	Tertiary Migrant Stock	Migrant Intl Org. Stock	Non-immigrant Stock	Migrant Manager	Migrant Entrepreneur
Study 1 (Chapter 4)	US: Country-level	Inward	Direct investment position	✓	✓	✓	✓	✓	✓		
			Sales or shipments of establishments	✓	✓	✓	✓	✓	✓		
Study 2 (Chapter 5)	US: 50 states	Inward	Employment	✓	✓	✓	✓	✓	✓		
Study 3 (Chapter 6)	US: Country-level	Outward	Direct investment position				✓	✓	✓	✓	✓

4 Migrants and inward foreign direct investment: A country-level analysis

4.1 Introduction

Drawing on the conceptual framework introduced in Chapter 2, in this chapter, I seek an answer to the following question – To what extent do the institutional affinity and the institutional connectedness brought about by migrants in a host country influence the inward foreign direct investment (FDI) activities of firms from their country of origin (COO)? So far, the migration-FDI literature and the international business literature has ignored the notion that, over time, migrants bring about changes in the institutional environment (both formal and informal) in a location, which makes the location ‘less foreign’ for investing firms. Building on the stream of literature that has specifically examined the effect of migrants on attracting the direct investments of firms from their COO (Buch, Kleinert, & Toubal, 2006, Foad, 2012, Hernandez, 2014) to their country of residence (COR) and drawing on North’s (1994, 1990) work in institutional economics as well as on Saxenian’s (2006, 1999) qualitative work in regional economics, I argue that in addition to the traditional determinants of FDI established in the extant international business literature, *institutional affinity* brought about by the increased concentration of migrants from a COO in a COR is also a factor. Increased institutional affinity with respect to the COO of a migrant group makes a location relatively *less foreign* for firms from their COO. This *reduced foreignness* through mechanisms of trust, bounded solidarity (Portes & Sensenbrenner, 1993) and homophily (McPherson, Smith-Lovin, & Cook, 2001) makes the location attractive for investments from respective migrant

groups' COO firms. In addition to that, as argued in Chapter 2, increased connectedness between migrants in a COR and their social, familial, and business ties in their COO leads to greater knowledge flows and that in turn facilitates increased resource commitment in that COR.

4.2 Hypotheses

4.2.1 Migrants as creators of institutional affinity

Institutional change, though incremental, comes about as a result of choices made by individual actors and entrepreneurs of organizations, each of who seek to make profit by restructuring political or economic exchanges (North 1994: 361). When these individual actors and entrepreneurs of organizations (political, economic, social or educational) are foreign-born workers, who are essentially carriers of their native cultural heritage in a new environment, they tend to influence the rules of the game in an effort to solve problems confronted by them in their new environment. For migrants, both economic as well as refugees, the problems in a new environment are many, though of varying types. The transplanting of migrants from their COO to a new country is a challenging and stressful process⁸(Massey, Arango, Hugo, Kouaouci, Pellegrino, & Taylor, 1993), especially because migrants don't typically transplant their entire social network to their adopted COR when they migrate (White & Tadesse, 2011). This social isolation makes adjusting in their new environment somewhat difficult (Rangan & Sengul, 2009). The adjustment process is especially difficult if differences along economic, political, social

⁸ While I am referring to economic migrants, but the situation is likely to be worse for refugees and asylum-seekers, who may not be able to contact their family and friends in their country of origin due to unstable political situation

and legal dimensions are rather large, as these differences raise information costs as well as uncertainty in exchange in the new environment. Migrant efforts to reduce these uncertainties in their COR often result in the formation of new groups that provide same-country migrants, a place to gather, exchange ideas, celebrate their cultural heritage, and discuss their problems. While informal groups or meetings may assist a small number of migrants from a COO, with increased concentration of migrants, there may a need for more formal groups. The need to share experiences, challenges and concerns with co-nationals of same ethnicity has been noted by Saxenian (2006: 59-60) as one of main reasons for the founding of numerous engineering, professional, and entrepreneurial associations by Asian engineers in the Silicon Valley region of California. Saxenian (2006) argues that these professional associations enable migrants to seek and offer career advice, brainstorm ideas, identify and seek new business or job opportunities, and establish new links to people of same ethnicity in their COR. Similarly, Hirschmann (2004) finds that most new migrants in the United States (U.S.) engage in the founding of a religious organization, such as church, temple, mosque or synagogue in their community. As argued in Chapter 2, the resulting institutional affinity with respect to a migrant groups' COO makes the location attractive to firms from their COO.

Increased institutional affinity of a location with respect to a COO reduces the liability of foreignness (Zaheer, 1995). Reduced liability of foreignness arises from greater trust and superior monitoring (Rangan & Sengul, 2009) provided by migrants in that location. Attractiveness of the host location increases as the perceived risk of appropriation of assets by the COR government is likely to fall with increased concentration of COO migrants (Foad, 2012). More importantly, increased embeddedness

of migrants from a COO in the institutional environment of a COR is likely to provide confidence to managers of COO firms seeking to invest in that COR. Expatriate managers of COO firms and their families are likely to find it easier to adjust in regions that are somewhat similar to their COO due to avoidance of social isolation (Rangan & Sengul, 2009). In other words, increased institutional affinity in migrants' COR incentivizes firms from their COO to invest resources in the region that is viewed as relatively less costly. Along these lines, I propose that –

Hypothesis 1a: All other things being equal, the greater is the institutional affinity in the migrants' country of residence with regard to the migrants' country of origin, the greater is the likelihood that firms in the migrants' country of origin invest resources in the migrants' country of residence.

Firms with prior experience in operating in international locations are likely to have the connections and the knowledge base to start or expand international activities. Emerging market firms often lack internationalization experience. Lower quality firm-specific resources and weak technological capabilities erect even higher barriers to foreign entry for these firms. Developing country firms may draw upon their ethnic identity as a resource in order to establish themselves in a developed market and in doing so they seek customers and competitors of similar ethnicity (Miller, Thomas, Eden, & Hitt, 2009). Developing country firms enter the world economy, often, by specializing in niche areas. Chin et al. (1996) note how Korean migrants' wig businesses in California were vertically integrated by Korean manufacturing firms in that industry.

Hernandez (2014) finds that less experienced firms use migrant resources in a host country for helping build new knowledge networks in that host country. Since emerging market multinationals tend to be relatively less experienced than multinationals from developed countries, I expect that the institutional affinity brought about by migrants from developing countries is likely to influence investments from their respective developing countries more strongly in comparison to the effect observed for developed countries. Along these lines, I propose that –

Hypothesis 1b: All other things being equal, the effect of institutional affinity, with regard to the migrants' COO, on attracting inward direct investment from that COO, is likely to be greater for migrants from developing countries in comparison with migrants from developed countries.

4.2.2 Migrants as connectors of cross-border institutional environments

Migrants not only help create an institutional variety in their COR through their market and non-market interactions, as discussed in the previous section and in Chapter 2, but they also act as connectors of institutional environments of their countries of origin and residence. This institutional connectedness facilitates increased knowledge flows between migrants' COO and COR. By virtue of their participation in governmental and international non-profit organizations, skilled migrants help build knowledge bridges between the institutional environments of their COR and COO. For example, the Chinese Biopharmaceutical Association – USA, founded in 1995, is one of the largest Chinese American professional associations in the United States. It is an independent, not-for-profit organization, whose primary mission is to connect biopharmaceutics between the U.S. and China. Annually, it holds a black-tie gala event where business leaders,

academicians, venture capitalists, entrepreneurs and government (both Chinese and U.S.) officials gather to discuss opportunities and trends. More than 80 percent of its members have doctoral degrees⁹. Similarly, French Heritage Society is a non-profit organization founded in 1982, whose objectives include fostering cross-cultural exchange through lectures, conferences and other networking events in both the U.S. and France¹⁰.

While the role of skilled migrants in facilitating technological knowledge flows *within and between firms* in cross-border locations is relatively well-established (Agrawal, Kapur, McHale, & Oettl, 2011, Foley & Kerr, 2012, Hornung, 2014, Kerr, 2008, Oettl & Agrawal, 2008), it is interesting to note that migrants often contribute to the process of institutional change in their COO. Saxenian & Sabel (2008) examine the contributions of first-generation Taiwanese professionals from the U.S. technology industries who have helped to bring about changes in the entrepreneurial context in their COO; authors find that these professionals have helped in creating venture capital as an institution in their COO.

The inflow of new knowledge brought by temporary migrants or non-immigrants (such as students, seasonal workers, business visa holders, etc.) is likely to refresh the existing knowledge pool of migrants in a COR. Due to the inherent uncertainty with regard to the length of their stay in a host country, non-immigrants are more likely to maintain contacts with their peers in their COO. The brain circulation, notes Saxenian (2005), has created tremendous opportunities for growth in India, China, Taiwan; these

⁹ Source: cba-usa.org

¹⁰ Source: <http://frenchheritagesociety.org/about/>

countries have invested heavily in education and are politically stable, thus creating a ripe environment for returnees to put their knowledge to work. In sum, the bridging of institutional environments through knowledge flows about investment opportunities, business practices, value of investments, and search methods, among others, is likely to assist firms in migrants' COO to make increased resource commitments in the location. Thus, I expect that firms from those countries whose migrants are actively connected to their COO are more likely to engage in increased resource commitment in migrants' COR. Along these lines, I propose that -

Hypothesis 2a: All other things being equal, the greater is the institutional connectedness between the migrants' country of residence and the country of origin, the greater is the likelihood of inward direct investment from the migrant's country of origin to the country of residence.

While firms from developed countries are likely to be more experienced either through their own prior international experience or through observation of experiences of other home-country MNCs, firms from developing countries tend to be relatively inexperienced. Developing country firms often lack foreign experience and have weaker capabilities that make it difficult for them to enter and survive in developed country locations. These firms are more likely to rely on social connections for information with regard to investment locations. Knowledge obtained through inter-personal ties between countries at different levels of economic and technological development has been shown to be a useful source of business information (Levin & Barnard, 2013). The connectedness provided by migrants from less-developed countries is likely to provide more valuable knowledge to firms in migrants' COO. Developing country firms are less

likely to be a part of the business networks in developed countries and thus face the liability of outsidership (Johanson & Vahlne, 2009) in these locations. As a result, the connectedness provided by migrants from emerging economies is likely to facilitate more useful knowledge flows. Along these lines, I propose that -

Hypothesis 2b: All other things being equal, the effect of institutional connectedness on attracting inward direct investment is likely to be greater for migrants from developing countries in comparison with migrants from developed countries.

In sum, I expect that both institutional affinity and institutional connectedness positively affect inward direct investment into migrants' COR by firms from migrants' COO. I also expect that the positive effect of these factors is stronger for migrants from emerging economies as opposed to those from developed economies.

4.3 Methodology

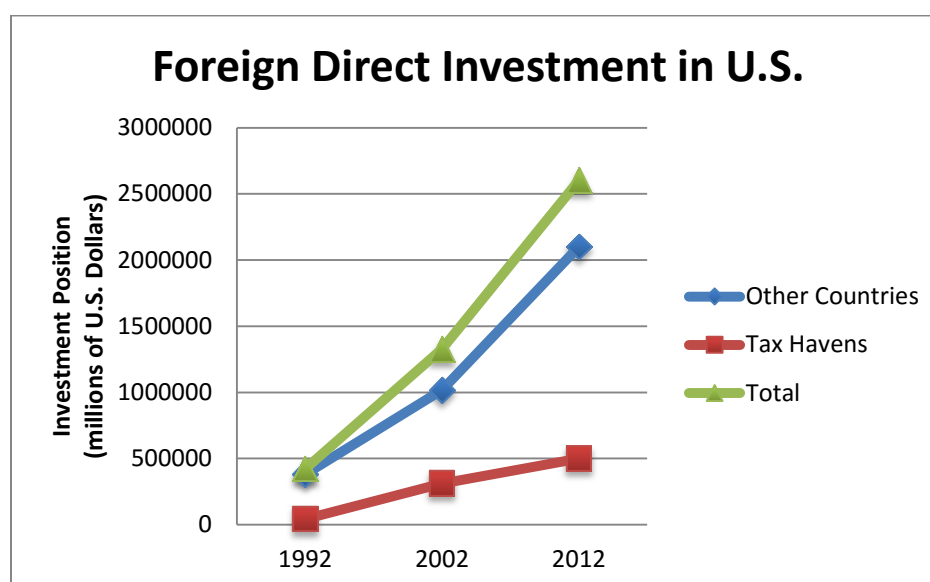
4.3.1 Data

Dependent variable

The dependent variable in this study is the direct investment position (available on a historical-costs basis) for each country investing in the United States. Direct investment position represents the cumulative value of financing provided by the foreign parent group. The U.S. Bureau of Economic Analysis (BEA) makes these data available to researchers and the general public. The BEA makes these data available as part of their balance of payments and direct investment position data, which are collected through surveys in benchmark years. I use data from three benchmark years – 1992, 2002 and 2012 – to construct the panel for the purposes of this study. Choosing these benchmark

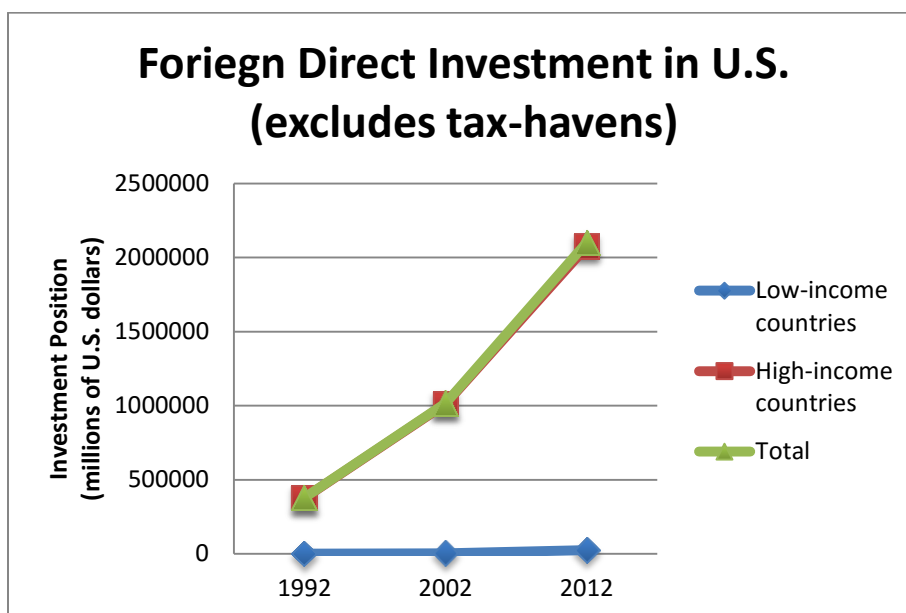
years allowed me to cover three time periods in the panel, while maintaining a long enough lag (twelve years) with regard to census migration data (I use migration data for 1980, 1990 and 2000) to address any endogeneity concerns as both migration and FDI tend to be influenced by similar pull factors. Figure 4-1 shows the trends in inward FDI in the U.S. for the recent decades. Figure 4-2a shows the FDI in the U.S. by developing (low-income) and developed (high-income) countries. Figure 4-2b shows in detail the trend in FDI in the U.S. from low-income countries.

Figure 4-1: Trends in FDI in the U.S. in the recent decades



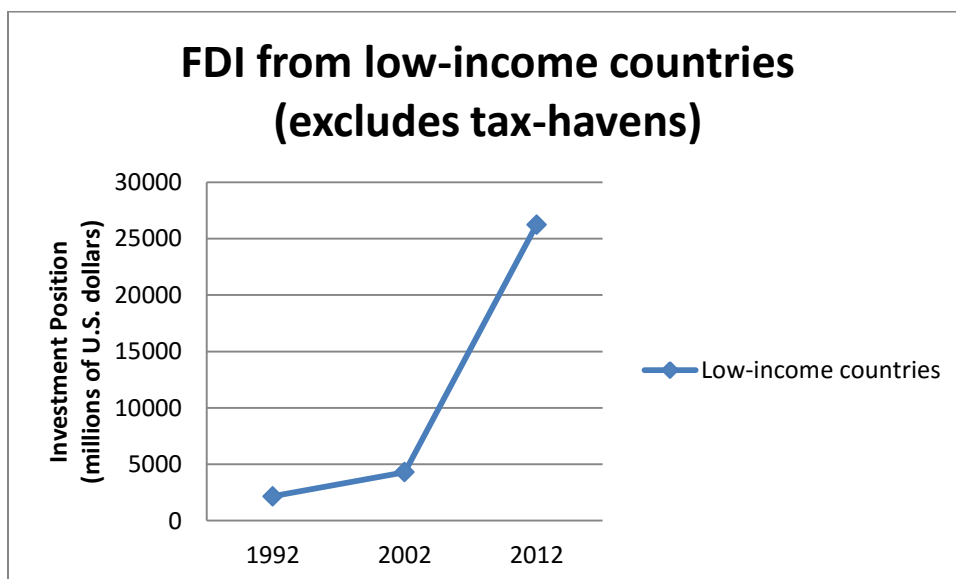
Source: Authors calculations based on FDIUS benchmark survey data from the Bureau of Economic Analysis.

Figure 4-2a: Trends in FDI in the U.S. for low and high-income countries



Source: Authors calculations based on FDIUS benchmark survey data from the Bureau of Economic Analysis.

Figure 4-2b: Detailed view of FDI in U.S. from low-income countries



Source: Authors calculations based on FDIUS benchmark survey data from the Bureau of Economic Analysis.

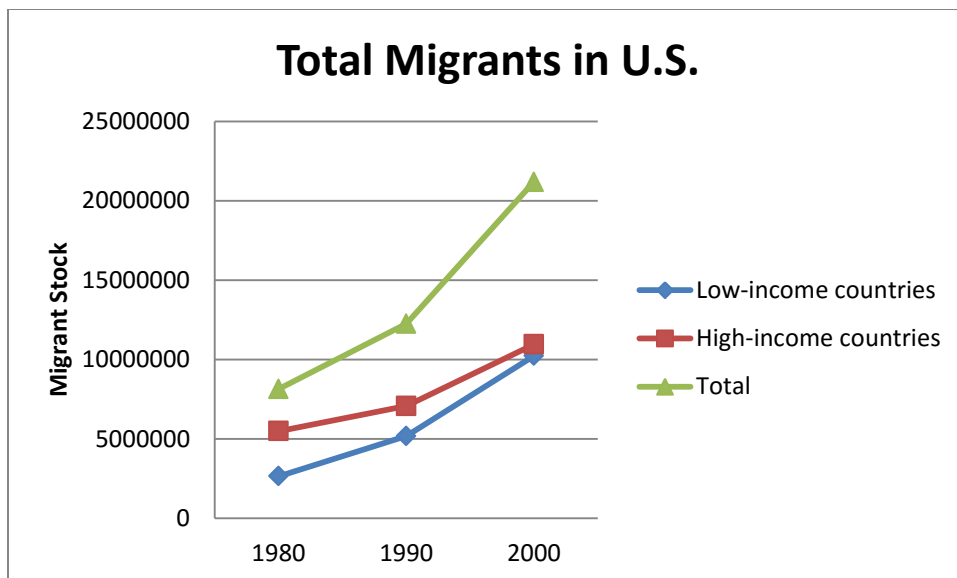
Independent Variables

Institutional affinity: I use three different proxies for the institutional affinity variable.

The first measure is migrant stock (*Migrant Stock*); this is consistent with prior

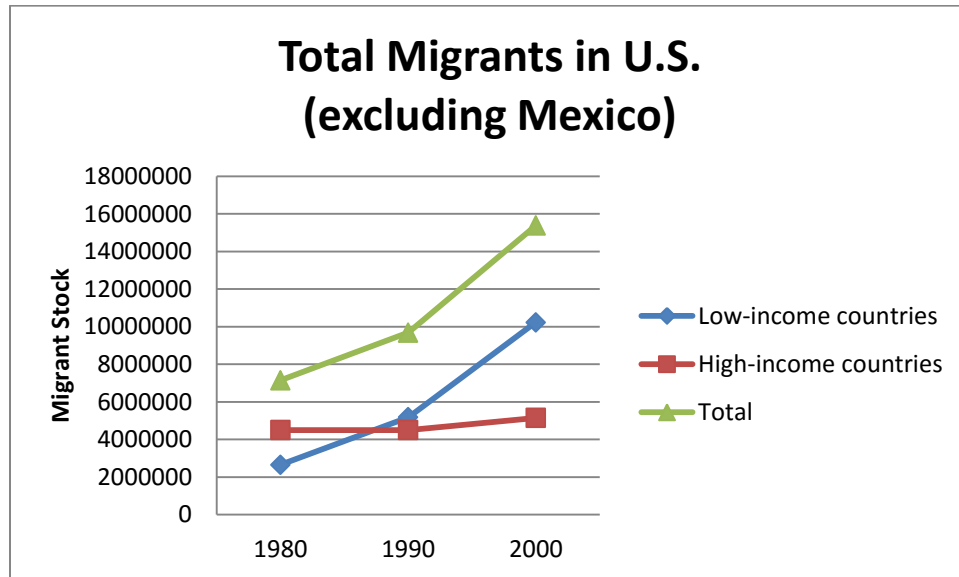
migration-FDI literature (Javorcik, Özden, Spatareanu, & Neagu, 2011) that has used migrant stock to represent the extent of the knowledge networks of migrants in their COR. The rationale for choosing this measure is that the greater is the concentration of migrants in a country, the greater is the likelihood of migrants' interactions and exchange in market and non-market settings, therefore greater is the institutional affinity in the adopted country of migrants. The data for this proxy of institutional affinity comes from the Integrated Public Use Microdata Series (IPUMS-USA), made available by the Minnesota Population Center (Ruggles, Alexander, Genadek, Goeken, Schroeder, & Sobek, 2010). I use migrant data for 1980, 1990, 2000 in this study. The steps for data construction have been set out in Chapter 3. Figure 4-3a shows the total migrant stock in the U.S. for three decades by low-income and high-income countries of origin of migrants. Due the presence of a large number of Mexican born persons in the U.S., I also show the foreign-born population excluding Mexico; this is shown in Figure 4-3b.

Figure 4-3a: Total Migrant Stock in the U.S.



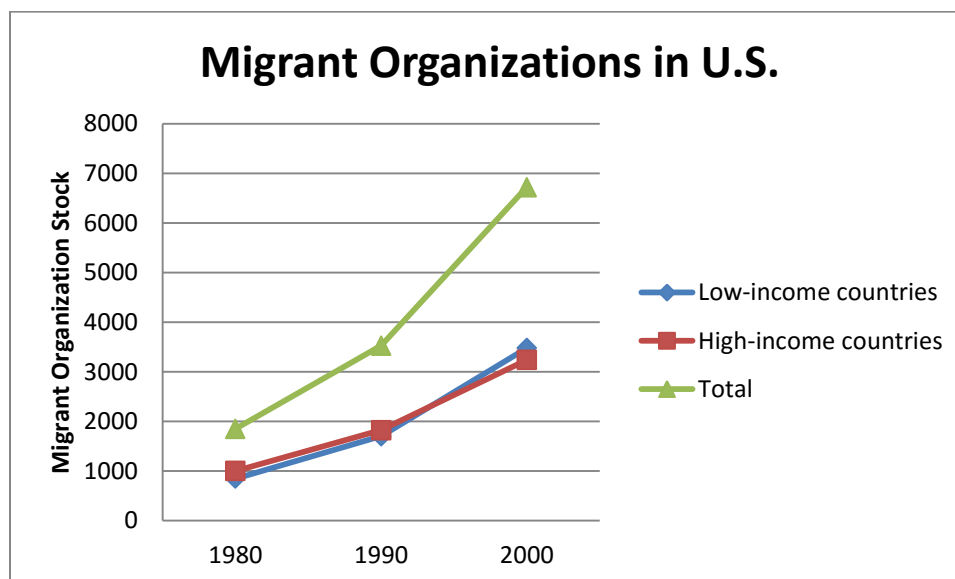
Source: Author's calculations using IPUMS-USA data

Figure 4-3b: Total Migrant Stock in the U.S. (excluding Mexico)



Source: Author's calculations using IPUMS-USA data

The second proxy for institutional affinity is a novel measure. To measure changes in the institutional environment of the host country, I rely on the number of migrant non-profit organizations founded in the U.S per COO of migrants (*Migrant Org. Stock*). As described in Chapter 3, these data contain the ruling year, meaning the year in which the IRS recognized the organization as tax-exempt. I use this information to calculate the stock of migrant organizations for 1980, 1990 and 2000 to construct the panel dataset. For the institutional affinity measure, I focused on those organizations that are engaged in religious, cultural, educational or health-related activities, but with a domestic focus, as these organizations are likely to influence the institutional environment of migrants' COR. Restricting the data to include only independent domestic organizations for years up to 2000 resulted in 6719 migrant organizations for my observation period. Figure 4-4 shows the stock of migrant organizations in the U.S. for low-income and high-income countries.

Figure 4-4: Migrant organization stock in the U.S.¹¹

Source: Author's calculations using tax-exempt organization data from the Internal Revenue Service in the United States.

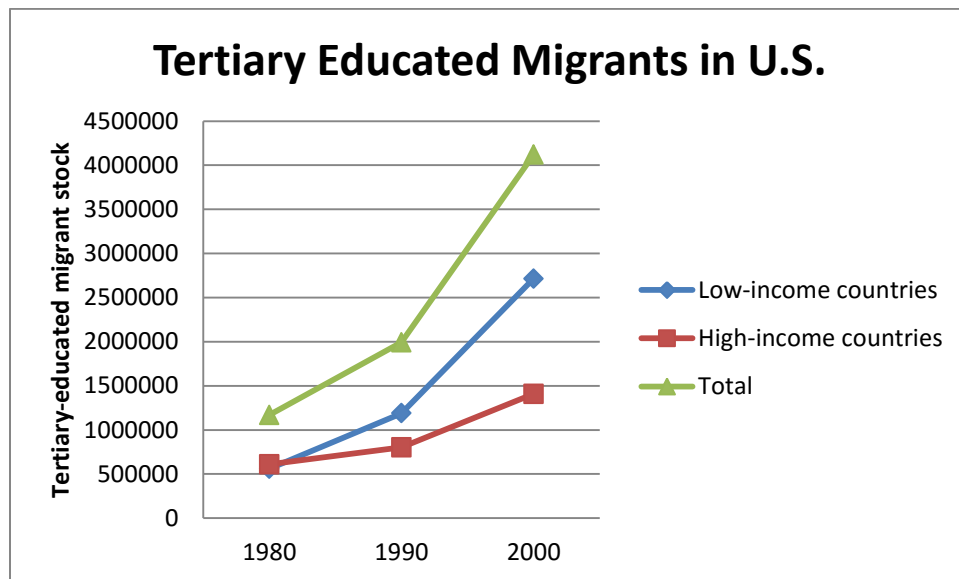
The third measure of institutional affinity, *Diaspora Age*, is also a novel measure. I measure diaspora age as the first migrant organization (for a COO), since its founding. I use founding year as the year in which migrant organization was granted tax-exempt status by the Internal Revenue Service.

Institutional connectedness: To measure institutional connectedness, I use three proxies. Consistent with prior literature (Javorcik, Özden, Spatareanu, & Neagu, 2011, Saxenian, 2005, Saxenian, 2006) that has argued that skilled migrants provide the social networks that help facilitate knowledge flows between their countries of origin and residence, I use the stock of tertiary-educated migrants (*Tertiary Migrant Stock*) as the first proxy for institutional connectedness. The data for this proxy of institutional connectedness also comes from the IPUMS-USA, as described in Chapter 3. Note that the stock of tertiary

¹¹ When Mexico was excluded, the chart was very similar so I have not included it here

educated migrants is also a lagged measure. Thus, I look at the effect of the stock of tertiary migrants in 1980 on the inward FDI in 1992, similar to the other measures. This also helps alleviate any endogeneity concerns as firms typically send out scouting teams prior to engaging in FDI activities in overseas locations (Bhattacharya & Groznik, 2008). Figure 4-5 shows the stock of tertiary-educated migrant population in the U.S. for the observation period in this study.

Figure 4-5: Tertiary educated migrant stock in the U.S.¹²



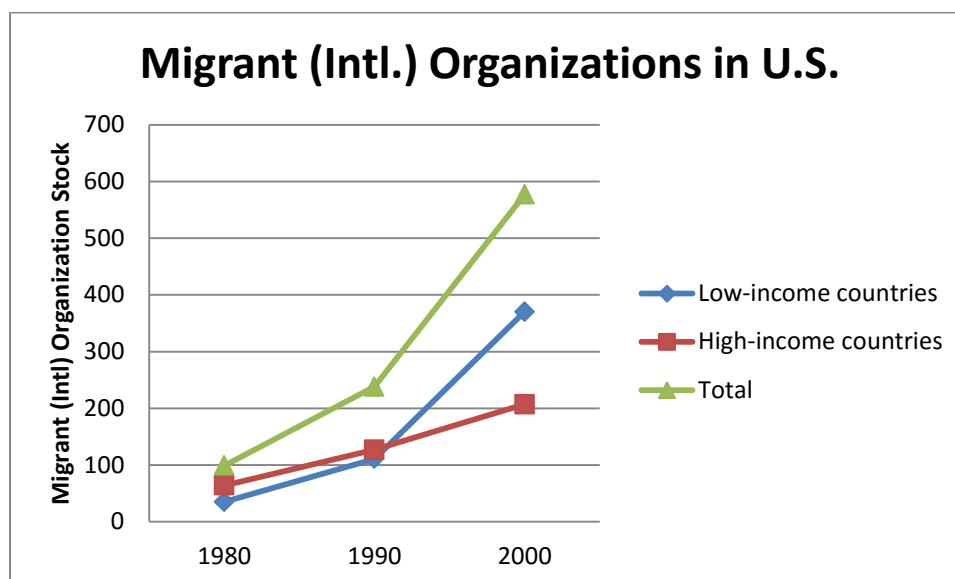
Source: Author's calculations using IPUMS data

For the second proxy of institutional connectedness (*Migrant Intl Org Stock*), I rely on migrant organization stock, which I calculate from my database on migrant organizations. As the focus is on international connectedness, I count only those organizations that are engaged in international activities, as described in Chapter 3. For the observation period of this study, there were 580 independent international migrant

¹² When Mexico was excluded, the chart was very similar

organizations in my data. Figure 4-6 shows the stock of international migrant organizations in the United States.

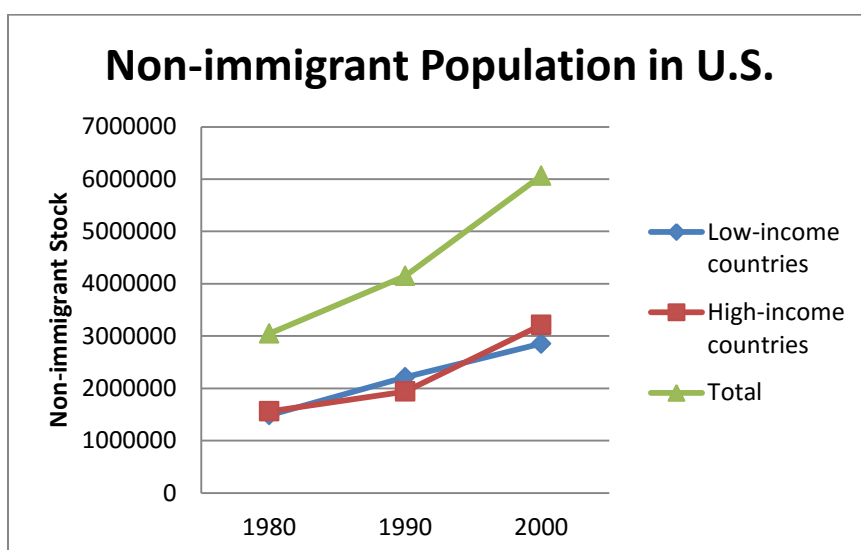
Figure 4-6: Stock of international migrant organizations in the U.S.



Source: Author's calculations using tax-exempt organization data from the Internal Revenue Service in the United States.

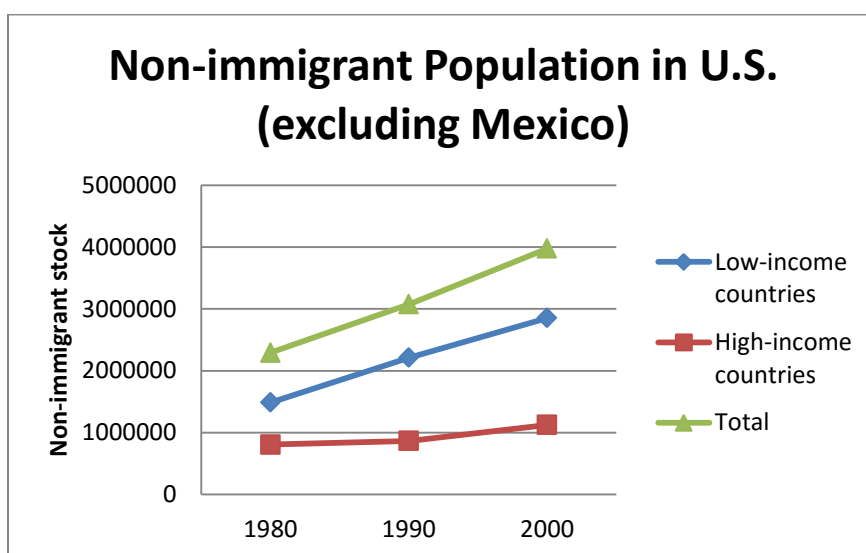
For the third proxy of institutional connectedness (*Non-immigrant Stock*), I use the stock of temporary migrants or non-immigrants in the U.S. for the census years. These data also come from the IPUMS-USA database, as described in Chapter 3. The idea is to capture temporary residents who may be students or business visitors and are likely to be a source of new, more recent knowledge of, and connectedness to their COO. Figure 4-7a and 4-7b show the trends in non-immigrant population in the United States.

Figure 4-7a: Non-immigrant stock in the U.S.



Source: Author's calculations using IPUMS-USA data

Figure 4-7b: Non-immigrant stock in the U.S. (excluding Mexico)



Source: Author's calculations using IPUMS-USA data

Investment position data (or FDI stock data) for migrants' countries of origin were mapped to migrant stock data, after several steps for reconciling the data were undertaken (the details of which are set out in appendix 8.2.2). Thus, I began with 196 countries i.e. with 588 observations in my sample. The sample consisted of 70 developed (or high-income) countries and 126 developing (or low-income) countries.

Control variables

A review of the empirical studies on the determinants of FDI helped me in identifying the control variables for this study. As the unit of analysis is country, I control for factors that are likely to exert a gravitational pull on the investments of firms from foreign countries. Thus, I control for the physical distance of migrants' COO from the COR, and similarity in culture at the national level by using the language dummy following Brainard (1997). *Distance* represents the physical distance between the COO and the U.S.; these data are taken from the GeoDist dataset that is made available by CEPII, a French research center that focuses on research in international economics. *Language* represents the language dummy variable, which is set to one for countries where English is the language for business or the official language, as per the CIA World Factbook, and zero otherwise. *Population* measures the population of the migrant-sending country. As countries with larger populations are likely to have larger number of emigrants living abroad and can, in theory, provide a larger native population for networking and connectedness, I control for the population of the investor country. *Total GDP* measures the relative performance of countries; the higher is the total GDP of migrants' COO, the greater is the propensity of its firms to engage in foreign direct investment, and so I control for GDP. GDP values in current U.S. dollars and population data were downloaded from the World Bank database. Prior studies show that trade agreements may facilitate information flows, therefore, I control for regional trade agreements; these data come from the World Trade Organization database. *Trade Agreement* is a dummy variable, which is set to 1 for countries that have an agreement in force with the U.S., and zero otherwise. *Governance* measures the business climate of migrants' COO. I control for governance, as it is likely

to influence the propensity of firms to grow as well as to invest overseas. Following Javorcik et al (2011), I measure governance using the average of six governance indicators (voice and accountability, political stability and absence of violence, government and effectiveness, regulatory quality, rule of law, and control of corruption) developed by Kaufmann et al. (2013). These indicators are available for 1996-2014 and range from -2.5 to 2.5. I use the 1996 values for both 1980 and 1990 panels. Since OECD countries tend to engage in FDI activities more actively, I include a dummy (*OECD*) for OECD countries. Table 4-1 provides a list of variables used in this study, in addition to the variable descriptions and sources of data.

Table 4-1: Data definitions and sources

Variable	Description	Source
FDI stock	Foreign parent's investment position in the U.S. at historical costs in U.S. dollars for 1992, 2002 and 2012	United States Bureau of Economic Analysis (BEA)
Migrant Stock	Stock of migrants per country in the U.S. for 1980, 1990 and 2000	Authors' calculation based on data from IPUMS-USA
Migrant Org Stock	Stock of migrant organizations in the U.S. focused on domestic activities in 1980, 1990 and 2000	Authors' calculation based on data from Internal Revenue Service
Migrant (Intl) Org Stock	Stock of migrant organizations in the U.S. focused on international activities in 1980, 1990 and 2000	Authors' calculation based on data from Internal Revenue Service
Tertiary Migrant Stock	Stock of working age tertiary-educated migrants in 1980, 1990 and 2000	Authors' calculation based on data from IPUMS-USA
Non-immigrant Stock	Stock of working age non-immigrants i.e. persons who are non-citizens or have been living in the U.S. for less than seven years	Authors' calculation based on data from IPUMS-USA
Diaspora Age	Age of the first migrant tax-exempt organization for a COO as of 1980, 1990 and 2000	Authors' calculation based on data from Internal Revenue Service

Total GDP	GDP of the investor country for various years	World Bank
Population	Population of the investor country for various years	World Bank
Governance	Business climate of the investor country	Worldwide Governance Indicators
Distance	Distance between capital cities of migrants' COO and U.S.	Geodist dataset by CEPII
Language	Common Language dummy	CIA World Factbook
Trade Agreement	Trade Agreement dummy	World Trade Organization
OECD	OECD dummy	Organization for Economic Co-operation and Development
HIGHINCOME	Dummy set to 1 for high income and upper middle income for various years	Organization for Economic Co-operation and Development

4.3.2 Empirical analysis

Motivated by prior studies (Brainard, 1997, Foad, 2012, List, 2001) that have examined the determinants of inward FDI in the context of U.S., I estimate the following panel regression model:

$$\begin{aligned}
 FDI_{i,t} = & \beta_0 + \beta_1 Migrant\ Stock_{i,t-12} + \beta_2 Population_{i,t-12} + \beta_3 Total\ GDP_{i,t-12} \\
 & + \beta_4 Governance_{i,t-12} + \beta_5 Distance_i + \beta_6 Language_i \\
 & + \beta_7 Trade\ Agreement_{i,t-12} + \beta_8 OECD_{i,t-12} + \mu_t + a_i + \epsilon_{i,t}
 \end{aligned}
 \quad \dots (1)$$

In the model given by equation 1, *FDI* for a country *i* is the investment position of firms from migrants' COO in a year *t* in the U.S., *Migrant Stock*_{*i,t-12*} is the migrant stock in the U.S. at *t-12* for country *i*. *Population*_{*i,t-12*} is the total population of the investor country at time *t-12*. *Total GDP*_{*i,t-12*} represents the total GDP for the investor country *i* at time *t-12*. *Governance* represents the business climate in the migrants' COO. *Distance* represents the distance between the capital city of the U.S. and the migrants'

COO. *Language*, *TradeAgreement* and *OECD* are dummy variables. Note that language and distance are time-invariant variables. α_i represents the unobserved time-invariant factors that affect $FDI_{i,t}$ and are captured by country fixed effects; $\epsilon_{i,t}$ captures the time-varying factors that affect $FDI_{i,t}$. μ_t represents the time dummies in the model.

As data for several variables were highly skewed, natural logs of variables were taken (after adding 1 to avoid losing the 0 values) to eliminate the skewness and excess kurtosis (Cameron & Trivedi, 2010). Two reasons motivated me to estimate my model using Tobit. First, fixed effects estimator is inconsistent in short panels (Cameron and Trivedi, 2005: 801). Second, the presence of a large number of zero values (approximately 56 percent of the observations) in the dependent variable encouraged me to estimate the panel model using random-effects Tobit regression. I ran Tobit regressions for the model specified in equation 1 for all proxies of institutional affinity and institutional connectedness. A scatter plot of the key explanatory variables showed that some observations for Mexico, China, Korea, Philippines, Haiti, Israel and India were outliers in my sample. While Mexico and Philippines have an extraordinarily large migrant population, China, Korea, Haiti and Israel have an extraordinarily large number of migrant organizations in the U.S. for 2000. Lastly, India has a large of tertiary educated population in the United States. Consequently, I drop the outlier country-year observations from my sample. Figure 4-8 shows the scatterplot for FDI versus migrant organizations after outliers were dropped. Beugelsdijk, Hennart, Slangen and Smeets (2010) note that FDI stocks from tax haven countries are likely to bias the results as these are not true indicators of productive activity. Therefore, I drop tax haven countries from my sample. A list of tax havens is provided in Chapter 3. The BEA includes FDI stock

data for Channel Islands in the FDI stock data for Great Britain; so I also exclude Great Britain from my sample. Thus, my final sample consists of an unbalanced panel of 480 observations representing 162 countries. As Tobit estimates are highly sensitive to heteroskedasticity, I compute and report robust standard errors (clustered on country) for all the models.

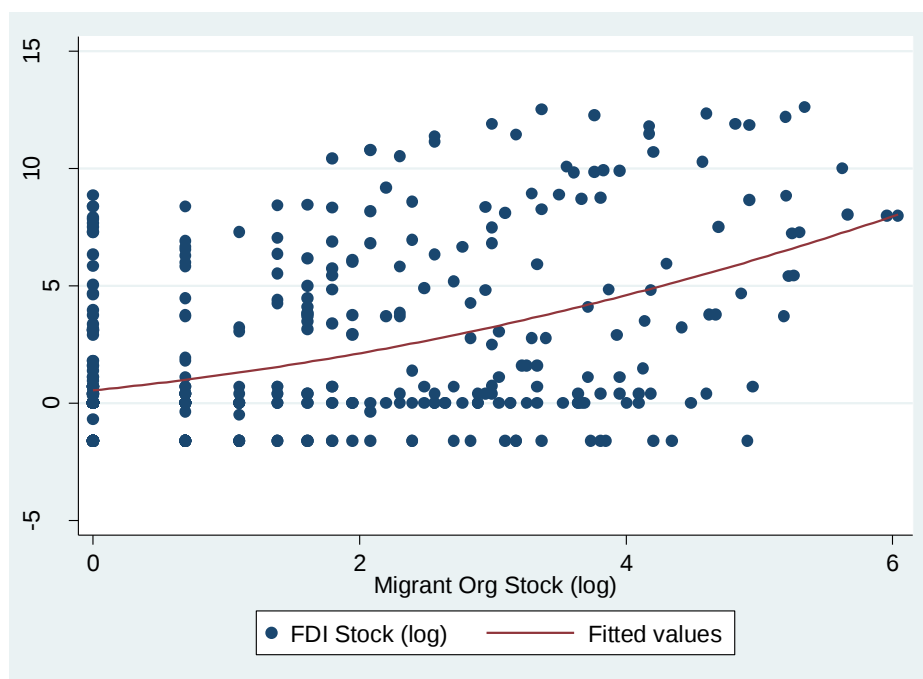


Figure 4-8: Scatterplot of FDI stock (log) versus Migrant Organization Stock (log)

4.3.3 Results

The pairwise correlations including mean, standard deviations, minimum values and maximum values for the key variables are shown in Table 4-2.

Table 4-2: Pairwise correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 FDI Stock (log)	1													
2 Migrant Stock (log)	0.43	1												
3 Migrant Org. Stock (log)	0.46	0.61	1											
4 Diaspora Age	0.57	0.56	0.85	1										
5 Tertiary Migrant Stock (log)	0.44	0.91	0.63	0.58	1									
6 Migrant Intl Org Stock (log)	0.38	0.48	0.70	0.64	0.51	1								
7 Non-immigrant Stock (log)	0.40	0.80	0.50	0.45	0.81	0.44	1							
8 Total GDP (log)	0.69	0.58	0.56	0.62	0.63	0.48	0.57	1						
9 Governance	0.57	0.28	0.34	0.42	0.23	0.17	0.17	0.34	1					
10 Population (log)	0.34	0.47	0.45	0.41	0.56	0.43	0.52	0.76	-0.18	1				
11 Distance (log)	-0.15	-0.36	-0.15	-0.22	-0.33	-0.18	-0.31	-0.18	-0.23	0.02	1			
12 OECD	0.69	0.32	0.38	0.49	0.30	0.26	0.25	0.53	0.64	0.18	-0.19	1		
13 Language	-0.06	-0.03	-0.14	-0.18	-0.04	-0.06	0.00	-0.22	0.02	-0.15	0.19	-0.07	1	
14 Trade Agreement	0.16	0.07	0.14	0.15	0.08	0.19	0.07	0.09	0.10	0.03	-0.15	0.07	0.12	1
Mean	1.80	7.71	1.37	17.68	6.28	0.42	6.99	22.81	-0.19	15.51	9.03	0.13	0.23	0.00
S.D.	3.49	3.87	1.56	21.00	3.63	0.71	3.57	2.21	0.89	1.89	0.48	0.33	0.42	0.06
Min	-1.61	0	0	0	0	0	0	17.15	-2.33	9.41	6.60	0	0	0
Max	12.61	13.54	6.04	82	12.25	3.76	12.47	29.18	1.87	20.85	9.70	1	1	1
Number of observations = 480														

The Tobit estimates for the model specified in equation 1 are shown in Table 4-3.

Model 1, Model 2 and Model 3 show the estimation with variables capturing the effect of institutional affinity. For Model 1, 270 observations (out of 480) were left-censored.

Migrant Stock is highly statistically significant ($\beta=0.275$, $p<0.01$). As expected, *Total GDP* and *Governance* are significant with the correct signs. *TradeAgreement* has the correct signs and is statistically significant. *Distance* is not significant and has a positive sign. *OECD* and *Language*, though not significant, have the expected sign. *Population* of the COO of migrants is significant with a negative sign. For Model 2, which estimates the model with the second proxy for institutional affinity - *Migrant Org Stock* – shows that it is not significant, but has the expected sign. *Total GDP* and *Governance* are significant and have the expected sign. All other controls have the expected sign but are not significant. Model 3 shows the estimates for the third proxy of institutional affinity - *Diaspora Age*. As shown in Model 3, *Diaspora Age* is not significant. Thus, Model 1 provides support to hypothesis 1a, but Models 2 and 3 fail to provide evidence in support for hypothesis 1a.

The Tobit estimates for the institutional connectedness measures are shown in Model 4, Model 5 and Model 6 of Table 4-3. Model 4 shows that *Tertiary Migrant Stock* is highly statistically significant ($\beta = 0.295$, $p < 0.01$), thereby providing support to hypothesis 2a, which posits that the greater is the institutional connectedness between migrants' COO and migrants' COR, the greater is the likelihood of FDI into that country. Model 5 introduces *Migrant Intl Org Stock*, the second proxy for connectedness, in the estimation along with the control variables. *Migrant Intl Org Stock* is not found to be statistically significant but has the expected sign. Model 6 shows that *Non-immigrant Stock* is highly statistically significant ($\beta = 0.306$, $p < 0.01$) and has the expected sign. Thus, both Models 4 and 6 provide statistical support to hypothesis 2a.

To test the effect of institutional affinity and institutional connectedness on FDI for developed versus emerging economies, I split the sample by low-income and high-income countries and estimated the model for these samples. The Tobit estimates of high- and low-income samples are shown in Tables 4-4 and 4-5 respectively; these estimations show that low-income countries are driving some of the results with regard to the coefficient estimates of the main explanatory variables shown in Table 4-3. As shown in Table 4-4, *Migrant Stock* is significant, though only at the $p < 0.10$ level. *Tertiary Migrant Stock* ($\beta = 0.262$, $p < 0.01$) and *Non-immigrant Stock* ($\beta = 0.475$, $p < 0.01$) are statistically significant with the expected sign. But *Migrant Org Stock* and *Migrant Intl Org Stock* are not significant and in fact have the opposite sign than expected. *Diaspora Age* is also not found to be significant, though it has the expected sign.

Table 4-4: Tobit Estimates with cluster-robust standard errors (high-income country sample)

	Institutional Affinity			Institutional Connectedness		
	Model 1H	Model 2H	Model 3H	Model 4H	Model 5H	Model 6H
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Migrant Stock (log)	0.201*					
	(0.103)					
Migrant Org Stock (log)		-0.174				
		(0.241)				
Diaspora Age			0.006			
			(0.019)			
Tertiary Migrant Stock (log)				0.262**		
				(0.102)		
Migrant Intl Org Stock (log)					-0.032	
					(0.400)	
Non-immigrant Stock (log)						0.475***
						(0.149)
Total GDP (log)	2.120***	2.052***	2.016***	2.174***	2.028***	1.919***
	(0.451)	(0.445)	(0.448)	(0.457)	(0.451)	(0.433)
Population (log)	-0.678	-0.312	-0.416	-0.818*	-0.374	-0.792**
	(0.475)	(0.381)	(0.388)	(0.489)	(0.403)	(0.392)
Governance	0.985	1.439*	1.218	0.886	1.295*	1.046
	(0.840)	(0.754)	(0.758)	(0.860)	(0.744)	(0.738)
Distance (log)	-0.314	-0.676	-0.617	-0.272	-0.654	-0.328
	(0.477)	(0.546)	(0.503)	(0.432)	(0.531)	(0.428)
OECD	-0.300	-0.306	-0.295	-0.191	-0.294	0.025
	(1.119)	(1.094)	(1.125)	(1.106)	(1.117)	(1.106)
Trade Agreement	-0.020	0.292	-0.280	-0.099	-0.075	-0.120
	(0.779)	(0.973)	(0.955)	(0.740)	(0.815)	(0.755)
Language	1.078	1.071	1.238	1.012	1.182	0.641
	(0.759)	(0.797)	(0.763)	(0.765)	(0.774)	(0.790)
Constant	-36.040***	-34.879***	-33.292***	-35.757***	-33.733***	-31.259***
	(6.676)	(7.406)	(7.280)	(6.451)	(7.514)	(6.376)
Number of observations	139	139	139	139	139	139
Log-Likelihood	-260.15	-261.46	-261.80	-259.42	-261.90	-255.13

Notes: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of FDI stock (plus 1). Time dummies were included for estimation. Cluster-robust standard errors (clustered on country) are provided in parentheses. This sample excludes tax haven countries, outliers as well as low-income countries.

Table 4-5 shows that *Migrant Stock*, *Migrant Org Stock*, *Diaspora Age*, *Tertiary Migrant Stock* and *Non-immigrant Stock* are highly statistically significant, while *Migrant Intl Org Stock* is significant at the $p < 0.10$ level. This provides strong support to both Hypothesis 1a and 2a, especially for developing countries. I performed Wald tests to compare coefficients for low-income and high-income samples in order to test the cross-model hypotheses 1b and 2b. Results for these are reported at the end of Table 4-5. Wald test statistics show that institutional affinity measured as *Migrant Org Stock*, is significantly different for high-income versus low-income sample, providing partial support to Hypothesis 1b. All other coefficients however do not differ significantly between the two samples.

Interpretation of coefficients

Unlike coefficient interpretation for the case of ordinary least squares linear regression, the coefficients for Tobit estimates cannot be interpreted directly from the results in Table 4-3, 4-4 and 4-5. For non-linear estimators, such as Tobit, the coefficient estimate does not represent the marginal effect, instead they represent the coefficients for the latent (unobserved) variable (Wooldridge, 2006: 597), thus, following Cameron & Trivedi (2009: 541-543), I calculated the average marginal effects for the estimated coefficients. I find that, on average, a 10 percentage point increase in migrant population from a COO at time T in a host country increases inward FDI from that country at time T+12 by 1.26 percentage points. A 10 percentage point increase in the tertiary migrant population from a COO at time T in a host country increases inward FDI from that country at time T+12 by 1.3 percentage points. For low-income countries, on average, a

10 percentage point increase in migrant organization stock at time T in a host country increases inward FDI from that country at time T+12 by 1.34 percentage points.

Robustness checks

To test the robustness of the findings to alternative econometric approaches, I estimated the model using the generalized least squares (GLS) random-effects (RE) estimator. While this estimator has its drawbacks, especially since the dependent variable takes a large number of zero values, I still provide the results for comparison purposes. Table 4-6 shows the estimates for the full, high-income and low-income samples for the key explanatory variables.

Table 4-6: GLS random-effects estimates with cluster-robust standard errors

Econometric Approach	Sample	N	Estimated coefficients for key explanatory variables					
			Migrant Stock (log)	Migrant Org Stock (log)	Diaspora Age	Tertiary Migrant Stock (log)	Migrant Intl Org (log)	Non-immigrant Stock (log)
			coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Random Effects	Full	480	0.028	0.177*	0.028***	0.060***	0.316*	0.048**
			-0.027	-0.102	-0.011	-0.02	-0.187	-0.02
Random Effects	High	139	0.056	0.291	0.036*	0.093	0.555	0.155*
			-0.091	-0.225	-0.02	-0.069	-0.453	-0.083
Random Effects	Low	341	0.036*	0.256***	0.023***	0.067***	0.382**	0.041**
			-0.021	-0.091	-0.009	-0.016	-0.179	-0.017

Notes: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of direct investment position stock (plus 1). Time dummies were included for estimation. Cluster-robust standard errors (clustered on country) are provided in parentheses. Similar to the full sample in Table 4-3, the full sample here excludes tax-havens and outliers. In addition to that, the high-income sample excludes low-income countries, whereas the low-income sample excludes high-income countries.

To further test the robustness of my findings, I ran the estimations for the entire sample i.e. including tax havens and outliers. The results of these estimations are shown in Table 4-7. I only show the key explanatory variables in this table due to space constraints. Results in Table 4-7 provide strong evidence for institutional affinity as a

determinant of FDI for firms from low-income countries. Wald test statistic for equality of coefficients between high and low-income samples shows that the coefficients are significantly different for the institutional affinity measures (*Migrant Org Stock* and *Diaspora Age*). This suggests that institutional affinity matters more to firms from emerging market economies. The results in Table 4-7 also suggest that the institutional connectedness provided by migrants matters for *both*, developed and developing countries with regard to attracting FDI.

Table 4-7: Tobit estimates with cluster-robust standard errors (including tax haven and outliers)

Sample	N	Estimated coefficients for key explanatory variables					
		Migrant Stock (log)	Migrant Org Stock (log)	Diaspora Age	Tertiary Migrant Stock (log)	Migrant Intl Org (log)	Non-immigrant Stock (log)
		coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Full	588	0.278*** (0.083)	0.155 (0.185)	0.017 (0.020)	0.349*** (0.101)	0.560** (0.283)	0.357*** (0.118)
High	210	0.136 (0.123)	-0.250 (0.220)	-0.019 (0.017)	0.252* (0.141)	0.148 (0.362)	0.472*** (0.143)
Low	378	0.428*** (0.119)	0.654*** (0.244)	0.056** (0.023)	0.499*** (0.150)	0.956** (0.406)	0.354** (0.150)
Wald test: χ^2		2.950	7.600	6.910	1.450	2.220	0.330
Wald test: Significant level		(0.080)	(0.006)	(0.009)	(0.220)	(0.130)	(0.567)
Notes: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of FDI stock (plus 1). Cluster-robust standard errors (clustered on country) are provided in parentheses. This sample includes tax-haven countries as well as outliers.							

4.3.4 Two-stage estimation

As noted by Wooldridge (2002), a standard Tobit model imposes a restriction that a single mechanism determines the choice between *whether or not FDI occurs* and the *amount of FDI*. As the decision to invest may be influenced by different factors as compared to the decision on the amount of FDI, alternative econometric approaches for this two-step process have been suggested in the econometrics literature. Alternatives

suggested include estimating the two-part (or hurdle model) and the Heckman selection model (Wooldridge, 2002: 555). As the two-part model assumes that the decision to invest (i.e. the selection equation) is mutually exclusive from the amount of FDI (i.e. the main equation of interest), thus imposing the restriction that there is no correlation between the error terms of the two parts or the equations are independent (an assumption too strong for my case), I estimate my model using Heckman selection estimator that allows for possible dependence in the two parts of the model. I use distance (*Distance*) as the exclusion restriction in the selection equation. The rationale is that distance is a fixed cost, and so it is likely to factor in the initial decision to invest. Once the decision to engage in FDI in a foreign location has been made, distance is less likely to factor in, in subsequent increments of resource commitments. The results of Heckman estimations are shown in Table 4-8 for the full sample that excludes tax havens and outliers.

Table 4-8: Heckman estimates for full sample (excluding tax havens and outliers)

	Institutional Affinity						Institutional Connectedness					
	Model 1HM		Model 2HM		Model 3HM		Model 4HM		Model 5HM		Model 6HM	
	Main	Select	Main	Select	Main	Select	Main	Select	Main	Select	Main	Select
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Migrant Stock (log)	0.382*** (0.066)	0.055** (0.024)										
Migrant Org Stock (log)			0.110 (0.139)	0.040 (0.073)								
Diaspora Age					0.020* (0.010)	0.003 (0.006)						
Tertiary Migrant Stock (log)							0.421*** (0.097)	0.052* (0.027)				
Migrant Intl Org Stock (log)									0.486** (0.212)	0.196 (0.167)		
Non-immigrant Stock (log)											0.455*** (0.100)	0.078*** (0.028)
Total GDP (log)	2.440*** (0.237)	0.396*** (0.091)	2.230*** (0.184)	0.412*** (0.092)	2.188*** (0.187)	0.408*** (0.090)	2.467*** (0.219)	0.397*** (0.083)	2.203*** (0.196)	0.405*** (0.085)	2.380*** (0.220)	0.386*** (0.085)
Population (log)	-0.897*** (0.264)	0.065 (0.093)	-0.581*** (0.197)	0.101 (0.090)	-0.632*** (0.204)	0.106 (0.082)	-0.985*** (0.254)	0.061 (0.081)	-0.596*** (0.193)	0.096 (0.088)	-0.857*** (0.224)	0.049 (0.088)
Governance	1.041*** (0.386)	0.541*** (0.157)	1.243*** (0.346)	0.572*** (0.157)	1.102*** (0.351)	0.575*** (0.149)	1.060*** (0.389)	0.551*** (0.147)	1.274*** (0.328)	0.583*** (0.156)	1.325*** (0.350)	0.560*** (0.156)
Language	0.820* (0.433)	0.040 (0.185)	0.935** (0.385)	0.122 (0.181)	1.070*** (0.356)	0.123 (0.176)	0.705* (0.412)	0.049 (0.180)	0.860** (0.365)	0.102 (0.183)	0.527 (0.439)	-0.022 (0.179)
Distance (log)		-0.466** (0.222)		-0.626*** (0.223)		-0.627*** (0.207)		-0.492** (0.211)		-0.583*** (0.224)		-0.432** (0.209)
Inverse Mill's Ratio	4.528*** (0.736)		3.248*** (0.783)		3.196*** (0.651)		4.663*** (0.767)		3.277*** (0.711)		4.826*** (0.782)	
Constant	-46.365*** (3.290)	-5.430*** (2.035)	-42.569*** (3.599)	-4.511** (2.073)	-41.115*** (3.558)	-4.480** (1.908)	-45.431*** (3.226)	-5.045** (2.090)	-41.865*** (3.565)	-4.707** (2.048)	-45.818*** (3.384)	-5.343*** (1.961)

Note: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of direct investment position stock (plus 1). Time dummies were included for estimation. Bootstrapped standard errors (reps = 200) are provided in parentheses. Similar to the full sample in Table 4-3, the full sample here excludes tax-havens and outliers. OECD and Trade Agreement were dropped during estimation.

Models 1HM, 2HM and 3HM show the Heckman two-step estimates for the institutional affinity variables. Models 4HM, 5HM and 6HM show the Heckman two-step estimates for the institutional connectedness variables. Inverse Mill's Ratio for all of the above models is highly statistically significant; this provides evidence that selection is an issue with this sample. *Distance*, which is used as an exclusion restriction in the model, is highly statistically significant in the selection equation and carries the expected sign. Statistically significant coefficient estimates for *Migrant Stock*, *Tertiary Migrant Stock*, *Migrant Intl Org Stock* and *Non-immigrant Stock* in the main equations provide further support to the proposed hypotheses 1a and 2a. According to Model 5HM, a 1 percentage point increase in the number of international migrant organizations for a COO in migrants' COR at time T, increases the amount of FDI from that COO to the migrants' COR by 0.5 percentage points at time T+12. Model 2HM shows that *Migrant Org Stock* is not significant for this sample, both in the main and the selection equation, although it carries the expected sign. *Diaspora Age* is also not significant in the selection equation, but has the expected sign. *Diaspora Age*, however, seems to matter once the decision to invest in the location has been made. These findings are consistent with the Tobit estimates in Table 4-3. These, however, present a clearer picture of the phenomenon. The results in Table 4-8 suggest that institutional affinity, brought about by increased concentration of migrants from a COO in a location, matters in the initial decision to invest, as well as in the subsequent decisions for increased resource commitment. Similarly, the institutional connectedness provided by tertiary-educated migrants and temporary migrants from a COO in a COR, influences future FDI location decision as well as the extent of resource commitments in that COR.

As a robustness check, I provide the Heckman two-step estimates for the entire sample i.e. including outliers and tax havens. These estimates are shown in Table 4-9; the results in this table are consistent with those in Table 4-8, but these are biased upwards. Table 4-10 shows the Heckman estimates for high and low-income countries. The results shown in Table 4-10 provide strong evidence in support of institutional affinity and institutional connectedness as determinants of FDI for developing country multinationals. Coefficient estimates for all proxies of both conceptual variables are highly statistically significant for low-income countries. For developed countries, all measures that use migrant organizations are not significant; however, migrants, tertiary-educated migrants, and temporary migrants do play a role in bringing about institutional affinity (*Migrant Stock*) and institutional connectedness (*Tertiary Migrant Stock* and *Non-immigrant Stock*) between their COO and COR.

Table 4-9: Heckman estimates for entire sample (including tax havens and outliers)

	Institutional Affinity						Institutional Connectedness					
	Model 1HM		Model 2HM		Model 3HM		Model 4HM		Model 5HM		Model 6HM	
	Main coef/se	Select coef/se	Main coef/se	Select coef/se	Main coef/se	Select coef/se	Main coef/se	Select coef/se	Main coef/se	Select coef/se	Main coef/se	Select coef/se
Migrant Stock (log)	0.391*** (0.087)	0.071*** (0.022)										
Migrant Org Stock (log)			0.222 (0.135)	0.067 (0.058)								
Diaspora Age					0.023* (0.013)	0.009* (0.005)						
Tertiary Migrant Stock (log)							0.505*** (0.099)	0.073*** (0.024)				
Migrant Intl Org Stock (log)									0.711*** (0.197)	0.171 (0.152)		
Non-immigrant Stock (log)											0.527*** (0.112)	0.094*** (0.024)
Total GDP (log)	2.452*** (0.252)	0.400*** (0.078)	2.228*** (0.218)	0.418*** (0.061)	2.126*** (0.214)	0.409*** (0.070)	2.499*** (0.247)	0.394*** (0.076)	2.210*** (0.223)	0.415*** (0.074)	2.398*** (0.237)	0.384*** (0.074)
Population (log)	-1.324*** (0.264)	-0.028 (0.081)	-1.040*** (0.218)	0.009 (0.071)	-1.010*** (0.226)	0.008 (0.070)	-1.427*** (0.251)	-0.033 (0.078)	-1.050*** (0.217)	0.014 (0.077)	-1.271*** (0.223)	-0.036 (0.079)
Governance	0.961*** (0.368)	0.459*** (0.136)	1.075*** (0.362)	0.493*** (0.144)	0.989*** (0.379)	0.488*** (0.123)	1.032*** (0.370)	0.470*** (0.128)	1.171*** (0.340)	0.516*** (0.134)	1.393*** (0.350)	0.491*** (0.137)
Language	1.738*** (0.393)	0.291** (0.141)	1.888*** (0.371)	0.385*** (0.140)	1.890*** (0.383)	0.383** (0.159)	1.558*** (0.414)	0.284* (0.149)	1.775*** (0.369)	0.371** (0.151)	1.415*** (0.432)	0.214 (0.174)
Distance (log)		-0.382** (0.161)		-0.561*** (0.148)		-0.545*** (0.153)		-0.389** (0.161)		-0.534*** (0.149)		-0.346** (0.169)
Inverse Mill's Ratio	4.392*** (0.963)		3.008*** (0.829)		2.691*** (0.716)		5.020*** (0.866)		3.112*** (0.747)		5.213*** (1.024)	
Constant	-39.713*** (3.618)	-5.022*** (1.589)	-35.174*** (3.577)	-3.904*** (1.458)	-33.302*** (3.394)	-3.866*** (1.480)	-39.787*** (3.298)	-4.640*** (1.505)	-34.755*** (3.375)	-4.122*** (1.511)	-40.158*** (3.730)	-4.916*** (1.520)

note: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of direct investment position stock (plus 1). Time dummies were included for estimation. Bootstrapped standard errors (reps = 200) are provided in parentheses. The sample here **includes** tax-havens and outliers. OECD and Trade Agreement were dropped during estimation.

Table 4-10: Heckman two-step estimation for high and low-income countries

Key explanatory variables	Full sample (excludes outliers and tax-havens)				All (Includes outliers and tax-havens)			
	High-income countries		Low-income countries		High-income countries		Low-income countries	
	Main	Select	Main	Select	Main	Select	Main	Select
Migrant Stock (log)	0.292*** (0.105)	-0.053 (16.077)	0.439*** (0.131)	0.079*** (0.030)	0.245** (0.111)	0.010 (0.075)	0.640*** (0.211)	0.092*** (0.028)
Migrant Org Stock (log)	-0.021 (0.171)	-0.380 (6.008)	0.422*** (0.132)	0.119 (0.074)	-0.005 (0.170)	-0.452 (0.353)	0.582*** (0.150)	0.128** (0.063)
Diaspora Age	0.023* (0.013)	-0.028 (0.483)	0.035*** (0.011)	0.011* (0.006)	0.001 (0.016)	-0.023 (0.015)	0.047*** (0.016)	0.014*** (0.005)
Tertiary Migrant Stock (log)	0.354*** (0.124)	-0.046 (2.353)	0.455*** (0.145)	0.073** (0.033)	0.328*** (0.124)	0.028 (1.482)	0.693*** (0.202)	0.091*** (0.029)
Migrant Intl Org (log)	0.162 (0.304)	-0.546 (16.058)	0.744** (0.321)	0.275 (0.184)	0.446* (0.256)	-0.548 (1.864)	1.066*** (0.299)	0.214 (0.174)
Non-immigrant Stock (log)	0.465*** (0.152)	0.088 (8.033)	0.410*** (0.146)	0.078** (0.035)	0.421*** (0.156)	0.128 (0.107)	0.616*** (0.209)	0.091*** (0.029)
Number of observations	139		341		210		378	

4.4 Chapter summary

In this chapter, I test the framework (migrant roles 2 and 3) proposed in Chapter 2, at the country-level. Specifically, I examine the effect of institutional affinity and institutional

connectedness on the inward FDI activities of foreign firms in the U.S. context, using migration data for 1980, 1990 and 2000 for over 150 countries. Since migration and FDI are influenced by similar pull factors, all explanatory variables are lagged with respect to FDI to reduce any endogeneity concerns. The results of this study support the proposed hypothesis that institutional affinity in the migrants' COR with respect to their COO is a predictor of future inward FDI from the migrants' COO. While I find statistically significant support for all the three proxies of institutional affinity and institutional connectedness for developing country MNCs, the results for only one proxy of institutional affinity (*Migrant Stock*) and two proxies of institutional connectedness (*Tertiary Migrant Stock* & *Non-immigrant Stock*) are found to be significant for developed country MNCs. One possible explanation for the insignificant findings for developed country MNCs is that I examine this phenomenon in a developed country. It is likely that the liability of foreignness for MNCs from other developed countries seeking to invest in a developed host is relatively low. This may be related partly to the fact that these firms are more experienced in internationalization. It may also be the case that the institutional environment in their home country is already somewhat similar to that in the U.S., and so the effect of migrant organizations or the diaspora is marginal in influencing the relationship being examined for these developed countries.

The findings of this study suggest that firms from emerging economies, in an effort to overcome the barriers raised by inexperience, weaker capabilities, and lack of reliable knowledge sources, seek locations that offer some institutional similarity to the environment in their home countries. Institutional affinity brought about by their home

country migrants in a location plays a role in the internationalization strategies of emerging market firms.

5 Migrants and inward foreign direct investment: A regional-level analysis

5.1 Introduction

In this dissertation, I argue that in addition to the traditional determinants of foreign direct investment (FDI) established in the extant literature, there is an additional factor that manifests itself as a social effect due to increased concentration of migrants from a country of origin (COO) in a geographic location. In Chapter 4, I show that institutional affinity and institutional connectedness play a role in influencing the investment strategies of multinational firms in migrants' COO at the country-level. While only one measure of institutional affinity and two measures of connectedness are statistically significant for developed countries, all measures of institutional affinity and institutional connectedness are found to be statistically significant for developing country migrants. As migrants tend to concentrate in certain geographic regions within a country, a study at the sub-national level will help us in getting a clearer picture of the phenomenon being examined in this dissertation. Drawing on the theoretical framework introduced in Chapter 2, I examine the extent to which institutional affinity and institutional connectedness provided by migrants in sub-national regions plays a role in influencing foreign direct investment patterns in migrants' country of residence (COR).

5.2 Hypotheses

5.2.1 Migrants as creators of institutional affinity

“It is the complex interaction of formal rules and informal constraints, together with the way they are enforced,” (North 1990: 83) that guides our daily activities in the social, economic and political realm. Building on this idea, I argue that increased concentration of migrants from a COO, residing in a sub-national region of a country, bring about changes in the economic and non-economic realm. By virtue of their shared cultural heritage, they engage in religious, cultural, trade and business practices that influence the institutional environment in the COR region. As argued in Chapter 2, migrants’ day-to-day interactions and exchange in the social, economic and political realm, over time, creates an institutional variety, in the form of new or adapted rules and founding of new migrant (charitable, educational, religious or scientific) organizations. The purpose of these organizations, in most cases, is to help solve problems faced by migrants in their new environment. These changes in the institutional environment in subnational regions help create an environment that is *somewhat* similar to that in migrant group’s COO. This institutional affinity, I argue, contributes to subnational location advantages for firms from migrants’ COO that view the region as relatively less foreign. Increased concentration of migrants from a COO in a subnational region of migrants’ COR creates the potential for firms (from their COO) to access these resources as sources of knowledge as well as market. Fang (1996) notes that the major sites for Japanese direct investment in the United States were California, New York and New Jersey, and one of the reasons that these states were appealing to Japanese firms was due to the presence of the Japanese American community. Increased migrant concentration in

the COR region create an environment of greater trust due to homophily (McPherson, Smith-Lovin, & Cook, 2001), and provides “superior monitoring of operations in the host market” (Rangan & Sengul, 2009). Along these lines, I propose that –

Hypothesis 1: All other things being equal, the greater is the institutional affinity of a subnational region in the migrants’ COR with respect to the migrants’ COO, the greater is the likelihood of FDI activity from the migrants’ COO to that subnational region of the COR.

5.2.2 Migrants as connectors of cross-border institutional environments

As discussed in Chapter 2, skilled migrant workers play a role in bridging the knowledge worlds of their COR and COO. Fulfillment of personal business aspirations (Saxenian, 2006), altruistic motivations (Glennie & Chappell, 2010) and the need to provide financial support to kith and kin through remittances (Vaaler, 2011) have been shown to be some of the ways by which skilled migrants provide connectedness between their COO and COR. The new knowledge circulated by temporary migrants, or non-immigrants, provide new updates to the knowledge base of the migrants already residing in the COR as well as their compatriots in the COO. No matter what the motivation, migrants play a role in connecting the knowledge worlds of their COO and COR. In addition to direct personal connections (Lorenzen & Mudambi, 2013), migrants often are members of organizations that span cross-border locations (Saxenian & Hsu, 2001). Such industry, professional, alumni and other cultural organizations as well as inter-governmental organizations in sub-national regions of migrants’ COR provide a space that allows skilled migrants to be embedded in the institutional environment of their COR and to be connected to their counterparts in their COO. In sum, the greater is the

institutional connectedness provided by such high-skilled migrants, non-immigrants, and their social ties, the greater is the likelihood of knowledge flows between migrants' COR region and their COO. This in turn, increases the likelihood of investment activity in migrants' COR region by firms from migrants' COO. Along these lines, I propose that -

Hypothesis 2: All other things being equal, the greater is the connectedness provided by migrants between the subnational region of their COR and their COO, the greater is the likelihood of FDI activity into that subnational region from the migrants' COO.

5.3 Methodology

5.3.1 Research setting

I examine the effect of institutional affinity and institutional connectedness provided by migrants from a COO in a location, on the FDI activities of multinationals from their COO in the fifty states of the United States (U.S.). Unlike the other two studies in this dissertation, in this study, I examine the phenomenon in a cross-sectional setting due to unavailability of comparable data for multiple time periods. Thus, I examine the effect of the key explanatory variables using their values for 1990 on the FDI activity in 2002.

5.3.2 Data

Dependent Variable

To measure the level of activities of foreign multinational enterprises in the 50 states of the U.S., I rely on establishment¹³-level data. These data are made available by the Bureau of Economic Analysis (BEA) and are a result of an ongoing project that links the BEA enterprise-level data on FDI in the U.S. with the U.S. Census Bureau's foreign-owned establishment data¹⁴ (U.S. Bureau of Economic Analysis and U.S. Bureau of the Census, 2007). I use the sales of establishments of U.S. affiliates¹⁵, and employment at the establishments as proxies for FDI in the U.S. states for 2002. It should be noted that these data disaggregated by state and by country of ultimate business ownership¹⁶, but are only available for seven countries – Canada, France, Germany, Japan, Netherlands, Switzerland and United Kingdom.

Independent Variables

Institutional affinity: Similar to the country-level study described in Chapter 4, in this regional study, I use several different proxies for the institutional affinity variable. The first measure seeks to capture the concentration of migrants in a state. Thus, *Migrant Stock* is the total stock of resident migrant population in a state by migrants' COO.

¹³ According to the BEA, an establishment is a single physical location where business is conducted or where services are rendered or where industrial operations are performed. The data cover every establishment that has one or more paid employees during 2002.

¹⁴ According to the BEA, a foreign-owned establishment is one that is owned by a U.S. affiliate of a foreign company.

¹⁵ According to the BEA, a U.S. affiliate is a U.S. business enterprise that is owned 10 percent or more, directly or indirectly, by a foreign person or company.

¹⁶ A UBO, or ultimate beneficial owner, is the person that owns or controls and ultimately derives benefits from a U.S. affiliate. The BEA defines a UBO as "that person, proceeding up a U.S. affiliate's ownership chain, beginning with and including the foreign parent that is not owned more than 50 percent by another person." A foreign parent, on the other hand, is defined as "the first person outside the United States in a U.S. affiliate's ownership chain that has a direct investment interest in the affiliate."

Migrant Share is the share of migrants relative to the working age state population; this is consistent with prior migration-FDI literature (Foad, 2012). The rationale for choosing this measure is that the greater is the share of migrants from a COO in a state, the greater is the likelihood of migrants' interactions and exchange in market and non-market settings. The data for these proxies of institutional affinity comes from the Integrated Public Use Microdata Series (IPUMS-USA), made available by the Minnesota Population Center (Ruggles, Alexander, Genadek, Goeken, Schroeder, & Sobek, 2010). Following the steps provided in Chapter 3, I calculated the foreign-born data for all the 50 states for 1990. For calculating the migrant share, I used the labor information for each state from the U.S. Bureau of Labor Statistics (BLS).

Similar to the institutional affinity measure at the country-level, I measure the changes in the institutional environment at the sub-national level of a host country using the number of migrant non-profit organizations (*Migrant Org Stock*) founded in each state, per COO of migrants. Domestic organizations with a regional focus serve the needs of the local community and so they are reflective of the changes brought about by migrants in the institutional environment resulting from increased concentration of migrants from COO in a COR location. The final measure of institutional affinity in this study is diaspora age. *Diaspora Age* is the age of the first migrant organization (for a COO) for each state, since its founding.

Institutional connectedness: Similar to the country-level study described in Chapter 4, here too, I rely on tertiary migrant stock as a measure for connectedness (*Tertiary Migrant Stock*). I also use the share of tertiary migrants (*Tertiary Migrant Share*) in a state, relative to the total number of tertiary-educated personnel in the state as the second

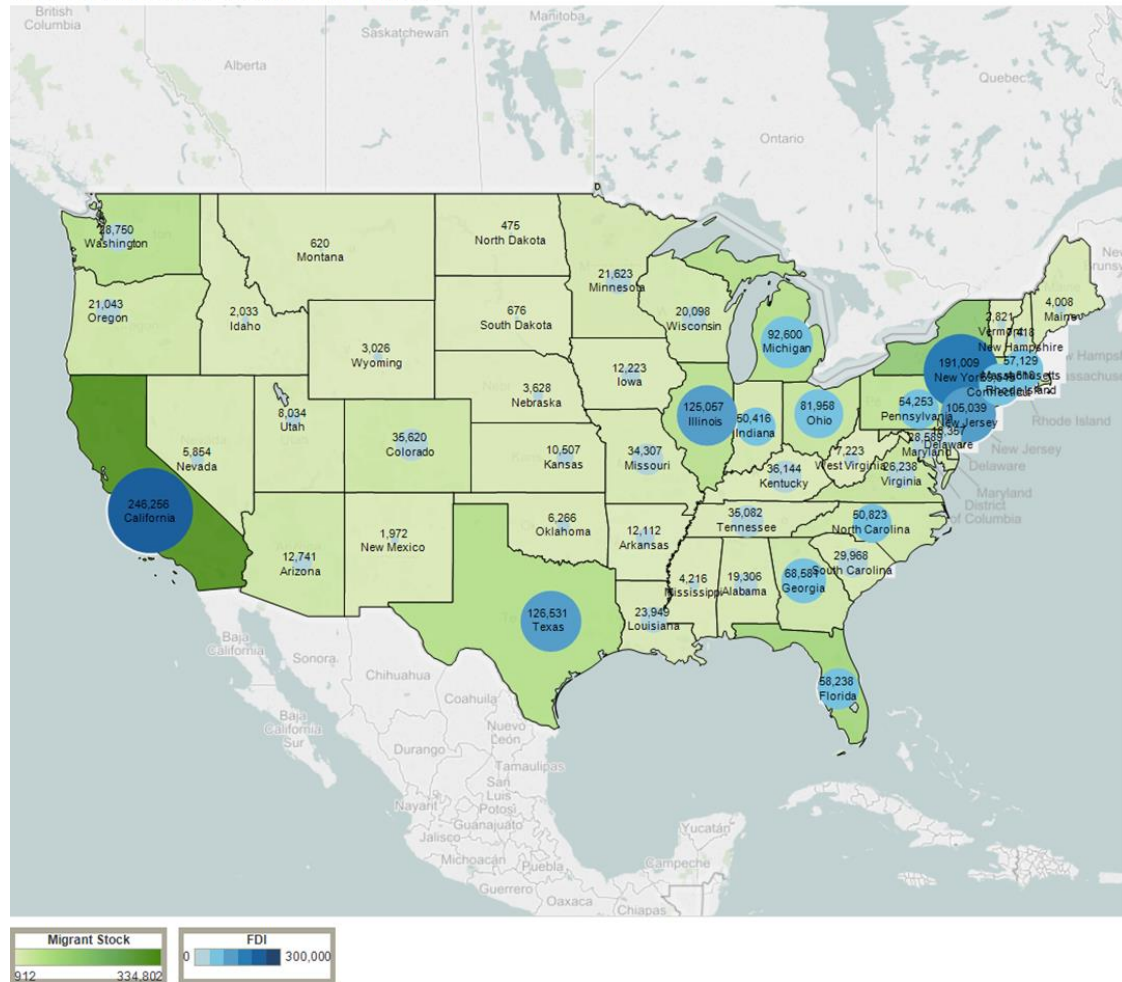
proxy for institutional connectedness. The data for these proxies of institutional connectedness also come from the IPUMS-USA as described in Chapter 3.

For the second proxy of institutional connectedness, similar to the country-level study, I use the count of migrant organizations that are engaged in international activities (*Migrant Intl Org Stock*). As described in Chapter 3, the U.S. Internal Revenue Service assigns these organizations with a special code (NTEE code = Q), therefore I use this code to identify international organizations from my database for 1990. Lastly, to capture the connectedness provided by temporary migrants or non-immigrants i.e. those who are either studying or visiting the country temporarily, or have not yet become migrants, by the definition used in this dissertation, I use non-immigrant (*Non-immigrant Stock*) as the final proxy for measuring institutional connectedness. The data for non-immigrant proxy also comes from IPUMS-USA as described in Chapter 3.

Establishment data for each state that captures FDI activities of firms from the seven countries was mapped to migrant data, after several steps for reconciling the data were undertaken. Both the FDI proxies are measured using their 2002 values, while all the explanatory variables and controls are measured using their 1990 values, in an effort to reduce endogeneity concerns. The analysis in this study is based on 350 observations (i.e. 7 countries x 50 states). To give a birds' eye view of the distribution of FDI in the U.S. for these seven countries, I created geographical maps. Figures 5-1 and 5-2 show the geography of institutional affinity measured as *Migrant Stock* and *Migrant Organization Stock* respectively, in relation to the FDI in the U.S. for the seven countries combined. Figure 5-3 shows the geography of institutional affinity measured as *Migrant Stock* in relation to FDI for a few select countries.

Figure 5-1: Institutional affinity (*Migrant Stock*) and the geography of FDI in the U.S.

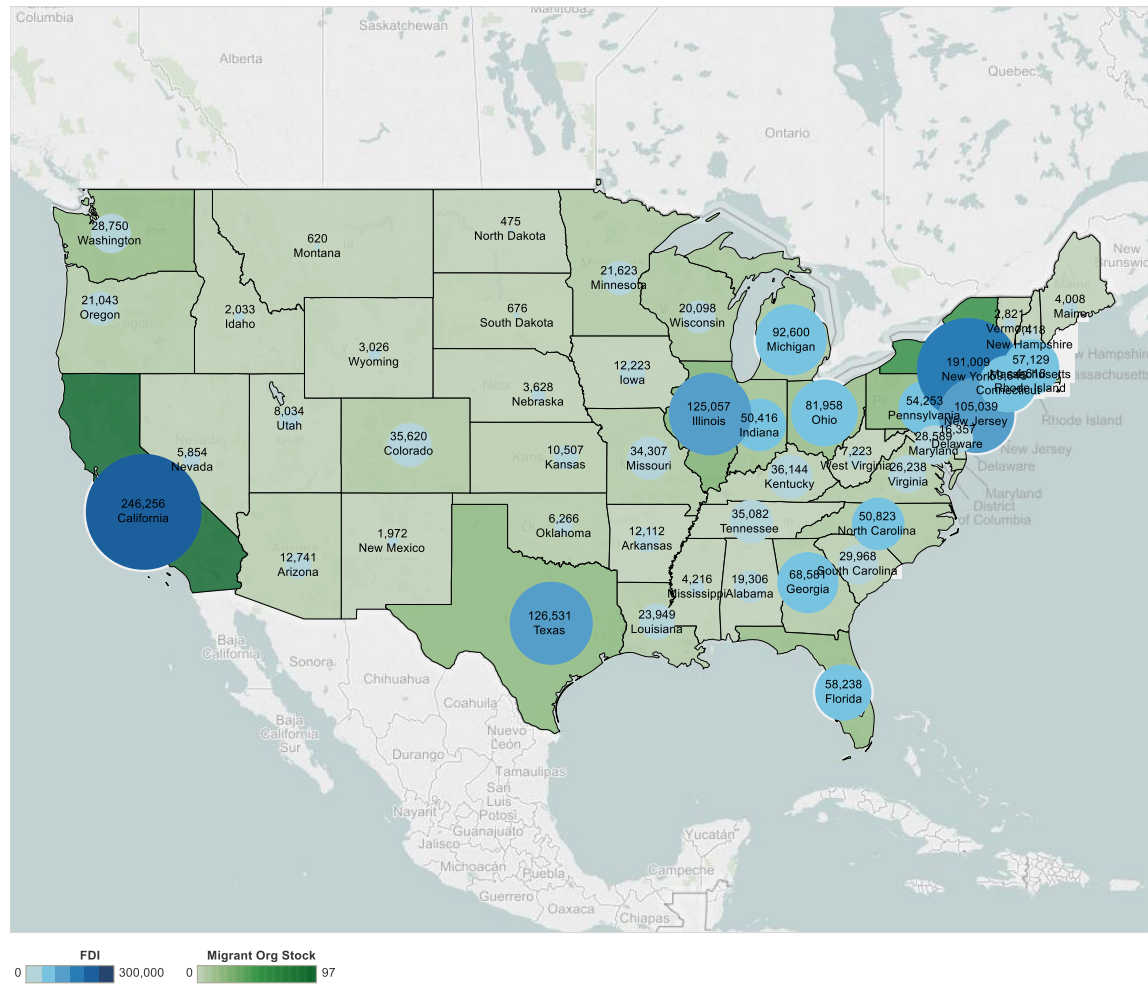
The Geography of Migrant Stock and FDI in the U.S.



Note: This map shows migrant stock in each state for the seven countries in my sample using shades of green color. Circles represent the total FDI in each state for the seven countries in the sample. FDI is measured in sales or shipments of establishments in millions of U.S. dollars and is shown inside the circle for each state.

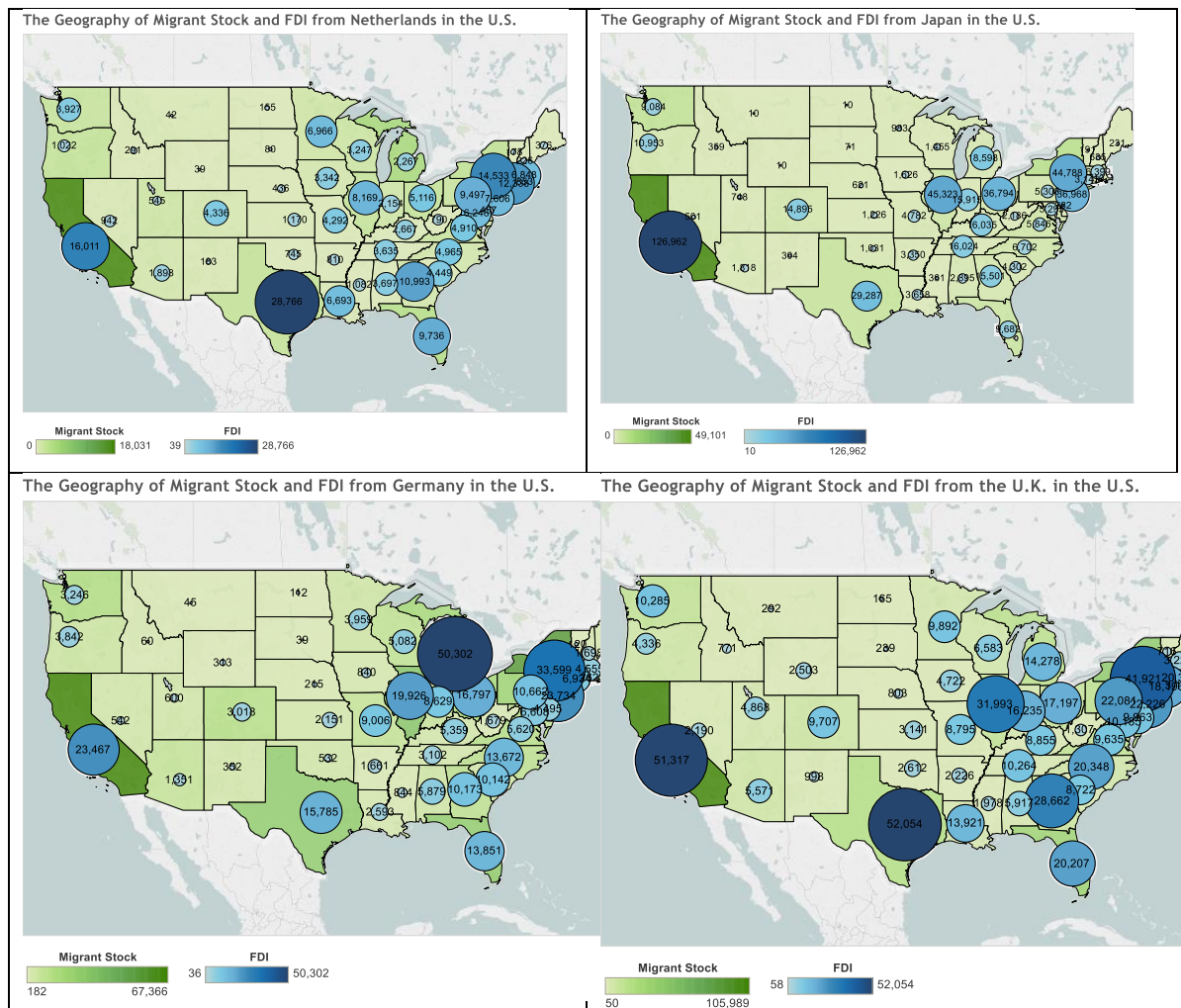
Figure 5-2: Institutional affinity (*Migrant Org Stock*) and the geography of FDI in the U.S.

The Geography of Migrant Org. Stock and FDI in the U.S.



Note: This map shows migrant organization stock in each state for the seven countries in my sample using shades of green color. Circles represent the total FDI in each state for the seven countries in the sample. FDI is measured in sales or shipments of establishments in millions of U.S. dollars and is shown inside the circle for each state.

Figure 5-3: Institutional affinity (*Migrant Stock*) and the detailed geography of FDI in the U.S.



Control Variables

Following other studies that have examined the determinants of FDI in the context of the U.S. at a regional level (Coughlin, Terza, & Arromdee, 1991, List, 2001), I control for factors that are likely to affect the revenues and costs of investing firms, thereby influencing their location choice as well as subsequent investments. These include factors related to market size, labor market, infrastructure and taxation in each of the 50 states. To control for the size of the market in each state, I include *State GDP*. *State GDP* is the

sum of the Gross Domestic Product (GDP) originating in all the industries in a state. These data are made available by the BEA. To control for industrial agglomeration in a state, I include *Agglomeration*, which is measured as the natural log of manufacturing employment per square mile of state land, following Coughlin et al. (1991). Higher wages are known to deter investment, therefore I control for wage rates. *Wage rate* is measured as the annual average weekly wage for manufacturing workers. These data for 1990 were collected from the Quarterly Census of Employment and Wages survey conducted by the BLS. The level of unionization in a state is shown to affect FDI (Coughlin, Terza, & Arromdee, 1991), therefore I control for extent of unionized labor in a state. *Unionization* is measured as the percentage of unionized employees in a state. These data are made available by Hirsch, Macpherson and Vroman (2001). Unemployment in a state is likely to positively influence inward investment as there is greater supply of labor for firms to employ (Coughlin, Terza, & Arromdee, 1991), therefore I control for the unemployment rate in a state. *Unemployment* is expressed as a percentage and these data were collected from the BLS that collects these data as part of the Local Area Unemployment Statistics survey.

As states that are more accessible by land, sea, and air are more likely to attract FDI, I control for accessibility of a state by various means of transportation. *Railroad Access* is the miles of freight railroad by state. These data were collected from the Bureau of Transportation Statistics (BTS) at the U.S. Department of Transportation. *Highway Access* is the total rural and urban mileage per state. These data were coded from the Highway Statistics publication of the Department of Transportation. *Airport Access* is the number of airports in a state; *Seaport Access* is the number of water transportation

establishments in each state. These data were also collected from the BTS. The tax climate of a state is known to influence the investments in that state, therefore I control for the taxes imposed in a state. *State Taxes* is measured as the total taxes per capita collected in a state. These data were collected from the U.S. Census Bureau that conducts an annual survey of State Government Tax Collections that covers fifty state governments in the US.

To control for COO push factors, I include four controls. *Population* represents the population of the migrant-sending country. As countries with larger populations are likely to have larger number of emigrants living abroad and can, in theory, provide a larger native population for networking and connectedness, I control for the population of the investor country. *GDP* measures the relative performance of countries; the higher is the total GDP of migrants' COO, the greater is the propensity of its firms to engage in foreign direct investment, and so I control for GDP. GDP values in current U.S. dollars and population data were downloaded from the World Bank database. *Governance* measures the business climate of migrants' COO. I control for governance, as it is likely to influence the propensity of firms to grow as well as to invest overseas. Following Javorcik et al (2011), I measure governance using the average of six governance indicators developed by Kaufmann et al. (2013). *Distance* represents the physical distance between the COO and the U.S.; these data are taken from the GeoDist dataset that is made available by CEPII, a French research center that focuses on research in international economics. Table 5-1 provides a list of variables used in this study, in addition to the variable descriptions and sources of data.

Table 5-1: Data definitions and sources

Variable	Description	Source
FDI	Foreign Direct Investment in the 50 states of the USA from seven countries - Canada, France, Germany, Japan, Netherlands, Switzerland, and United Kingdom in 2002. FDI is measured as Employment at Establishments and Sales/Shipments of Establishments	United States Bureau of Economic Analysis (BEA) and Census Bureau Data Link
Migrant Stock	Stock of migrants in each state per country in 1990	Authors' calculation based on data from IPUMS-USA
Migrant Org Stock	Stock of migrant organizations in each state per country in 1990	Authors' calculation based on data from Internal Revenue Service
Diaspora Age	Age of the first migrant tax-exempt organization in each state per country in 1990	Authors' calculation based on data from Internal Revenue Service
Tertiary Migrant Stock	Stock of tertiary-educated migrants in each state per country in 1990	Authors' calculation based on data from IPUMS-USA
Migrant Intl Org Stock	Stock of international migrant organizations in each state per country in 1990	Authors' calculation based on data from Internal Revenue Service
Non-immigrant Stock	Stock of non-immigrant i.e. temporary migrants in each state per country in 1990	Authors' calculation based on data from IPUMS-USA
GDP	GDP of the migrants' COO for 1990	World Bank
Population	Population of the investor country for 1990	World Bank
Governance	Business climate in migrants' COO (used 1996 data as 1990 data are not available)	Worldwide Governance Indicators
Distance	Distance between capital city of migrants' COO and largest city in each state in the USA	Google Earth
State GDP	GDP of each state in the USA	Bureau of Economic Analysis, Regional Accounts
State Taxes	Total taxes per capita collected each state	Survey of State Government Tax Collections, U.S. Census Bureau
Agglomeration	Manufacturing employment per square mile of state land	Bureau of Labor Statistics and Census Bureau
Wage Rate	Annual average wage for manufacturing workers in each state	Quarterly Census of Employment and Wages survey, Bureau of Labor Statistics
Unionization	Percentage of unionized employees in each state	Hirsch, Macpherson and Vroman (2001)
State Unemployment	Unemployment rate for each state	Local Area Unemployment Statistics Survey, Bureau of Labor Statistics

Railroad Access	Miles of freight railroad in each state	Bureau of Transportation Statistics, U.S. Department of Transportation
Airport Access	Number of airports in a state	Bureau of Transportation Statistics, U.S. Department of Transportation
Seaport Access	Number of water establishments in each state	Bureau of Transportation Statistics, U.S. Department of Transportation
Highway Access	Total rural and urban mileage in each state	Bureau of Transportation Statistics, U.S. Department of Transportation

5.3.3 Empirical Analysis

To examine the effect of institutional affinity and institutional connectedness on the inward FDI activities of firms from migrants' COO in the subnational regions of their COR, I begin by estimating the following baseline regression model:

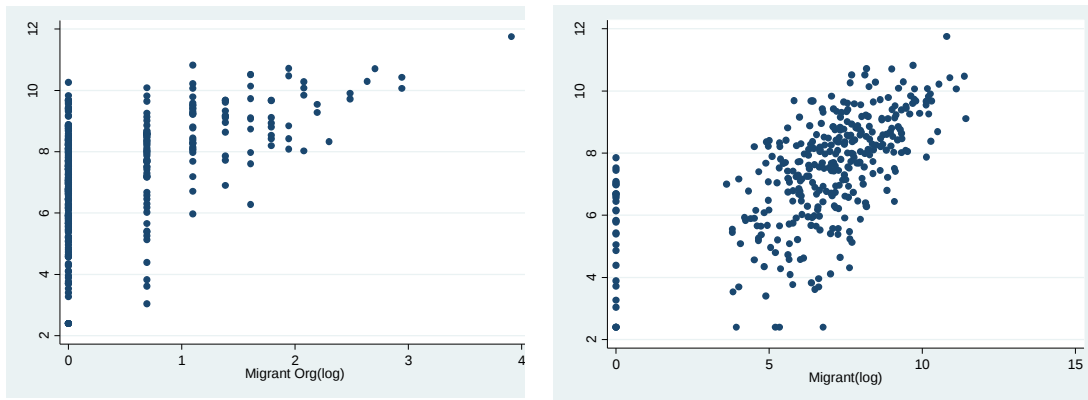
$$\begin{aligned}
 FDI_{i,j,2002} = & \\
 & \beta_0 + \beta_1 Migrant\ Share_{i,j,1990} + \beta_2 State\ GDP_{j,1990} + \beta_3 State\ Population_{j,1990} + \\
 & \beta_4 State\ Taxes_{j,1990} + \beta_5 Agglomeration_{j,1990} + \beta_6 Wage\ rate_{j,1990} + \\
 & \beta_7 Unionization_{j,1990} + \beta_8 Unemployment_{j,1990} + \beta_9 Railroad\ Access_{j,1990} + \\
 & \beta_{10} Highway\ Access_{j,1990} + \beta_{11} Airport\ Access_{j,1990} + \beta_{12} Seaport\ Access_{j,1990} + \\
 & \beta_{13} GDP_{i,1990} + \beta_{14} Governance_{i,1990} + \beta_{15} Distance_{i,j} + \beta_{16} Population_{i,1990} + \\
 & \epsilon_{i,j,1990} \dots\dots\dots (1)
 \end{aligned}$$

In the model given by equation 1, *FDI* is the amount of foreign direct investment in state *j* from country *i* in 2002, where *FDI* is measured by two proxies: (1) shipments or sales of establishments and (2) number of people employed by establishments, per COO in each state. *Migrant Share* is the share of migrants from a country *i* relative to the labor

population in state j . *State GDP*, *State Population*, *State Taxes*, *Agglomeration*, *Wage rate*, *Unionization*, *Unemployment*, *Railroad Access*, *Highway Access*, *Airport Access* and *Seaport Access* are all state-level controls. *GDP* represents the total GDP of the country of investing firms. *Governance* captures the business climate of the country of investing firms. *Distance* represents the distance between the largest city in a state and the capital city of the investor country. *Population* represents the population of the investor firm's country.

Natural logarithms of several variables were taken to eliminate skewness and excess kurtosis. Scatterplots of FDI-Sales (log) versus (a) Migrant Organization (log) and (b) Total Migrant (log) are shown in Figure 5-4. I estimate the model given in equation 1 using ordinary least squares (OLS) regression. Initial analysis of residual plots following regression estimates show that the observation for Japan-Rhode Island is an outlier with respect to the total migrant values. I therefore exclude this observation from my sample. In addition, Alaska and Hawaii due to their size and geography are likely to bias the results; therefore I exclude all observations for these two states from my sample. Thus, my sample consists of 335 observations. Breusch-Pagan test for heteroscedasticity reveals that my data violates the assumption of constant variance; therefore, I report robust standard errors for all estimations.

Figure 5-4 Scatterplot of FDI-Sales and (a) Migrant Org Stock (b) Migrant Stock



5.3.4 Results

The pairwise correlations including mean, standard deviations, minimum values and maximum values for the key variables are shown in Table 5-2. Table 5-2 shows that *Highway Access* is highly correlated with *Railroad Access* (correlation coefficient = 0.88) and *Airport Access* (correlation coefficient = 0.82) and is likely to give rise to multicollinearity issues, so I exclude *Highway Access* from my estimations. Also, *State Population* and *State GDP* have a correlation coefficient of 0.98, so I only include *State GDP* in my estimations. Similarly, *GDP* and *Population* for migrants' COO are highly correlated (correlation coefficient = 0.98), so I only include *GDP* in my estimations.

Table 5-2: Pair wise correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 FDI-Sales(log)	1																						
2 Migrant Stock (log)	0.60	1																					
3 Tertiary Migrant Stock (log)	0.58	0.82	1																				
4 Diaspora Age (log)	0.46	0.42	0.43	1																			
5 Migrant Org Stock (log)	0.51	0.44	0.43	0.89	1																		
6 Migrant Intl Org Stock (log)	0.34	0.23	0.17	0.28	0.42	1																	
7 Non-immigrant Stock (log)	0.60	0.71	0.65	0.41	0.44	0.32	1																
8 State GDP (log)	0.84	0.59	0.63	0.56	0.61	0.31	0.57	1															
9 State Population (log)	0.83	0.57	0.60	0.53	0.57	0.29	0.55	0.98	1														
10 State Taxes (log)	-0.02	0.10	0.10	0.12	0.15	0.10	0.08	0.07	-0.07	1													
11 State Land (log)	-0.06	0.06	-0.02	0.03	0.07	0.00	0.05	0.10	0.13	-0.10	1												
12 Agglomeration (log)	0.60	0.32	0.38	0.33	0.33	0.19	0.32	0.57	0.54	0.10	-0.70	1											
13 Wage Rate (log)	0.47	0.34	0.37	0.38	0.37	0.19	0.36	0.48	0.39	0.30	-0.24	0.49	1										
14 Unionization (log)	0.16	0.15	0.11	0.21	0.20	0.13	0.11	0.20	0.15	0.47	-0.16	0.27	0.46	1									
15 Unemployment	0.18	0.06	0.01	0.03	0.07	0.06	0.08	0.16	0.19	0.01	-0.09	0.29	0.23	0.20	1								
16 Railroad Access (log)	0.37	0.16	0.16	0.19	0.21	0.05	0.19	0.44	0.51	-0.39	0.57	-0.04	0.11	-0.12	0.20	1							
17 Airport Access (log)	0.50	0.37	0.35	0.39	0.43	0.16	0.37	0.71	0.72	-0.12	0.65	0.00	0.20	0.04	0.06	0.74	1						
18 Seaport Access (log)	0.64	0.47	0.49	0.43	0.48	0.29	0.42	0.76	0.70	0.24	-0.13	0.59	0.44	0.20	0.35	0.09	0.44	1					
19 Highway Access (log)	0.39	0.23	0.22	0.26	0.27	0.08	0.24	0.53	0.62	-0.40	0.68	-0.15	-0.07	-0.12	-0.02	0.88	0.82	0.10	1				
20 GDP (log)	0.11	0.34	0.18	0.15	0.21	0.39	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1			
21 Governance	-0.03	-0.05	0.06	-0.11	-0.18	-0.43	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.81	1		
22 Distance (log)	0.02	-0.22	-0.25	0.09	0.11	0.15	-0.19	0.01	0.01	0.00	0.10	-0.10	-0.07	-0.03	-0.03	-0.03	0.03	-0.01	0.04	0.24	-0.30	1	
23 Population (log)	0.13	0.4	0.23	0.11	0.17	0.34	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	-0.73	0.17	1
Mean	7.39	6.56	4.72	1.07	0.46	0.13	4.53	11.10	14.93	0.16	10.66	1.98	6.22	2.27	6.05	7.70	5.69	2.76	10.98	27.49	1.51	8.18	17.42
Std. Dev.	1.81	2.55	2.94	1.47	0.70	0.34	3.08	1.03	1.01	0.26	1.16	1.17	0.15	0.47	1.35	1.42	0.80	1.44	0.89	0.85	0.26	0.75	0.95
Min	2.40	0.00	0.00	0.00	0.00	0.00	0.00	9.35	13.02	-0.62	6.95	0.03	5.91	1.31	2.40	0.00	3.33	0.00	8.32	26.27	1.03	4.80	15.72
Max	11.75	11.42	10.07	4.17	3.91	2.08	10.40	13.56	17.21	1.03	13.25	4.54	6.50	3.06	9.70	9.55	7.54	5.65	12.59	28.76	1.79	8.96	18.63
Number of observations = 350																							

The OLS regression estimates for the model specified in equation 1 are shown in Table 5-3. Table 5-3 shows the effect of institutional affinity and institutional connectedness variables on FDI, where FDI is measured as the sales of establishments. R^2 value of 0.796 for Model 1, which examines the effect of migrant stock on the FDI, indicates the goodness of fit of the regression equation; 79.6 % of the variance in FDI is explained by the explanatory variables in the regression equation. *Migrant Stock* ($\beta=0.075$, $p<0.10$) and *Migrant Share* ($\beta=1.054$, $p<0.01$) are statistically significant and have the expected sign. This finding is consistent with prior literature that has found that increased concentration of migrants in a region is a predictor of future FDI in that region. This finding shows that a 1 percentage point increase in migrant stock increases the sales of establishments by 0.07 percentage points. *State GDP* is highly statistically significant ($\beta=1.298$, $p<0.01$) and has the expected sign. *State Taxes*, as expected, have a negative sign, and are highly statistically significant ($\beta=-0.656$, $p<0.01$). *State Land* is not significant and has a negative sign. *Agglomeration* is also not significant, but, as

expected, has a positive sign, suggesting that greater is the agglomeration in a region, greater is the likelihood of sales. *Wage Rate* is not significant but has a positive sign. As expected, *Unionization* and *State Unemployment* have a negative sign, although they are not significant. *Railroad Access* is highly statistically significant ($\beta=0.509$, $p<0.01$) and has the correct sign. *Airport Access* is also significant but has the opposite sign. Negative sign on the coefficient for *Airport Access* is the likely result of high bivariate correlation ($r = 0.74$) between *Airport Access* and *Railroad Access*. The other infrastructure variable – *Seaport Access* – is not significant but has the correct sign. With regard to the country-level controls, *GDP* ($\beta=0.412$, $p<0.01$), *Governance* ($\beta=1.131$, $p<0.01$) and *Distance* ($\beta=0.183$, $p<0.01$) are all highly statistically significant and have the expected signs.

Model 2 and Model 3 reveal a negative relationship to the other two institutional affinity proxies, contrary to what was proposed in hypothesis 1. *Migrant Org Stock* and *Diaspora Age* are not significant and have negative sign, suggesting that institutional affinity brought about by migrants negatively affects FDI from the seven countries in the sample. Thus Hypothesis 1, using these proxies of institutional affinity, is not supported. Model 4 and Model 4a show that *Tertiary Migrant Stock* and *Tertiary Migrant Share* do not contribute to increased resource commitment in the U.S. from countries in my sample. *Migrant Intl Org Stock*, *Non-immigrant Stock* and *Non-immigrant Share*, however, as proposed, are a significant predictor of FDI. Model 5 shows that *Migrant Intl Org Stock* ($\beta=0.444$, $p<0.01$) is highly statistically significant and has the correct sign. This finding suggests that a 1 percentage point increase in the stock of international migrant organizations increases the sales of establishments by 0.4 percentage points; this result is both statistically significant and economically meaningful. Similarly, *Non-*

immigrant Stock ($\beta=0.078$, $p<0.01$) and *Non-immigrant Share* ($\beta=6.578$, $p<0.01$) is highly statistically significant and have the expected sign, thereby providing support to Hypothesis 2. This finding suggests that a 10 percentage point increase in non-immigrant stock increases the sales of establishments by 0.78 percentage points.

Table 5-4 shows the estimates of explanatory variables when inward FDI is measured as number of employees. Similar to the results in Table 5-3, *Migrant Stock* and *Migrant Share* proxies of institutional affinity are highly statistically significant. Similar to their values in Table 5-4, *Migrant Org Stock* and *Diaspora Age* do not provide support to Hypothesis 1. In fact, the coefficient for *Migrant Org Stock* is highly statistically significant, but with the opposite sign. This finding suggests that employment at establishments located in regions with old diaspora communities for the seven high-income countries in this sample, tends to be lower. Similar to their values in Table 5-3, *Tertiary Migrant Stock* and *Tertiary Migrant Share* in Table 5-4 are not significant. Table 5-4 shows that the presence of temporary migrants or non-immigrants in a sub-national region is a predictor of increased resource commitment from migrants' COO, suggesting that institutional connectedness plays a more important role as opposed to institutional affinity for the countries in this sample. This finding supports Hypothesis 2. The support for Hypothesis 2 is somewhat weakened by the fact the *Migrant Intl Org Stock* is not statistically significant, although it has the expected sign.

Table 5-3: OLS Regression estimates for FDI-Sales (with robust standard errors)

OLS Regression Estimates DV: Establishment Sales (log)									
	Institutional Affinity				Institutional Connectedness				
	Model 1 coef/se	Model 1a coef/se	Model 2 coef/se	Model 3 coef/se	Model 4 coef/se	Model 4a coef/se	Model 5 coef/se	Model 6 coef/se	Model 6a coef/se
Migrant Stock (log)	0.075* (0.039)								
Migrant Share		1.054*** (0.391)							
Migrant Org Stock (log)			-0.099 (0.071)						
Diaspora Age(log)				-0.054 (0.039)					
Tertiary Migrant Stock (log)					-0.020 (0.021)				
Tertiary Migrant Share						0.291 (0.556)			
Migrant Intl Org Stock (log)							0.444*** (0.167)		
Non-immigrant Stock (log)								0.078*** (0.020)	
Non-Immigrant Share									6.578*** (1.398)
State GDP (log)	1.298*** (0.283)	1.403*** (0.282)	1.470*** (0.289)	1.464*** (0.288)	1.496*** (0.306)	1.416*** (0.290)	1.372*** (0.298)	1.246*** (0.316)	1.337*** (0.302)
State Land (log)	-0.130 (0.287)	-0.129 (0.282)	-0.037 (0.277)	-0.036 (0.278)	-0.047 (0.282)	-0.052 (0.278)	-0.075 (0.284)	-0.091 (0.284)	-0.072 (0.282)
State Taxes (log)	-0.656** (0.308)	-0.646** (0.323)	-0.644** (0.302)	-0.647** (0.307)	-0.675** (0.306)	-0.669** (0.311)	-0.671** (0.326)	-0.692** (0.311)	-0.732** (0.335)
Agglomeration (log)	0.185 (0.235)	0.192 (0.227)	0.193 (0.235)	0.199 (0.234)	0.179 (0.240)	0.203 (0.236)	0.202 (0.240)	0.206 (0.242)	0.246 (0.232)
Wage Rate (log)	1.081 (0.756)	0.950 (0.751)	1.167 (0.751)	1.196 (0.746)	1.174 (0.757)	1.131 (0.767)	1.158 (0.775)	0.995 (0.736)	1.081 (0.748)
Unionization (log)	-0.149 (0.160)	-0.149 (0.164)	-0.110 (0.163)	-0.106 (0.165)	-0.124 (0.165)	-0.129 (0.163)	-0.159 (0.173)	-0.105 (0.161)	-0.143 (0.163)
State Unemployment	-0.020 (0.059)	-0.019 (0.059)	-0.024 (0.057)	-0.027 (0.057)	-0.027 (0.056)	-0.022 (0.058)	-0.019 (0.060)	-0.032 (0.057)	-0.022 (0.058)
Railroad Access (log)	0.509** (0.227)	0.530** (0.235)	0.371* (0.219)	0.370* (0.220)	0.383* (0.219)	0.417* (0.221)	0.446** (0.227)	0.513** (0.219)	0.574** (0.229)
Airport Access (log)	-0.743*** (0.270)	-0.750*** (0.279)	-0.717*** (0.273)	-0.709*** (0.275)	-0.754*** (0.276)	-0.736*** (0.281)	-0.725** (0.288)	-0.777*** (0.276)	-0.808*** (0.282)
Seaport Access (log)	0.050 (0.083)	0.041 (0.082)	0.052 (0.082)	0.052 (0.083)	0.051 (0.082)	0.050 (0.083)	0.039 (0.083)	0.079 (0.083)	0.053 (0.080)
Total GDP (log)	0.412*** (0.125)	0.445*** (0.120)	0.623*** (0.096)	0.620*** (0.095)	0.652*** (0.105)	0.574*** (0.125)	0.585*** (0.096)	0.429*** (0.091)	0.453*** (0.092)
Governance	1.131*** (0.296)	1.123*** (0.320)	1.548*** (0.273)	1.556*** (0.272)	1.660*** (0.300)	1.455*** (0.343)	1.718*** (0.282)	1.246*** (0.267)	1.345*** (0.259)
Distance (log)	0.183*** (0.052)	0.218*** (0.050)	0.118** (0.054)	0.120** (0.056)	0.090 (0.058)	0.132** (0.067)	0.106** (0.052)	0.191*** (0.048)	0.230*** (0.051)
Constant	-27.047*** (6.468)	-28.365*** (6.258)	-34.999*** (5.474)	-35.114*** (5.384)	-35.735*** (5.651)	-32.950*** (6.379)	-33.109*** (5.554)	-26.915*** (5.225)	-29.894*** (5.830)
Number of observations	335	335	335	335	335	335	335	335	335
R-squared	0.796	0.797	0.794	0.794	0.793	0.793	0.798	0.801	0.807
Note: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of establishment sales (or shipments) per state and country of origin of migrants. Robust standard errors clustered on state are reported here. This sample excludes outliers.									

Table 5-4: OLS Regression estimates for FDI-Employment (with robust standard errors)

OLS Regression Estimates DV: Establishment employment (log)									
	Institutional Affinity				Institutional Connectedness				
	Model 7	Model 7a	Model 8	Model 9	Model 10	Model 10a	Model 11	Model 12	Model 12a
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Migrant Stock (log)	0.105*** (0.037)								
Migrant Share		0.811*** (0.268)							
Migrant Org Stock (log)			-0.144** (0.066)						
Diaspora Age(log)				-0.049 (0.034)					
Tertiary Migrant Stock (log)					0.020 (0.019)				
Tertiary Migrant Share						0.470 (0.433)			
Migrant Intl Org Stock (log)							0.045 (0.135)		
Non-immigrant Stock (log)								0.049** (0.020)	
Non-Immigrant Share									2.956*** (1.102)
State GDP (log)	1.170*** (0.239)	1.337*** (0.234)	1.414*** (0.239)	1.388*** (0.246)	1.300*** (0.260)	1.331*** (0.240)	1.355*** (0.247)	1.244*** (0.251)	1.317*** (0.246)
State Land (log)	0.023 (0.226)	0.077 (0.221)	0.153 (0.222)	0.150 (0.224)	0.146 (0.224)	0.131 (0.222)	0.140 (0.222)	0.114 (0.224)	0.130 (0.220)
State Taxes (log)	-0.650*** (0.220)	-0.653*** (0.223)	-0.631*** (0.214)	-0.650*** (0.217)	-0.671*** (0.224)	-0.667*** (0.222)	-0.673*** (0.224)	-0.685*** (0.226)	-0.700*** (0.222)
Agglomeration (log)	0.248 (0.213)	0.261 (0.212)	0.260 (0.220)	0.266 (0.221)	0.280 (0.225)	0.276 (0.220)	0.264 (0.222)	0.269 (0.218)	0.286 (0.218)
Wage Rate (log)	0.306 (0.527)	0.251 (0.536)	0.428 (0.543)	0.446 (0.549)	0.388 (0.555)	0.371 (0.555)	0.408 (0.559)	0.308 (0.543)	0.375 (0.546)
Unionization (log)	-0.086 (0.157)	-0.070 (0.165)	-0.030 (0.167)	-0.034 (0.172)	-0.049 (0.168)	-0.059 (0.167)	-0.053 (0.170)	-0.038 (0.163)	-0.059 (0.167)
State Unemployment	-0.006 (0.041)	-0.007 (0.041)	-0.012 (0.040)	-0.014 (0.040)	-0.006 (0.041)	-0.009 (0.041)	-0.010 (0.042)	-0.016 (0.040)	-0.010 (0.041)
Railroad Access (log)	0.232 (0.181)	0.181 (0.181)	0.037 (0.174)	0.053 (0.179)	0.099 (0.181)	0.108 (0.178)	0.086 (0.183)	0.151 (0.176)	0.159 (0.178)
Airport Access (log)	-0.549*** (0.210)	-0.556** (0.220)	-0.510** (0.217)	-0.519** (0.221)	-0.544** (0.227)	-0.538** (0.224)	-0.550** (0.226)	-0.572*** (0.217)	-0.581*** (0.224)
Seaport Access (log)	-0.025 (0.068)	-0.030 (0.067)	-0.021 (0.070)	-0.022 (0.070)	-0.020 (0.069)	-0.025 (0.069)	-0.023 (0.070)	-0.005 (0.068)	-0.021 (0.066)
GDP (log)	0.137 (0.101)	0.285*** (0.077)	0.432*** (0.063)	0.422*** (0.063)	0.364*** (0.073)	0.356*** (0.083)	0.407*** (0.064)	0.298*** (0.052)	0.340*** (0.059)
Governance	0.524** (0.237)	0.777*** (0.234)	1.106*** (0.219)	1.112*** (0.217)	0.986*** (0.229)	0.956*** (0.253)	1.119*** (0.234)	0.915*** (0.189)	1.012*** (0.213)
Distance (log)	0.070 (0.050)	0.053 (0.043)	-0.020 (0.043)	-0.022 (0.042)	-0.008 (0.050)	0.004 (0.057)	-0.030 (0.041)	0.020 (0.041)	0.024 (0.038)
Constant	-11.112** (5.055)	-16.529*** (4.308)	-22.292*** (3.952)	-21.865*** (3.938)	-19.220*** (4.302)	-19.132*** (4.461)	-20.807*** (4.057)	-16.450*** (3.894)	-19.036*** (4.049)
Number of observations	335	335	335	335	335	335	335	335	335
R-squared	0.828	0.823	0.821	0.820	0.819	0.819	0.819	0.823	0.823

Note: *** p<0.01, ** p<0.05, * p<0.1 The dependent variable is the natural log of employment at establishments by state and country of origin of migrants. Robust standard errors clustered on state are provided in parentheses. This sample excludes outliers.

Robustness checks

The results presented above provide partial support for both Hypothesis 1 and Hypothesis

2. To check the robustness of my results, I ran the estimations for the entire sample i.e.

including all the outliers. The results of these estimations are shown in Table 5-5. Table

5-5 shows that the coefficient estimates for the key explanatory variables are fairly similar, with the exception of *Tertiary Migrant Share* which is highly statistically significant when outliers are included. This is the likely effect of the Japan-Hawaii influential observation (Hawaii has the highest share of migrant population among the 50 states), that was excluded in the prior estimations. Next, I also ran the estimations for equation 1 with FDI values for 1997. The results of these estimations are shown in Table 5-6 for comparison purposes.

Table 5-5: Coefficient estimates for key explanatory variables (outliers included)

Coefficient estimates for key explanatory variables (outliers included)		
	FDI-Sales (log)	FDI-Employment (log)
	coef/se	coef/se
Migrant Stock (log)	0.069*	0.106***
	(0.037)	(0.038)
Migrant Share	1.293***	1.226***
	(0.381)	(0.401)
Migrant Org Stock (log)	-0.058	-0.093
	(0.079)	(0.081)
Diaspora Age (log)	-0.046	-0.038
	(0.040)	(0.036)
Tertiary Migrant Stock (log)	-0.011	0.036
	(0.027)	(0.024)
Tertiary Migrant Share	1.316*	1.455**
	(0.718)	(0.697)
Migrant Intl Org Stock (log)	0.436**	0.108
	(0.187)	(0.159)
Non-immigrant Stock (log)	0.084***	0.056***
	(0.019)	(0.020)
Non-immigrant Share	6.421***	4.034***
	(0.955)	(0.938)
Note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors clustered on state are reported here. These estimates are for the entire sample of 350 observations.		

Table 5-6: Coefficient estimates for key explanatory variables using 1997 FDI values

Coefficient estimates for key explanatory variables for 1997 values of FDI proxies (outliers excluded)		
	FDI-Sales (log)	FDI-Employment (log)
	coef/se	coef/se
Migrant Stock (log)	0.047	0.133**
	(0.065)	(0.053)
Migrant Share	1.054**	0.866**
	(0.517)	(0.419)
Migrant Org Stock (log)	-0.195**	-0.168**
	(0.082)	(0.069)
Diaspora Age (log)	-0.081*	-0.039
	(0.049)	(0.036)
Tertiary Migrant Stock (log)	0.011	0.031
	(0.038)	(0.020)
Tertiary Migrant Share	0.386	0.188
	(0.954)	(0.541)
Migrant Intl Org Stock (log)	0.289*	-0.045
	(0.170)	(0.140)
Non-immigrant Stock (log)	0.059**	0.051***
	(0.030)	(0.019)
Non-immigrant Share	7.445***	4.456***
	(1.664)	(1.326)
Note: *** p<0.01, ** p<0.05, * p<0.1. Dependent variables for 1997 are employed in these estimations. Robust standard errors clustered on state are reported here. This sample excludes outliers.		

As a further test of robustness of the findings in this study, I replaced *Railroad Access* with *Highway Access*, *State GDP* with *State Population* and *GDP of migrants'* *COO* with *Population* of their *COO* and estimated the models again. As noted earlier, I had only included *Railroad Access*, *State GDP* and *GDP* in the earlier estimations, as they were highly correlated with *Highway Access*, *State Population* and *Population*. Tables 5-7 and 5-8 show the estimations with these control variables. A comparison of the results in Table 5-3 and 5-7 shows that the results are fairly similar; all the variables in Table 5-3 have the same sign and significance to their corresponding values in the Table 5-7, with the exception of *Migrant Stock*, which is no longer significant in Table 5-

7. Similarly, a comparison of the results in Table 5-4 and 5-8 shows that the results are fairly similar; all the variables in Table 5-4 have the same sign and significance to their corresponding values in Table 5-8, with the exception of *Migrant Org Stock*, which is no longer significant in Table 5-8.

Table 5-8: OLS Regression estimates (robustness check)

Regression Estimates: DV - Establishment Employment (log)									
	Institutional Affinity				Institutional Connectedness				
	Model 7	Model 7a	Model 8	Model 9	Model 10	Model 10a	Model 11	Model 12	Model 12a
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Migrant Stock (log)	0.078** (0.035)								
Migrant Share		0.661** (0.265)							
Migrant Org Stock (log)			-0.094 (0.064)						
Diaspora Age (log)				-0.032 (0.033)					
Tertiary Migrant Stock (log)					0.006 (0.020)				
Tertiary Migrant Share						0.272 (0.433)			
Migrant Intl Org Stock (log)							0.077 (0.129)		
Non-immigrant Stock (log)								0.038** (0.019)	
Non-immigrant Share									2.442** (1.041)
State Population (log)	1.260*** (0.204)	1.388*** (0.197)	1.433*** (0.205)	1.422*** (0.206)	1.394*** (0.224)	1.394*** (0.206)	1.405*** (0.207)	1.317*** (0.210)	1.368*** (0.209)
State Land (log)	0.108 (0.201)	0.160 (0.200)	0.244 (0.200)	0.234 (0.201)	0.224 (0.200)	0.214 (0.198)	0.220 (0.203)	0.193 (0.206)	0.215 (0.203)
State Taxes (log)	-0.466** (0.208)	-0.454** (0.204)	-0.450** (0.206)	-0.464** (0.206)	-0.481** (0.209)	-0.477** (0.205)	-0.481** (0.207)	-0.494** (0.213)	-0.497** (0.203)
Agglomeration (log)	0.263 (0.183)	0.281 (0.173)	0.306* (0.180)	0.302* (0.179)	0.297 (0.182)	0.298* (0.179)	0.292 (0.180)	0.289 (0.183)	0.310* (0.178)
Wage Rate (log)	0.934** (0.452)	0.902** (0.448)	1.021** (0.462)	1.032** (0.453)	0.975** (0.459)	0.972** (0.457)	0.975** (0.452)	0.893** (0.438)	0.968** (0.448)
Unionization (log)	-0.022 (0.136)	-0.011 (0.142)	0.001 (0.145)	0.001 (0.146)	-0.003 (0.145)	-0.008 (0.144)	-0.007 (0.147)	0.012 (0.144)	-0.002 (0.147)
State Unemployment	-0.089** (0.044)	-0.099** (0.043)	-0.109*** (0.042)	-0.109** (0.043)	-0.103** (0.042)	-0.103** (0.042)	-0.104** (0.043)	-0.102** (0.042)	-0.101** (0.043)
Highway Access (log)	0.040 (0.221)	-0.023 (0.240)	-0.147 (0.225)	-0.131 (0.223)	-0.114 (0.229)	-0.098 (0.228)	-0.120 (0.225)	-0.054 (0.223)	-0.056 (0.235)
Airport Access (log)	-0.542** (0.211)	-0.546** (0.213)	-0.526** (0.207)	-0.534** (0.209)	-0.545*** (0.211)	-0.540** (0.211)	-0.541** (0.214)	-0.554*** (0.215)	-0.557** (0.217)
Seaport Access (log)	0.022 (0.058)	0.021 (0.057)	0.030 (0.061)	0.028 (0.061)	0.026 (0.060)	0.025 (0.059)	0.023 (0.060)	0.037 (0.059)	0.027 (0.057)
Population (log)	0.191** (0.077)	0.277*** (0.058)	0.356*** (0.047)	0.352*** (0.047)	0.339*** (0.061)	0.327*** (0.064)	0.347*** (0.048)	0.284*** (0.044)	0.308*** (0.045)
Governance	0.649*** (0.205)	0.782*** (0.209)	0.963*** (0.200)	0.975*** (0.198)	0.953*** (0.218)	0.915*** (0.226)	1.014*** (0.216)	0.883*** (0.184)	0.943*** (0.194)
Distance(log)	0.061 (0.048)	0.060 (0.044)	0.005 (0.042)	0.004 (0.042)	0.004 (0.049)	0.016 (0.055)	-0.003 (0.041)	0.032 (0.042)	0.040 (0.040)
Constant	-19.783*** (3.744)	-22.587*** (3.309)	-24.758*** (3.356)	-24.629*** (3.268)	-23.683*** (3.576)	-23.557*** (3.429)	-23.889*** (3.254)	-21.661*** (3.196)	-23.538*** (3.233)
Number of observations	335	335	335	335	335	335	335	335	335
R-squared	0.832	0.830	0.829	0.828	0.827	0.828	0.828	0.830	0.830
Note: *** p<0.01, ** p<0.05, * p<0.1 The dependent variable is the natural log of employment at establishments by state and country of origin of migrants. Robust standard errors clustered on state are provided in parentheses. This sample excludes outliers.									

5.4 Chapter summary

In this study, I examine the effect of institutional affinity and institutional connectedness brought about by migrants from a COO in the subnational regions of their

COR. I use establishment level data for multinational firms from seven high-income countries investing in the 50 U.S. states. The findings of this study show that migrants from a COO in a state are a predictor of future inward FDI into that state. This finding is consistent with the findings of Foad (2012) and Hernandez (2014), both of whom find a similar result for their sample of high-income countries. The finding of negative coefficients for two proxies of institutional affinity is contrary to the proposed hypothesis. This, however, corroborates the similar finding in Chapter 4 for the high-income sample. This suggests that firms from high-income countries seem to avoid areas with high institutional affinity (as indicated by the negative coefficient values of *Migrant Org Stock* and *Diaspora Age*). One possible explanation for this finding is that those regions with high institutional affinity are already saturated with establishments of firms of those countries. This is confirmed when I include lagged FDI in the model, and *Migrant Org Stock* was no longer significant.

While prior studies have treated all foreign-born (citizens or non-immigrants alike), I separate migrants (residents or citizens) from non-immigrants, who may be in the country for temporary reasons. This allows me to examine the role of temporary migrants in this dissertation. Highly significant results for non-immigrants suggests that the importance of the notion of “brain circulation” (Saxenian, 2002) for high-income countries. While this is a cross-sectional study, the constructs capture the time element by showing how regions with old diaspora communities are possibly saturated, thereby repelling new investment, but regions with new non-immigrant population are attracting new investments in the form of increased sales and increased employment.

6 Migrants and outward foreign direct investment: A country-level analysis

6.1 Introduction

Several studies have examined the direct relationship between migrant stock in a host country and its effect on the outward foreign direct investment (Bhattacharya & Groznik, 2008, Foley & Kerr, 2012, Javorcik, Özden, Spatareanu, & Neagu, 2011) and the foreign portfolio investment (Bhattacharya & Groznik, 2008, Foad, 2011) activities of firms from migrants' country of residence (COR) to migrants' country of origin (COO). These studies emphasize the importance of migrants as conduits of business-relevant knowledge in their COR, as well as carriers of their social networks that span their COO and the COR. They show that direct and portfolio investments (outward) to a migrants' COO are positively affected by the size of the migrant population from that COO in the country of the investing multinational corporations (MNCs). Studies in this stream of literature argue that migrants help lower search and information costs, in addition to providing superior contract enforcement to firms faced with the liability of foreignness in cross-border locations. Based on the conceptual framework introduced in chapter 2 of this dissertation, in this study, I examine the extent to which migrant *decision-makers* in a COR affect the outward investment activities of firms from their COR to their COO. Similar to the other two studies, here too, I examine the extent to which institutional connectedness influences outward FDI activities of MNCs.

6.2 Hypotheses

6.2.1 Migrants as carriers and conduits of knowledge

It is now quite well established in the international business literature that firms seeking to invest overseas look for advantages offered by the location in conjunction with their ownership advantages (Cantwell & Narula, 2003, Dunning, 1988). Migrants by virtue of their inherited and acquired knowledge of the business and the institutional environment of their COO often have an advantage (over natives in their COR) with regard to the opportunities in their COO. The experiential knowledge gained by migrants in their COR, in conjunction with their idiosyncratic knowledge of their COO may enable firms (for which they work) to ‘see’ business opportunities in their COO. As the “experience and knowledge of a firm’s personnel” (Penrose, 1959) determines “what it ‘sees’ in the external world” (Penrose, 1959: 79-80), migrants can be valuable sources of knowledge for their firms. They may enable firms to ‘see’ not only business opportunities, but also the risks associated with operating in their COO. Given their comparative advantage, they may even be in a better position to help mitigate those risks. Bhattacharya and Groznik (2008) note that multinationals often send scouting teams to a foreign country before they invest, and foreign-born persons (of that country) are included in the scouting teams due to their linguistic and negotiation skills. In other words, migrants bring unique COO experience and knowledge to the firms in their COR. This knowledge and experience can be a source of unique and valuable knowledge (Barney, 1991, Zaheer, Lamin, & Subramani, 2009), especially with regard to COR firms’ international expansion (Kogut & Zander, 1993).

Migrants can use this knowledge to help lower informal barriers arising from linguistic differences in business communications (Gao, 2003, Gould, 1994, Javorcik, Özden, Spatareanu, & Neagu, 2011). They can gain an edge over rivals by using their knowledge of customer preferences in their COO (Gould, 1994) or by their ability to navigate the regulatory environment in their COO with relatively more ease. While not all migrants are likely to be carriers of this experiential, inherited and acquired knowledge of their COO, I expect that migrants in decision-making roles in small as well as large firms are likely to have the incentive and the willingness to share their knowledge in their COR, in order to capitalize on it. Anecdotal evidence suggests that migrant decision-makers are often involved in facilitating direct investments to their COO (Filatotchev, Strange, Piesse, & Lien, 2007, Pandey, Aggarwal, Devane, & Kuznetsov, 2006, Schotter & Abdelzaher, 2013). In sum, I expect that the ability of migrants to influence decision-making within their organizations is likely to influence FDI activity between their countries of residence and origin. While some senior migrant managers may have altruistic motivations for investing in their COO (Aharoni, 1966, Gillespie, Riddle, Sayre, & Sturges, 1999), I expect that migrant decision-makers (in large or small firms) by virtue of their experiences in their COO and COR, and due to their knowledge of their functional domain are more likely to influence decision-making in their organizations with regard to foreign expansion to their COO, in order to capitalize on this differentiated advantage. Along these lines, I propose that –

Hypothesis 1a: All other things being equal, the greater is the number of migrant decision-makers from a country of origin in a country, the greater is the likelihood of

outward foreign direct investment activity into migrants' country of origin from that country.

Lack of effective governance and a relatively weak institutional infrastructure (Dunning, 2005) in developing countries makes it difficult for foreign investors to get information about the investment opportunities in those countries. Developed economies, on the other hand, tend to have policies and procedures in place for attracting foreign direct investment of cross-border firms. Migrants from developing countries in a (developed) COR may help to fill this knowledge gap (Sonderegger & Taeube, 2010). Migrants' familiarity with regulatory procedures as well as their knowledge of the connections in local regions of their COO may give them an advantage over others. In other words, migrants from emerging economies are more likely to add to the knowledge base of firms seeking to invest in their COO as opposed to migrants from developed countries. Along these lines, I propose that –

Hypothesis 1b: All other things being equal, the positive effect of the greater number of migrant decision-makers in a country, on the outward foreign direct investment to their COO is likely to be greater for migrants from developing countries as opposed to the effect for migrants from developed countries.

6.2.2 Migrants as connectors of cross-border institutional environments

The notion that social proximity can substitute for geographical proximity and facilitate cross-border knowledge flows (Agrawal, Kapur, & McHale, 2008) has been strengthened in the recent decades with the emergence of the new techno-economic paradigm (Freeman & Louca, 2001) that has enabled instant, just-in-time, face-to-face communication over long distances. Migrants, now, more than ever before, are connected

to their personal and business contacts in their COO due to the advances in the information, communication and transportation technologies in the recent decades. This connectivity in conjunction with the social proximity of migrants with their compatriots in their COO, who often share a common understanding of the world (Naphiet & Ghoshal, 1998), makes the transfer of product ideas, technological knowledge, business opportunities in mainstream and niche area, best practices in business, among others, easier. In their survey of highly skilled Chinese migrants in the United Kingdom, et al. (2015) find that bicultural and bilingual competence of Chinese migrants facilitates transfer of knowledge between firms in the two countries, and migrants effectively act as a bridge in the process of the knowledge transfer.

Social ties bring social benefits of trust, reciprocity, commitment and reputation (Ellis, 2011), and these benefits for migrants who are embedded in their countries of origin and residence bring comparative advantages (over natives) in international business activities. As argued in Chapter 2, migrants contribute to the institutional connectedness between their COO and COR through several channels. They may be members of international organizations (such as South Africa Partners Inc., Chinese Association for Science and Technology, etc. in the United States (U.S.)) or they may participate in intergovernmental organizations and international events (such as Vibrant Gujarat organized by the State of Gujarat in India).

Migrants are often employed by multinational firms in their COR. This channel creates a direct mechanism for knowledge transfer as noted in several innovation studies. In addition to the connectedness provided by highly skilled migrants residing in the COR, new knowledge brought by temporary migrants is likely to update the knowledge base of

existing migrant community. In other words, the institutional connectedness provided by migrants and temporary migrants (or non-immigrants) from a COO in a COR increases the likelihood of knowledge flows about opportunities between the two countries. Along these lines, I propose that -

Hypothesis 2a: All other things being equal, the greater is the connectedness provided by migrants between their country of residence and their country of origin, the greater is the likelihood of resource commitment into migrants' country of origin from migrants' country of residence.

Weaker institutional infrastructure in developing economies raises barriers to entry for foreign firms as knowledge of potential partners and information about potential advantages offered by subnational locations in these economies is not readily available. Ethnic ties of developing country migrants can assist in finding business partners in migrants' COO (Zaheer et al., 2009). In some cases, the bicultural and bilingual competence of migrants may facilitate transfer of knowledge and exchange of ideas between their COO and COR (Liu et al., 2015). Levin & Barnard (2013) using a sample of South African managers examine the value of interpersonal connections in facilitating knowledge flows across borders; they find that less-developed countries benefit from their connectivity to more (technologically and economically) advanced countries, thus demonstrating that cross-national interpersonal ties provide a mechanism for knowledge flows and could be sources of useful knowledge, especially for less-developed countries. In addition, developing country migrants often have altruistic motivations for investing (or facilitating investments of their firms) in their COO (Aharoni, 1966; Glennie & Chappel, 2010). Along the lines of the argument presented for institutional affinity, I

expect that the effect of connectedness provided by migrants from developing countries is likely to be greater than that provided by migrants from developed countries. Thus I propose that –

Hypothesis 2b: All other things being equal, the positive effect of connectedness provided by migrants on the outward foreign direct investment by firms in their COR to their COO is likely to be greater for migrants from developing countries as opposed to those from developed countries.

6.3 Methodology

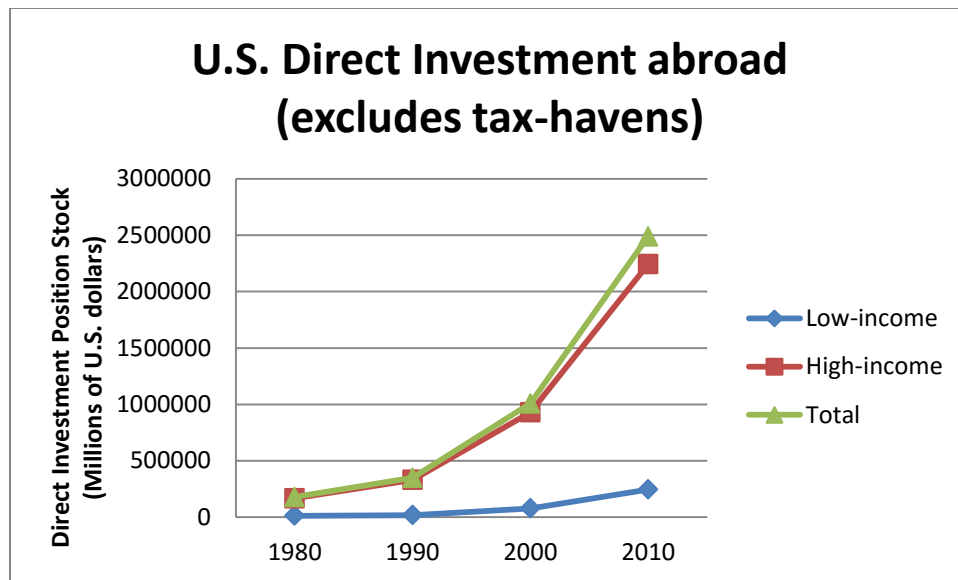
6.3.1 Data

Dependent Variable

The dependent variable in this study is the direct investment position of U.S. MNCs in each foreign country. Direct investment position statistics are stocks and are cumulative, and they are published by the Bureau of Economic Analysis (BEA) as part of the Balance of Payments data at historical costs. Direct investment position represents the total outstanding level of the U.S. direct investment abroad at yearend. While this measure does not truly capture the size or the level operations of foreign affiliates of the U.S. multinationals, it captures the U.S. parent's share, or interest, in its affiliates and that is especially relevant to my study. Another benefit of these data is that they are comparable over a longer period of time. While new industries have been added and subtracted from these data over time, and the classifications have changed, the all-industries totals still reflect the investments of the U.S. multinationals in foreign locations and are comparable. I use the direct investment position data for 1980, 1990, 2000 and 2010. Figure 6-1 shows

some trends in the U.S. direct investment position abroad. This study covers a relatively long period of time, therefore to counter the effects of inflation (Cantwell, 1991), I used the gross domestic product deflator (base year: 2009) published by the BEA to convert the historical FDI costs to their corresponding 2009 dollar values for all years.

Figure 6-1: Trends in U.S. Direct Investment in low-income versus high-income countries



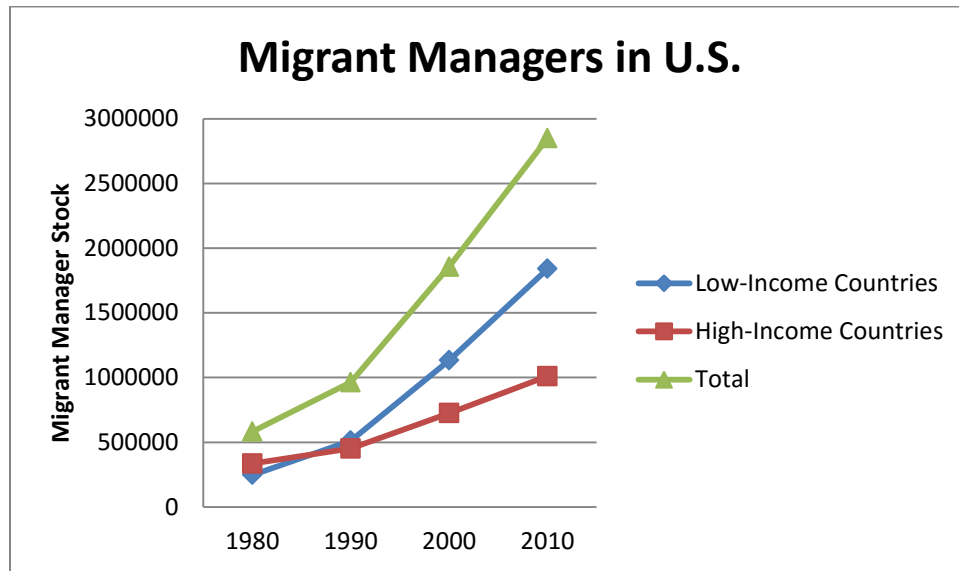
Source: Author's calculations based on U.S. Bureau of Economic Analysis' USDIA survey data

Independent Variables

Migrant decision-makers: To measure the effect of migrant decision-makers on outward FDI, I use two proxies – stock of migrant entrepreneurs (*Migrant Entrepreneur*) and stock of migrant managers (*Migrant Manager*). The idea here is to capture the extent to which migrants facilitate decision-making within firms for which they work or the ones they own. The data for both of these proxies comes from the Integrated Public Use Microdata Series (IPUMS-USA), as described in Chapter 3. I used the foreign-born data for 1980, 1990, 2000 and 2010 from IPUMS-USA to calculate the stock of decision-

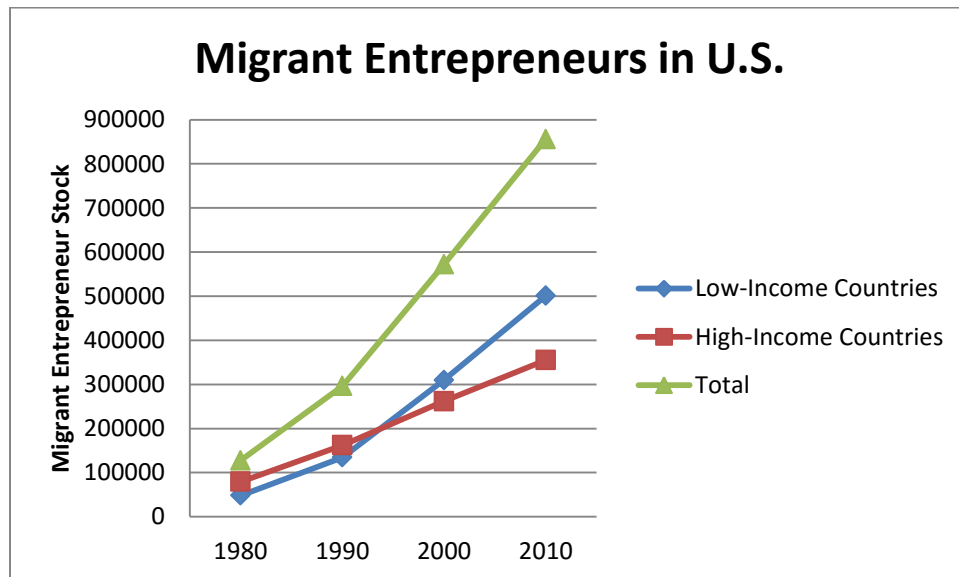
makers. Figure 6-2 and Figure 6-3 show the stock of migrant managers and migrant entrepreneurs in the U.S. over time.

Figure 6-2: Trends in U.S. Immigration with regard to migrant managers



Source: Author's calculations based on IPUMS-USA data

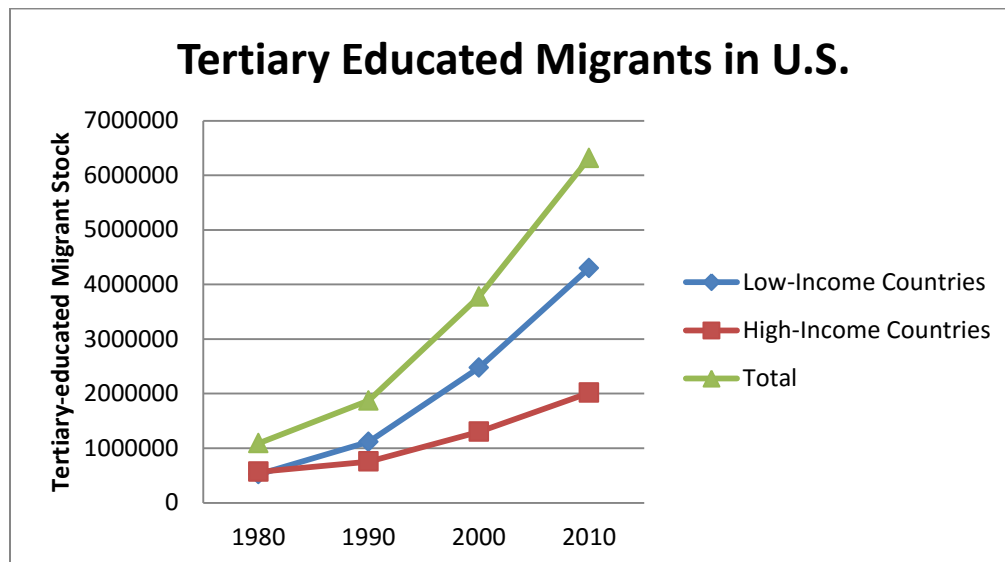
Figure 6-3: Trends in U.S. Immigration with regard to migrant entrepreneurs



Source: Author's calculations based on IPUMS-USA data

Institutional Connectedness: To measure institutional connectedness, I use three proxies. Consistent with the prior literature (Javorcik, Özden, Spatareanu, & Neagu, 2011, Saxenian, 2005, Saxenian, 2006), I use the stock of *tertiary* migrants (*Tertiary Migrant Stock*) as the first proxy for institutional connectedness. The data for this proxy of institutional connectedness also comes from IPUMS-USA. As described in Chapter 3, all migrants with three or more years of college education are coded as tertiary-educated. Figure 6-4 shows the trends in working-age tertiary-educated immigrants in the U.S.

Figure 6-4: Tertiary-educated migrant stock in the U.S

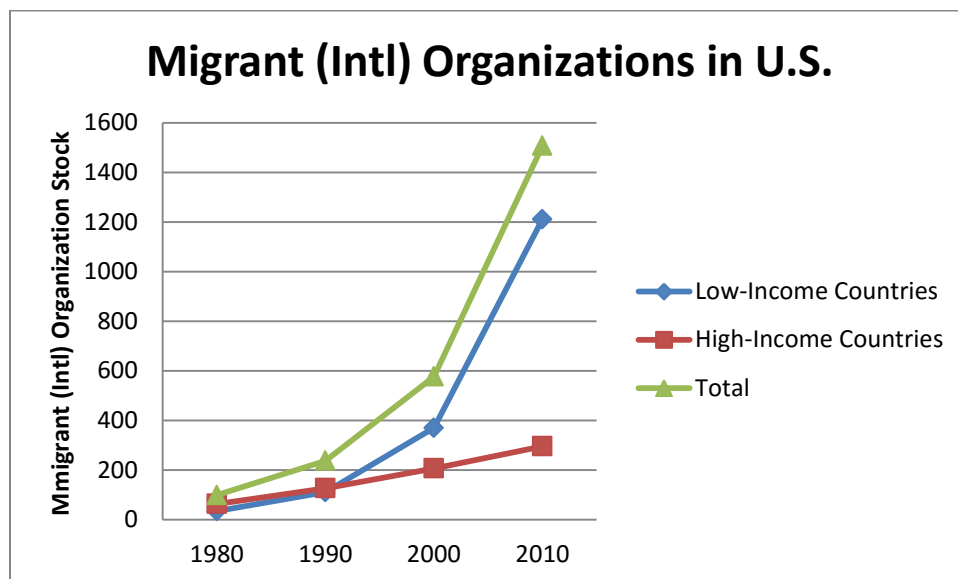


Source: Author's calculations based on IPUMS-USA data

Similar to the other studies in this dissertation, my second proxy for institutional connectedness is migrant organization stock (*Migrant Intl Org Stock*). I calculate the value for this variable for each COO, from my database on migrant organizations. As the focus is on international connectedness, I count only those organizations that are engaged in international activities. As described in Chapter 3, I rely on Internal Revenue Service's NTEE (National Taxonomy of Exempt Entities) code to identify international

organizations from my tax-exempt migrant organizations database. Figure 6-5 shows the trends in international migrant organizations in the United States.

Figure 6-5: Migrant tax-exempt (International) organizations in the U.S.

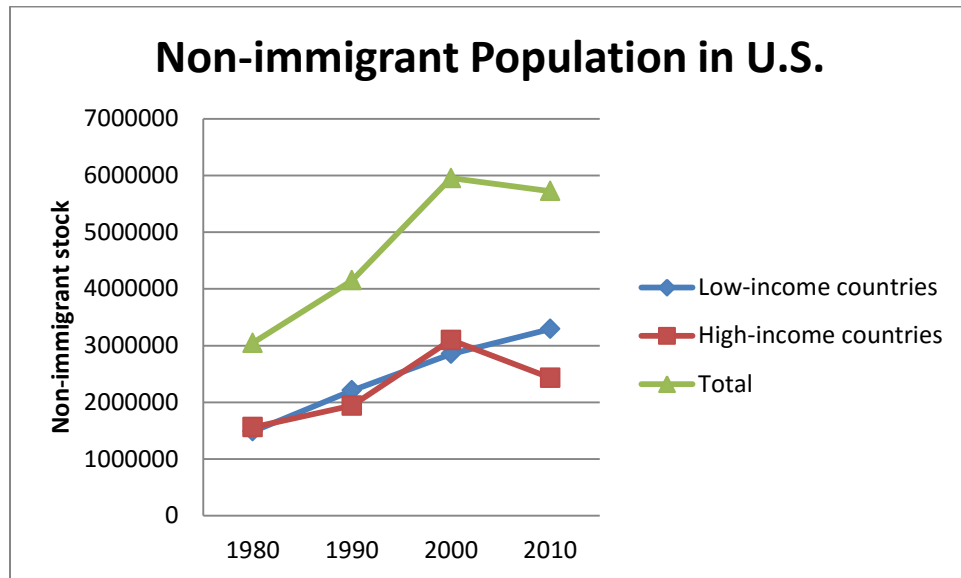


Source: Author's calculations based on Internal Revenue Service data on tax-exempt organizations

The third proxy for institutional connectedness (*Non-immigrant Stock*) measures temporary migrants (or non-immigrant stock), per COO. These data also come from the IPUMS-USA database. All foreign-born persons who are not citizens and have been living in the U.S. for seven years or less are considered non-immigrants in this dissertation. Figures 6-6a and 6-6b show the trends in non-immigrant population in the U.S. since 1980. The sudden drop in the non-immigrant population between 2000 and 2010 is notable. A comparison across 6-6a and 6-6b for high-income countries shows that the drop in Mexican non-immigrants is partly contributing to this trend. This can be explained by the fact that during the same period, the number of Mexican migrants went up considerably (as is evident from a comparison of Figures 4-3a and 4-3b); this suggests

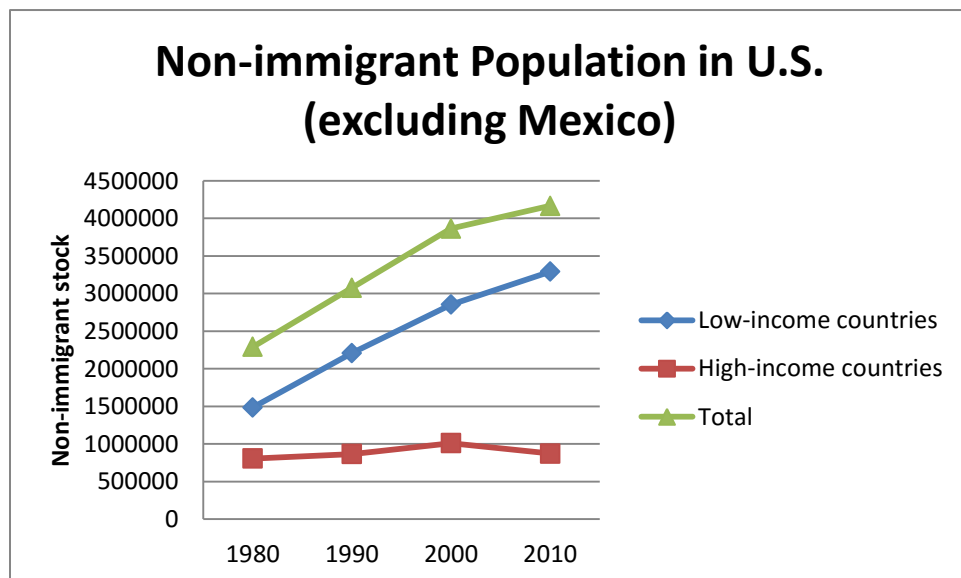
that a large proportion of Mexicans who were non-immigrants in 2000 became permanent residents (or migrants as per my definition) in 2010.

Figure 6-6a: Non-immigrant population in the U.S.



Source: Author's calculations based on IPUMS-USA data

Figure 6-6b: Non-immigrant population in the U.S. (excluding Mexico)



Source: Author's calculations based on IPUMS-USA data

Direct investment position data (i.e. FDI stock data) for U.S. investors were mapped to migrant stock data, after several steps for reconciling the data were undertaken (the details of which are set out in the appendix 8.2.3). The analysis in this study is based on 196 countries that are observed for four census years – 1980, 1990, 2000, and 2010; thus I begin my analysis with 784 observations.

Control Variables

As the unit of analysis is country, I control for factors that are likely to influence outward investment from the United States into a foreign country. *Total GDP* measures the relative performance of countries; the higher is the total GDP of migrants' COO, the greater is the propensity of U.S. firms to engage in investment, and so I control for GDP. GDP values in current U.S. dollars and population data were downloaded from the World Bank database. *Population* measures the population of the migrant-sending country. As countries with larger populations are likely to have larger number of emigrants living abroad and can, in theory, provide a larger native population for networking and connectedness, I control for the population of the country. *Governance* measures the business climate of migrants' COO. Countries that offer a stable and open business environment are more likely to attract investments of foreign multinationals. Following Javorcik et al. (2011), I measure governance using the average of six governance indicators (voice and accountability, political stability and absence of violence, government and effectiveness, regulatory quality, rule of law, and control of corruption) developed by Kaufmann et al. (2013). These indicators are available for 1996-2014 and range from -2.5 to 2.5. I use the 1996 values for both 1980 and 1990 panels. *Distance* represents the physical distance between the COO and United States; these data are taken

from the GeoDist dataset, which is made available by CEPII, a French research center that focuses on research in international economics. *Language* represents the language dummy variable, which is set to one for countries where English is the language for business or the official language, as per the CIA World Factbook, and zero otherwise. Prior studies show that trade agreements may facilitate information flows, therefore, I control for regional trade agreements; these data come from the World Trade Organization database. *Trade Agreement* is a dummy variable, which is set to 1 for countries that have an agreement in force with the U.S., and zero otherwise. OECD countries have been shown to attract more FDI than other countries, and so I include a dummy (*OECD*) for OECD countries. To control for the historical effects of migrants, who arrived in U.S. in the earlier decades, I include the age of the diaspora in the model. As described in Chapter 3, *Diaspora Age* of a migrant group is calculated using the founding year of the first tax-exempt organization for the group in the United States. The data for this variable comes from a database that I constructed for tax-exempt migrant organizations in the United States. Table 6-1 provides a list of variables used in this study, in addition to the variable descriptions and sources of data.

Table 6-1: Data definitions and sources

Variable	Description	Source
FDI stock	U.S. direct investment position in migrants' COO for 1980, 1990, 2000 and 2010 (represented in 2009 U.S. dollars).	United States Bureau of Economic Analysis
Migrant Stock	Stock of migrants per country in the U.S. for 1980, 1990, 2000 and 2010	Authors' calculation based on data from IPUMS-USA

Migrant Manager Stock	Stock of migrant managers by COO employed in private industry in the U.S. in 1980, 1990, 2000 and 2010	Authors' calculation based on data from IPUMS-USA
Migrant Entrepreneur Stock	Stock of migrant entrepreneurs by COO in the U.S. in 1980, 1990, 2000 and 2010	Authors' calculation based on data from IPUMS-USA
Migrant Intl Org Stock	Stock of migrant organizations in the U.S. focused on international activities in 1980, 1990, 2000 and 2010	Authors' calculation based on data from Internal Revenue Service
Tertiary Migrant Stock	Stock of tertiary-educated migrants in 1980, 1990, 2000 and 2010	Authors' calculation based on data from IPUMS-USA
Diaspora Age	Age of the first migrant tax-exempt organization for a COO	Authors' calculation based on data from Internal Revenue Service
Non-immigrant Stock	Stock of non-immigrants by COO in the U.S. in 1980, 1990, 2000 and 2010	Authors' calculation based on data from IPUMS-USA
Total GDP	GDP of the migrants' COO for various years	World Bank
Population	Population of migrants' COO for various years	World Bank
Governance	Business climate in migrants' COO	Worldwide Governance Indicators
Distance	Distance between capital cities of migrants' COO and US	Geodist dataset by CEPII
Language	Common language dummy	CIA World Factbook
Trade Agreement	Trade agreement dummy	World Trade Organization
OECD	OECD dummy	Organization for Economic Co-operation and Development
High Income	Dummy set to 1 for high income and upper middle income for various years based on their 1990 values	Organization for Economic Co-operation and Development

6.3.2 Empirical Analysis

To assess the extent to which migrant decision-makers influence the outward direct investment activities of firms in their COR to their COO, I begin by estimating the following baseline panel regression model:

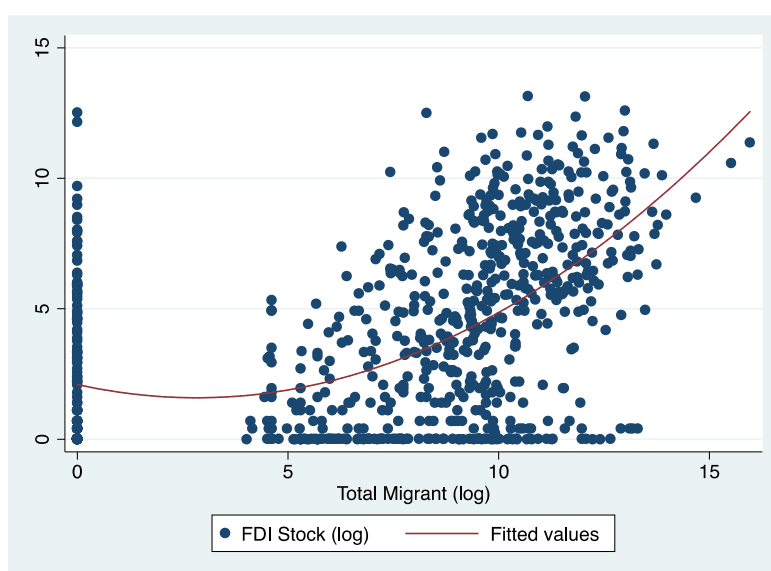
$$\begin{aligned}
FDI_{i,t} = & \beta_0 + \beta_1 Migrant Stock_{i,t} + \beta_2 Population_{i,t} + \beta_3 Total GDP_{i,t} + \beta_4 Governance_{i,t} \\
& + \beta_5 Distance_i + \beta_6 Language_i + \beta_7 TradeAgreement_{i,t} + \beta_8 OECD_{i,t} \\
& + \beta_9 Diaspora Age_{i,t} + \mu_t + a_i + \epsilon_{i,t}
\end{aligned}
\tag{1}$$

In the model given by equation 1, *FDI* for a country *i* is the direct investment position of U.S. investors in migrants' COO in a year *t*. *Migrant Stock*_{*i,t*} is the stock of all working-age migrants in the U.S. at time *t* for country *i*. *Population*_{*i,t*} is the total population of migrants' COO at time *t*. *Total GDP*_{*i,t*} represents the total GDP of migrants' COO *i* at time *t*. *Governance* represents the business climate in migrants' COO. *Distance* represents the distance between capital city of migrants' COO and the US. *Diaspora Age* is the age of diaspora community in the COR. *Language*, *TradeAgreement* and *OECD* are dummy variables. Note that language and distance are time-invariant variables. *a_i* represents the unobserved time-invariant factors that affect *FDI*_{*i,t*} and are the fixed effects; *ε_{i,t}* captures the time-varying factors that affect *FDI*_{*i,t*}. *μ_t* represents the year dummies in the model.

Natural logs of several variables were taken (after adding 1 to avoid losing the 0 values) to eliminate the skewness and excess kurtosis (Cameron & Trivedi, 2010). A scatterplot of the key explanatory variables against direct investment position showed that some observations for Canada, Netherlands, China, Haiti, India, Israel and Mexico were outliers. I therefore drop these observations from my sample. The increase in the U.S. investments flowing to tax-holding companies in the last two decades is likely to bias the results as these investments are not reflective of productive activity (Beugelsdijk, Hennart, Slangen, & Smeets, 2010). Therefore, to alleviate this concern, I drop tax

havens from my dataset. For this purpose, I use the latest available list of tax haven (Hines, 2010) and drop 39 countries from the dataset. A list of these countries is provided in Chapter 3. As noted in Chapter 4, the FDI stock data for Channel Islands, a tax haven, is included with the FDI stock data for Great Britain by the BEA, so I exclude Great Britain from my sample. Thus, the final unbalanced sample used for analysis consisted of 615 observations belonging to 156 countries. Figure 6-7 shows the scatterplot of FDI stock versus total migrants for these 615 observations.

Figure 6-7: Scatterplot of FDI stock (log) versus Migrant Stock (log)



As fixed effects estimator is inconsistent in short panels (Cameron and Trivedi, 2005: 801) and also because approximately 24 percent of the observations have zero values for the dependent variable, I estimate the model using random-effects Tobit regression. As Tobit estimates are highly sensitive to heteroskedasticity, I compute and report robust standard errors for all models.

6.3.3 Results

The pairwise correlations including mean, standard deviations, minimum values and maximum values for the key variables are shown in Table 6-2.

Table 6-2: Pair wise correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 FDI Stock (log)	1														
2 Migrant Stock (log)	0.49	1													
3 Migrant Manager (log)	0.54	0.93	1												
4 Migrant Entrepreneur (log)	0.53	0.86	0.91	1											
5 Tertiary Migrant Stock (log)	0.52	0.96	0.95	0.88	1										
6 Migrant Intl Org Stock (log)	0.33	0.47	0.53	0.58	0.50	1									
7 Non-immigrant Stock (log)	0.51	0.88	0.84	0.77	0.86	0.42	1								
8 Diaspora Age	0.46	0.55	0.61	0.65	0.58	0.56	0.48	1							
9 Total GDP (log)	0.73	0.56	0.63	0.67	0.61	0.47	0.54	0.62	1						
10 Governance	0.43	0.25	0.27	0.30	0.25	0.07	0.17	0.43	0.39	1					
11 Population (log)	0.45	0.50	0.55	0.54	0.55	0.46	0.52	0.38	0.73	-0.14	1				
12 Distance (log)	-0.23	-0.35	-0.34	-0.32	-0.31	-0.12	-0.30	-0.21	-0.14	-0.21	0.05	1			
13 OECD	0.52	0.30	0.33	0.35	0.31	0.16	0.25	0.52	0.52	0.68	0.14	-0.17	1		
14 Language	-0.01	-0.01	-0.01	-0.08	0.00	0.04	0.00	-0.17	-0.18	-0.01	-0.09	0.17	-0.08	1	
15 Trade Agreement	0.17	0.12	0.13	0.15	0.12	0.22	0.11	0.15	0.12	0.08	0.04	-0.18	0.07	0.03	1
Mean	4.16	7.54	5.57	4.31	6.40	0.69	6.97	21.32	23.29	-0.22	15.78	9.04	0.15	0.22	0.02
S.D.	3.54	4.28	3.95	3.69	4.00	0.96	3.87	24.64	2.23	0.88	1.75	0.47	0.35	0.41	0.14
Min	-4.42	0	0	0	0	0	0	0	17.15	-2.33	9.41	6.60	0	0	0
Max	11.99	13.98	12.32	10.97	13.25	4.03	13.53	110	29.33	1.87	20.96	9.70	1	1	1
Number of observations = 615															

The Tobit estimates for the model specified in equation 1 are shown in Table 6-3. Model 1 is the baseline model that shows the effect of migrant stock on outward FDI. *Migrant Stock* is significant at the $p < 0.10$ level and has the correct sign. As expected, *Total GDP* is highly statistically significant ($\beta = 1.218$, $p < 0.01$). *Distance* is also highly statistically significant at the $p < 0.01$ level and has the correct sign. *OECD* and *Language* have the correct signs and are highly statistically significant, as expected. *Governance* (i.e. business climate of the country) is not significant but has the correct sign. *Diaspora Age* is significant at the $p < 0.10$ level with a negative sign; this shows that the older is the diaspora community of a COO of migrants, lower are the chances for investment in that COO from migrants' COR. *Population* is not significant and carries a negative sign.

Model 2 and Model 3 show the estimation with variables capturing the effect of migrant decision-makers (*Migrant Manager* and *Migrant Entrepreneur*) in firms on the outward FDI activity of U.S. investors. For Model 2, 147 observations (out of 615) were left-censored. *Migrant Manager* is statistically significant ($\beta=0.131$, $p<0.05$), thus providing support to Hypothesis 1a. Model 3, which estimates the model with the second proxy for decision makers in firms – *Migrant Entrepreneur* – shows that it is not significant, but has the expected sign. Thus, while Model 2 provides support to the hypothesis 1a, Model 3 fails to do so.

Model 4, Model 5 and Model 6 show the estimation with variables capturing the effect of institutional connectedness (*Tertiary Migrant Stock*, *Migrant Intl Org Stock* and *Non-immigrant Stock*) between migrants' COO and COR. Model 4 shows that *Tertiary Migrant Stock* is highly statistically significant ($\beta=0.143$, $p<0.01$), thereby providing support to Hypothesis 2a. The second measure of connectedness – *Migrant Intl Org Stock*– is not significant, and in fact has the opposite sign. Model 6 provides further support to Hypothesis 2a that increased connectedness provided by non-immigrants positively affects FDI to their COO. Thus, while Models 4 and 6 of Table 6-3 provide statistically significant support to the hypothesis 2a, Model 5 fails to do so.

Table 6-3: Tobit estimates with cluster-robust standard errors (full sample)

	Baseline	Decision-makers		Institutional Connectedness		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Migrant Stock (log)	0.097*					
	(0.054)					
Migrant Manager (log)		0.131**				
		(0.062)				
Migrant Entrepreneur (log)			0.065			
			(0.053)			
Tertiary Migrant Stock (log)				0.143***		
				(0.054)		
Migrant Intl Org Stock (log)					-0.044	
					(0.203)	
Non-immigrant Stock (log)						0.213***
						(0.054)
Diaspora Age	-0.015*	-0.016*	-0.014	-0.017**	-0.009	-0.017**
	(0.009)	(0.009)	(0.009)	(0.008)	(0.009)	(0.008)
Total GDP (log)	1.218***	1.185***	1.178***	1.189***	1.215***	1.254***
	(0.153)	(0.144)	(0.154)	(0.154)	(0.144)	(0.154)
Population (log)	-0.164	-0.182	-0.091	-0.193	-0.052	-0.296
	(0.178)	(0.181)	(0.182)	(0.193)	(0.153)	(0.181)
Governance	0.101	0.088	0.158	0.101	0.174	0.048
	(0.341)	(0.347)	(0.368)	(0.351)	(0.353)	(0.331)
Distance (log)	-0.902**	-0.862**	-1.056**	-0.858**	-1.178***	-0.659
	(0.457)	(0.423)	(0.471)	(0.407)	(0.412)	(0.417)
OECD	2.068***	2.151***	2.082***	2.122***	1.971***	2.060***
	(0.685)	(0.716)	(0.733)	(0.695)	(0.631)	(0.644)
Trade Agreement	0.141	0.149	0.139	0.131	0.172	0.190
	(0.330)	(0.332)	(0.380)	(0.323)	(0.320)	(0.404)
Language	1.238***	1.190***	1.303***	1.172***	1.372***	1.134***
	(0.334)	(0.327)	(0.345)	(0.344)	(0.342)	(0.335)
Constant	-14.184***	-13.504***	-12.560***	-13.615***	-12.695***	-15.893***
	(4.482)	(4.459)	(4.608)	(4.320)	(4.634)	(4.305)
Number of observations	615	615	615	615	615	615
Log-Likelihood	-1,166.19	-1,165.02	-1,168.55	-1,163.46	-1,169.45	-1,154.83
Notes: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of outward direct investment position stock (plus 1). Time dummies were included for estimation. Cluster-robust standard errors (clustered on country) obtained using bootstrap (reps = 200) are provided in parentheses. This sample excludes tax-haven countries as well as outliers.						

The results presented so far, partially show that migrant decision-makers and the institutional connectedness provided by foreign-born workers (tertiary-educated migrants and non-immigrants) influences outward FDI into migrants' COO. To test if these results are stronger for migrants from developing countries as opposed to those from developed

countries, I split the sample by low-income and high-income countries and estimated the various model for these samples. The Tobit estimates of high- and low-income samples are shown in Tables 6-4 and 6-5 respectively; these estimations show that low-income countries are driving some of the results with regard to the coefficient estimates of the main explanatory variables shown in Table 6-3. For high-income countries, both measures of decision-makers are not significant, as shown in Model 2H and 3H, although *Migrant Manager* has the correct sign. With regard to the connectedness measures, *Tertiary Migrant Stock* and *Non-immigrant Stock* have the correct sign, but are not significant. *Migrant Intl Org Stock* is, in fact, found to have a negative effect, contrary to what was proposed. I discuss this finding in the summary section of this chapter. For low-income countries, Table 6-5 shows that *Migrant Stock*, *Migrant Manager*, *Tertiary Migrant* and *Non-immigrant Stock* are statistically significant with the expected signs. *Migrant Entrepreneur* and *Migrant Intl Org Stock* are not significant as shown in Model 3L and 5L, but they have the expected sign.

I performed Wald tests to compare coefficients for low-income and high-income samples in order to test the cross-model hypotheses 1b and 2b. Results for these are reported at the end of Table 6-5. Wald tests do not provide empirical support for the hypotheses that migrant decision-makers from developing countries have a stronger effect on outward FDI than those from high-income countries. Only the coefficients for *Migrant Intl Org Stock* is found to be statistically different between the two samples; this is likely to be a result of the highly significant result for this variable for high-income countries (with the opposite sign). Thus I find no evidence in support of Hypothesis 1b and 2b.

Table 6-4: Tobit Estimates with cluster-robust standard errors (high-income country sample)

	Baseline	Decision-makers			Institutional Connectedness	
	Model 1H	Model 2H	Model 3H	Model 4H	Model 5H	Model 6H
	coef/se	coef/se	coef/se	coef/se	coef/se	
Migrant Stock (log)	-0.052					
	(0.095)					
Migrant Manager (log)		0.072				
		(0.160)				
Migrant Entrepreneur (log)			-0.016			
			(0.099)			
Tertiary Migrant Stock (log)				0.037		
				(0.151)		
Migrant (Intl) Org Stock (log)					-0.469**	
					(0.221)	
Non-immigrant Stock (log)						0.093
						(0.084)
Diaspora Age	-0.002	-0.006	-0.003	-0.005	0.004	-0.006
	(0.009)	(0.010)	(0.009)	(0.010)	(0.009)	(0.009)
Total GDP (log)	1.108***	1.142***	1.139***	1.144***	1.242***	1.193***
	(0.193)	(0.204)	(0.199)	(0.182)	(0.203)	(0.196)
Population (log)	0.301	0.150	0.244	0.189	0.188	0.104
	(0.237)	(0.247)	(0.196)	(0.264)	(0.202)	(0.226)
Governance	0.383	0.246	0.340	0.289	0.248	0.297
	(0.612)	(0.509)	(0.592)	(0.623)	(0.572)	(0.536)
Distance (log)	-0.349	-0.191	-0.294	-0.244	-0.218	-0.217
	(0.699)	(0.557)	(0.550)	(0.650)	(0.595)	(0.483)
OECD	0.850	0.821	0.807	0.804	0.795	0.741
	(0.883)	(0.808)	(0.902)	(0.856)	(0.886)	(0.893)
Trade Agreement	0.078	0.156	0.123	0.155	0.215	0.234
	(0.581)	(0.590)	(0.572)	(0.655)	(0.492)	(0.729)
Language	1.386*	1.241	1.339*	1.273*	1.503*	1.216*
	(0.834)	(0.768)	(0.761)	(0.771)	(0.802)	(0.681)
Constant	-22.398***	-22.974***	-23.028***	-23.020***	-25.315***	-23.536***
	(6.613)	(5.351)	(6.104)	(6.245)	(5.955)	(5.151)
Number of observations	178	178	178	178	178	178
Log-Likelihood	-317.28	-317.14	-317.59	-317.46	-316.14	-316.41

Notes: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of outward direct investment position stock (plus 1). Time dummies were included for estimation. Cluster-robust standard errors (clustered on country) obtained using bootstrap (reps = 200) are provided in parentheses. This sample excludes tax-haven countries, low-income countries as well as outliers.

Interpretation of coefficients

As noted earlier, for non-linear estimators, such as Tobit, the coefficient estimates do not represent the marginal effects; instead they represent the estimates for the latent variable (Wooldridge, 2006: 597). Therefore, I calculate the average marginal effects for the estimated coefficients. I find that, on average, a 10-percentage point increase in the stock of migrant managers from a COO in the U.S. at time T increases outward FDI stock to the COO by 1.08 percentage points at time T. Similarly, the results of this study show that, on average, a 10-percentage point increase in the tertiary-educated migrant stock from a COO, at time T in the U.S., increases investment position in that country at time T by 1.17 percentage points. Also, on average, a 10 percentage point increase in the non-immigrant stock from a COO at time T in the U.S. increases outward investment position in that country at time T by 1.74 percentage points. For emerging economies, on average, a 10 percentage point increase in tertiary-educated migrant stock at time T in the U.S. from a COO increases investment position in that COO at time T by 1.26 percentage points. Similarly, a 10 percentage point increase in temporary migrants in the U.S. from a developing country increases the FDI in that COO by 1.75 percentage points.

Robustness checks

To test the robustness of the findings to alternative econometric approaches, I estimated the model given in equation (1) using the generalized least squares (GLS) random-effects (RE) estimator as well as fixed-effects (FE) estimator. I provide the results for these estimations in Table 6-6 for comparison purposes. Generally speaking, the Tobit estimates are more or less similar to the fixed- and random-effects coefficient

estimates in terms of the signs and statistical significance for the key explanatory variables. Table 6-6 shows that *Migrant Manager*, *Tertiary Migrant* and *Non-immigrant Stock* are significant for both the full- and low-income samples.

Table 6-6: Estimated coefficients using alternative econometric approaches

Econometric Approach	Sample	N	Estimated coefficients for key explanatory variables					
			Migrant Stock (log)	Migrant Manager (log)	Migrant Entrepreneur (log)	Tertiary Migrant Stock (log)	Migrant Intl Org Stock (log)	Non-immigrant Stock (log)
			coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Fixed Effects	Full	615	0.055 (0.049)	0.106* (0.054)	0.063 (0.050)	0.106** (0.049)	0.155 (0.222)	0.120** (0.051)
Random Effects	Full	615	0.070* (0.040)	0.092* (0.048)	0.035 (0.045)	0.105** (0.042)	-0.016 (0.169)	0.154*** (0.041)
Fixed Effects	High	178	-0.120 (0.088)	0.067 (0.169)	-0.012 (0.113)	-0.003 (0.152)	-0.476* (0.284)	0.038 (0.065)
Random Effects	High	178	-0.063 (0.086)	0.068 (0.136)	-0.017 (0.099)	0.023 (0.126)	-0.411** (0.171)	0.066 (0.065)
Fixed Effects	Low	437	0.079 (0.053)	0.119** (0.056)	0.092* (0.052)	0.120** (0.050)	0.416* (0.247)	0.138** (0.060)
Random Effects	Low	437	0.090** (0.045)	0.100** (0.051)	0.055 (0.047)	0.121*** (0.044)	0.127 (0.192)	0.165*** (0.050)

Notes: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of outward direct investment position stock (plus 1). Time dummies were included for estimation. Cluster-robust standard errors (clustered on country) are provided in parentheses. Similar to the full sample in Table 3, the full sample here **excludes** tax-havens and outliers. In addition to that, the high-income sample excludes low-income countries, whereas the low-income sample excludes high-income countries.

To further test the robustness of my results, I estimated the entire sample (N=784) by including all the outliers as well as tax havens. For sake of brevity, I provide only the coefficient estimates of key explanatory variables using alternative econometric approaches in Table 6-7. Table 6-7 shows that for the sample with all observations, the Tobit coefficient estimates are biased downward. *Migrant Manager* and *Tertiary Migrant Stock* are significant, but only at the $p < 0.1$ level; *Non-immigrant Stock* is highly statistically significant, but its coefficient is smaller in comparison to the corresponding value in Table 6-3. All Tobit coefficient estimates for high-income sample are also similar to the corresponding estimates in Table 6-4, but biased downward. *Migrant Stock* and *Migrant Intl Org Stock* are highly statistically significant in this sample, but have the opposite sign. This is the likely effect of the influential observations of tax havens where U.S. multinational firms invest heavily, but these countries don't necessarily have huge migrant population in the U.S. and also the effect of Mexico, which has a rather large migrant population in the United States. For the low-income countries, the Tobit coefficient estimates for *Migrant Stock*, *Migrant Manager*, *Tertiary Migrant Stock* and *Non-immigrant Stock* are highly statistically significant, and are in fact biased upwards. This is the likely effect of the outlier observations that were excluded in earlier estimations.

Table 6-7: Estimated coefficients using alternative econometric approaches (including tax havens and outliers)

Econometric Approach	Sample	N	Estimated coefficients for key explanatory variables					
			Migrant Stock (log)	Migrant Manager (log)	Migrant Entrepreneur (log)	Tertiary Migrant Stock (log)	Migrant Intl Org Stock (log)	Non-immigrant Stock (log)
			coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Tobit	All	784	0.048 (0.050)	0.098* (0.051)	-0.001 (0.051)	0.094* (0.049)	-0.129 (0.187)	0.157*** (0.047)
Fixed Effects	All	784	-0.001 (0.043)	0.042 (0.048)	-0.034 (0.049)	0.047 (0.045)	-0.021 (0.195)	0.072 (0.046)
Random Effects	All	784	0.022 (0.036)	0.051 (0.043)	-0.035 (0.044)	0.056 (0.039)	-0.118 (0.155)	0.108*** (0.038)
Tobit	High	284	-0.123** (0.063)	-0.014 (0.083)	-0.061 (0.066)	-0.063 (0.083)	-0.535** (0.218)	-0.023 (0.062)
Fixed Effects	High	284	-0.143*** (0.053)	-0.063 (0.079)	-0.073 (0.066)	-0.099 (0.077)	-0.623*** (0.214)	-0.066 (0.055)
Random Effects	High	284	-0.105** (0.052)	-0.035 (0.072)	-0.062 (0.062)	-0.067 (0.071)	-0.441*** (0.158)	-0.021 (0.054)
Tobit	Low	500	0.139** (0.057)	0.159*** (0.060)	0.045 (0.060)	0.180*** (0.061)	0.061 (0.209)	0.255*** (0.064)
Fixed Effects	Low	500	0.074 (0.051)	0.109* (0.056)	0.011 (0.060)	0.119** (0.049)	0.333 (0.235)	0.154*** (0.057)
Random Effects	Low	500	0.090** (0.042)	0.103** (0.049)	0.006 (0.052)	0.123*** (0.042)	0.100 (0.177)	0.174*** (0.046)
Notes: *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the natural log of outward direct investment position stock (plus 1). Time dummies were included for estimation. Cluster-robust standard errors (clustered on country) are provided in parentheses. This sample includes all tax-havens as well as outliers. The high-income sample excludes low-income countries, whereas the low-income sample excludes high-income countries.								

6.3.4 Two-stage Estimation

As discussed in Chapter 4, the standard Tobit model imposes a restriction that a single mechanism determines the choice between *whether or not FDI occurs* and the *amount of FDI*, therefore I also estimate the model given in equation (1) using Heckman selection estimator that allows for possible dependence in the two parts of the model. I use distance as the exclusion restriction in the selection equation. The rationale is that while distance (viewed as a fixed cost) is likely to factor in, in the initial decision of whether or not to invest in a location, it is less likely to matter in the subsequent stages of the international

expansion process. The results of Heckman estimations are shown in Table 6-8 for the full sample. Robust standard errors obtained using bootstraps are provided for all models.

Table 6-8: Heckman two-step estimation (full sample)

	Model 1HM		Model 2HM		Model 3HM		Model 4HM		Model 5HM		Model 6HM	
	Main	Select	Main	Select	Main	Select	Main	Select	Main	Select	Main	Select
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Migrant Stock (log)	0.090** (0.040)	0.022 (0.018)										
Migrant Manager (log)			0.093* (0.054)	0.032 (0.026)								
Migrant Entrepreneur (log)					0.013 (0.052)	0.029 (0.030)						
Tertiary Migrant (log)							0.095** (0.048)	0.035 (0.025)				
Migrant (Intl) Org Stock (log)									-0.229* (0.117)	0.117 (0.104)		
Non-immigrant Stock (log)											0.160*** (0.055)	0.055** (0.022)
Diaspora Age	-0.013*** (0.005)	-0.004 (0.004)	-0.013** (0.006)	-0.005 (0.004)	-0.008 (0.006)	-0.005 (0.004)	-0.013** (0.005)	-0.005 (0.004)	-0.003 (0.005)	-0.005 (0.004)	-0.015*** (0.005)	-0.005 (0.004)
Total GDP (log)	1.159*** (0.175)	0.385*** (0.068)	1.142*** (0.164)	0.378*** (0.075)	1.052*** (0.163)	0.374*** (0.075)	1.134*** (0.171)	0.380*** (0.076)	1.045*** (0.145)	0.382*** (0.072)	1.211*** (0.154)	0.379*** (0.077)
Population (log)	-0.165 (0.118)	-0.053 (0.080)	-0.158 (0.125)	-0.056 (0.082)	-0.078 (0.116)	-0.044 (0.080)	-0.160 (0.120)	-0.061 (0.081)	-0.043 (0.109)	-0.037 (0.074)	-0.223* (0.116)	-0.079 (0.079)
Governance	0.459*** (0.175)	-0.010 (0.123)	0.461*** (0.166)	-0.007 (0.125)	0.503** (0.208)	-0.000 (0.138)	0.475*** (0.180)	-0.010 (0.128)	0.457** (0.188)	0.027 (0.114)	0.470*** (0.179)	-0.012 (0.122)
Language	0.550* (0.286)	0.652*** (0.174)	0.527** (0.263)	0.643*** (0.188)	0.478* (0.284)	0.671*** (0.171)	0.507* (0.269)	0.640*** (0.173)	0.546** (0.244)	0.654*** (0.174)	0.581** (0.228)	0.612*** (0.174)
Distance (log)		-0.500*** (0.144)		-0.480*** (0.168)		-0.515*** (0.152)		-0.481*** (0.155)		-0.550*** (0.143)		-0.425*** (0.149)
Constant	-19.745*** (3.432)	-2.481* (1.428)	-19.274*** (3.081)	-2.442 (1.599)	-17.814*** (3.239)	-2.169 (1.594)	-19.131*** (3.310)	-2.456 (1.636)	-18.062*** (2.913)	-2.074 (1.468)	-20.619*** (2.933)	-2.819* (1.595)
Inverse Mills Ratio	0.198 (1.108)		0.150 (1.042)		-0.643 (1.070)		0.089 (1.084)		-0.828 (0.843)		0.750 (1.045)	
Number of observati	615		615		615		615		615		615	

Note: *** p<0.01, ** p<0.05, * p<0.1 The dependent variable is the natural log of outward direct investment position stock (plus 1). Heckman two-step estimates with distance as an exclusion restriction are reported. Time dummies were included for estimation. Robust standard errors obtained using bootstrap (reps = 200) are provided in parentheses. This sample excludes tax-haven countries as well as outliers.

Models 1HM, 2HM, 3HM, 4HM, 5HM and 6HM show the heckman two-step estimates in Table 6-8. Model 1HM shows the estimates for the baseline model. *Distance*, which is the exclusion restriction in the model, is highly statistically significant in the selection equation and carries the correct sign. Model 1HM shows that *Migrant Stock* has a statistically significant effect on FDI in migrants' COO, once the decision to invest has been made. According to Model 1HM, a 10 percentage point increase in migrant stock from a COO increases the amount of investment to that COO by 0.9 percentage points. Models 2HM, 4HM and 6HM provide further evidence in support of Hypotheses 1a and

2a; they show that *Migrant Manager*, *Tertiary Migrant Stock* and *Non-immigrant Stock* have a statistically significant positive effect on the amount of FDI in their COO. The connectedness provided by temporary migrants (or non-immigrants) is worth noting. Model 6HM shows that *Non-immigrant Stock* has a statistically significant impact on both, the initial decision to invest as well as on the amount of FDI. Model 6HM suggests that a 1 percentage point increase in non-immigrant population from a COO in a COR is likely to increase the amount of investment in their COO by 0.16 percentage points. Inverse Mill's Ratio for these models does not provide evidence of a selection issue in these data.

As a robustness check, I provide Heckman estimates for the entire sample that includes all tax havens and outliers. Lastly, I provide these estimates for low-income and high-income samples as well. Tables 6-9 and 6-10 show these estimates for comparison purposes. Table 6-9 provides further evidence in support of hypothesis 1a and 2a with the exception of the coefficient estimate for *Migrant Intl Org Stock*, which has the opposite sign than expected, and is statistically significant. Table 6-9 shows that *Migrant Manager*, *Tertiary Migrant Stock* and *Non-immigrant Stock* positively affect the both, the decision to engage in FDI in migrants' COO and also the amount of FDI. Table 6-10 supports the finding in 6-5 that shows that the coefficients for high and low-income samples differ only for *Migrant Intl Org Stock*.

Table 6-9: Heckman two-step estimation (including outliers and tax havens)

	Model 1HM-A		Model 2HM-A		Model 3HM-A		Model 4HM-A		Model 5HM-A		Model 6HM-A	
	Main	Select	Main	Select	Main	Select	Main	Select	Main	Select	Main	Select
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Migrant Stock (log)	0.076* (0.043)	0.033* (0.018)										
Migrant Manager (log)			0.103* (0.055)	0.059*** (0.022)								
Migrant Entrepreneur (log)					-0.020 (0.048)	0.048** (0.024)						
Tertiary Migrant (log)							0.085* (0.051)	0.046** (0.022)				
Migrant (Intl) Org Stock (log)									-0.192* (0.106)	0.090 (0.094)		
Non-immigrant Stock (log)											0.149*** (0.058)	0.061*** (0.019)
Diaspora Age	-0.008 (0.006)	-0.003 (0.003)	-0.009 (0.006)	-0.005 (0.004)	-0.002 (0.006)	-0.004 (0.004)	-0.008 (0.006)	-0.004 (0.003)	0.001 (0.006)	-0.003 (0.004)	-0.010* (0.006)	-0.004 (0.003)
Total GDP (log)	1.232*** (0.148)	0.378*** (0.063)	1.264*** (0.151)	0.366*** (0.063)	1.132*** (0.137)	0.362*** (0.067)	1.225*** (0.156)	0.373*** (0.062)	1.106*** (0.148)	0.377*** (0.063)	1.302*** (0.163)	0.378*** (0.063)
Population (log)	-0.398*** (0.111)	-0.068 (0.071)	-0.418*** (0.118)	-0.079 (0.067)	-0.309*** (0.096)	-0.061 (0.067)	-0.400*** (0.119)	-0.075 (0.069)	-0.295*** (0.109)	-0.043 (0.064)	-0.464*** (0.122)	-0.091 (0.066)
Governance	0.420** (0.171)	-0.026 (0.106)	0.407** (0.162)	-0.028 (0.110)	0.479*** (0.163)	-0.017 (0.102)	0.430** (0.181)	-0.025 (0.112)	0.433** (0.171)	0.013 (0.106)	0.419** (0.165)	-0.027 (0.102)
Language	0.954*** (0.266)	0.810*** (0.153)	1.013*** (0.275)	0.787*** (0.150)	0.869*** (0.287)	0.845*** (0.153)	0.947*** (0.290)	0.799*** (0.162)	0.866*** (0.279)	0.851*** (0.148)	1.021*** (0.270)	0.773*** (0.149)
Distance (log)		-0.325*** (0.105)		-0.266** (0.123)		-0.342*** (0.108)		-0.303** (0.133)		-0.410*** (0.106)		-0.262** (0.113)
Constant	-17.665*** (2.917)	-3.818*** (1.198)	-18.204*** (2.797)	-3.931*** (1.301)	-15.877*** (2.711)	-3.332*** (1.285)	-17.435*** (2.956)	-3.802*** (1.328)	-15.479*** (2.737)	-3.191*** (1.139)	-18.897*** (3.100)	-4.189*** (1.326)
Inverse Mills Ratio	-0.136 (1.023)		0.246 (1.066)		-0.974 (1.026)		-0.102 (1.069)		-1.211 (0.845)		0.519 (1.113)	
Number of Observations	784		784		784		784		784		784	

Note: *** p<0.01, ** p<0.05, * p<0.1 The dependent variable is the natural log of outward direct investment position stock (plus 1). Heckman two-step estimates with distance as an exclusion restriction are reported. Time dummies were included for estimation. Robust standard errors obtained using bootstrap (reps = 200) are provided in parentheses. This sample includes tax-haven countries as well as outliers.

Table 6-10: Heckman two-step estimation for high and low-income countries

	Full sample (excludes outliers and tax-havens)				All (Includes outliers and tax-havens)			
	High-income countries		Low-income countries		High-income countries		Low-income countries	
	Main	Select	Main	Select	Main	Select	Main	Select
Migrant Stock (log)	0.073 (0.069)	-0.032 (2.129)	0.024 (0.057)	0.029 (0.025)	0.068 (0.053)	-0.018 (0.061)	0.021 (0.068)	0.046** (0.021)
Migrant Manager (log)	0.109 (0.083)	0.061 (0.160)	0.008 (0.079)	0.039 (0.026)	0.120* (0.071)	0.075 (0.064)	0.011 (0.086)	0.056** (0.026)
Migrant Entrepreneur (log)	0.054 (0.079)	0.023 (0.198)	-0.060 (0.072)	0.044 (0.032)	0.019 (0.071)	0.079 (0.069)	-0.086 (0.076)	0.053* (0.029)
Tertiary Migrant (log)	0.102 (0.077)	0.021 (1.259)	0.019 (0.063)	0.041 (0.025)	0.080 (0.070)	0.032 (0.060)	0.018 (0.078)	0.053** (0.025)
Migrant (Intl) Org Stock (log)	-0.431*** (0.127)	-0.095 (2.517)	-0.189 (0.180)	0.123 (0.124)	-0.306** (0.141)	0.027 (0.410)	-0.132 (0.178)	0.121 (0.103)
Non-immigrant Stock (log)	0.080 (0.095)	0.042 (0.895)	0.083 (0.065)	0.053** (0.024)	0.119 (0.073)	0.020 (0.057)	0.082 (0.088)	0.067*** (0.021)
Number of observations	178		437		284		500	

In sum, these findings provide support for hypotheses 1a and 2a, but no empirical evidence for hypotheses 1b and 2b were found. Migrant decision makers, especially those who work for private firms for pay, have a statistically significant effect on the outward direct investment stock in their COO; this effect is positive and statistically significant for migrants from emerging markets. In addition to that, these findings inform

us that tertiary-educated migrants and temporary migrants also have a statistically significant effect on the outward direct investment stock in migrants' COO.

6.4 Chapter summary

In this chapter, I examine the extent to which migrant decision-makers influence the outward FDI activities (to their COO) of firms in their COR. In addition to that, I examine the extent to which the connectedness provided by migrants (tertiary-educated and temporary or non-immigrant) influences FDI to their COO. I use the U.S. Census data on migrants and the BEA direct investment position data of U.S. investors for 1980, 1990, 2000 and 2010 for this purpose. I find that the presence of migrant managers from a COO in a COR is a strong predictor of outward FDI to that COO for developing countries. For developed countries, the finding for migrant managers is not significant. With regard to migrant entrepreneurs, very little evidence in supporting their role in influencing the initial decision to invest in their COO is found (as shown in Table 6-9). One explanation for this finding is that cash-strapped entrepreneurs are likely to rely on family and business contacts in their COO (Bates, 1997) to set up independent firms in their COO and COR. As a result these transactions will not be captured by the FDI data. Another more likely explanation for this finding may be related to the fact that firms owned by entrepreneurs typically tend to be smaller in size and may not have the financial capital to engage in FDI. Several migrants economically adapt in their new COR by starting small businesses in ethnic niches (Portes, 1997). First-generation immigrants often rely on small businesses in low-income areas to economically adapt in their new environment (Bonacich, 1973). Small businesses in these areas, which are referred to as ethnic enclaves (Portes & Sensenbrenner, 1993), may not have the

motivation or the financial resources to engage in FDI during the initial years their existence.

Consistent with prior studies that have found a significant relationship between the presence of tertiary-educated migrants from a COO and outward FDI to their COO (Javorcik, Özden, Spatareanu, & Neagu, 2011), I also find evidence for a statistically significant, positive relationship between the two. I do not, however, find a significant difference in the effect of migrants from developing versus developed countries, as proposed. This finding suggests that all migrant decision-makers (aka managers), tertiary-educated migrants, and temporary migrants (or non-immigrants) have a positive effect on FDI into their COO. I find that the effect of international migrant organizations is statistically different (and opposite) for high-income and low-income samples; this stark difference calls for further qualitative investigation into the specific activities of these organizations. This study complements the study by Javorcik et al. (2011) who specifically focus on the activities of U.S. multinationals by relying on the total assets and total sales of nonbank affiliates of nonbank parents as the two proxies for measuring outward FDI into migrants' COO for 1990 and 2000. Similar to the findings of Javorcik et al. (2011) at the aggregate level, I find that total migrant stock has a relatively weak impact on outward FDI to migrants' COO. Similar to their study, I also find that tertiary-educated migrants have a significant impact on the outward FDI to their COO.

I add to the migration-FDI literature and the international business literature by showing that the migrant decision-makers are important players in facilitating outward FDI to their COO. In addition to that, the new knowledge connectivity provided by non-immigrants has a strong positive effect on the investment activity in migrants' COO from

firms in their COR. Most importantly, the highly statistically significant finding of the role of migrant decision-makers, tertiary-educated migrants and non-immigrants from emerging economies in affecting FDI into their COO is likely to be of interest to development economists.

7 Conclusion

In this dissertation, I examine the role of migrants in influencing the foreign direct investment (FDI) patterns of firms in migrants' country of residence (COR) and their country of origin (COO). Using the roles played by migrants as my anchor, I propose a conceptual framework that elaborates on the mechanisms through which migrants are likely to influence the FDI activities of multinational firms. Three roles are identified – (1) Migrants as carriers and conduits of knowledge; (2) Migrants as creators of institutional affinity; (3) Migrants as connectors of institutional environments. This 3C's (carriers, creators and connectors) migrant framework forms the basis for the three empirical studies in this dissertation. In the first two studies, I examine the extent to which migrants located in a host country (from an FDI perspective) affect the inward direct investments that originate in their COO. While the analysis in the first study is at the country-level, the analysis in the second study is at the regional level. In the third study, on the other hand, I examine the extent to which migrants located in a home country (from an FDI perspective) affect the outward direct investments of COR firms to their COO.

7.1 Contributions

This dissertation makes three main contributions. First, it proposes a novel theoretical framework for explaining the migration-FDI relationship. In doing so, it also introduces the notion of institutional affinity as a determinant of FDI to the international business (IB) literature. Second, it empirically tests the proposed framework in the context of the United States (U.S.) to show that institutional affinity is a determinant of FDI, especially

for firms from developing countries. Third, it introduces novel measures for capturing migrant induced changes in the institutional environment of their COR.

7.1.1 Contribution to the literature

IB and strategy scholars increasingly agree that institutions are more than simply background conditions with regard to the crafting of strategies of multinational firms. Several studies in the IB and strategy areas have examined the effects of host country institutions (primarily political and economic) on the entry strategies of foreign firms (Bevan, Estrin, & Meyer, 2004, Brewer, 1993, Dunning, 2005, Globerman & Shapiro, 2003, Henisz, 2000, Kostova, Roth, & Dacin, 2008, Loree & Guisinger, 1995, Meyer, Estrin, Sumon Kumar, & Peng, 2009, Meyer & Nguyen, 2005). While these studies emphasize the importance of political governance, investment incentives, strong legal system, economic infrastructure and political stability in host countries as factors attracting foreign direct investments of firms, the studies in this dissertation are the first to examine the role of migrant induced institutional changes in influencing the FDI activities of firms. External manifestation of a migrant groups' tacit knowledge through their interactions and exchange in their COR brings about changes in the informal and the formal institutional environment with respect to their COO. This change brought about by increased concentration of migrants from a COO make the geographic location somewhat similar to the migrants' COO; this change, which I call, institutional affinity, attracts the investments of firms from migrants' COO.

In addition to the role of migrants as creators of institutional affinity, I propose two other roles that migrants play in influencing the FDI activities of firms. Migrant decision-makers are carriers of idiosyncratic knowledge that can be a valuable and

inimitable resource (Barney, 1991, Penrose, 1959) for firms seeking to expand overseas (Kogut & Zander, 1993). The connectedness provided by migrants between their COO and COR is the third factor in the framework that influences FDI activities of firms. In sum, the migration-FDI framework proposed in this dissertation integrates the literature streams in macroeconomics and IB to provide a cohesive conceptualization of the phenomenon. More importantly, it helps to establish migrant induced institutional affinity resulting from increased concentration of migrants from a COO in a geographic location as a determinant of FDI for firms from migrants' COO in the IB literature. It should be noted that while I test this framework in the context of a developed country, it is applicable to the developing country context as well.

7.1.2 Institutional affinity as a determinant of FDI

Migration from developing to developed countries has been growing in both relative and absolute terms (Özden, Parsons, Schiff, & Walmsley, 2011). This dissertation provides empirical evidence in support of the notion that migrants play a role in the integration of developing economies into the world economy. The findings of the first empirical study (Chapter 4) show that the institutional changes in the environment brought about by increased migrant concentration from a COO (low-income country) exerts a pull on firms' investments from that COO. Firms from developing economies often have weaker technological capabilities, are less experienced in foreign expansion and lack reputation in developed markets. Migrants from these economies residing in developed locations can speed up the process of internationalization of emerging economy firms. Increased institutional affinity in a COR location provides reduced information costs, social amenities such as access to language schools, cultural activities and social capital, thus

facilitating the establishment and operation of affiliates by firms from migrants' COO.

The results of this study show that there is a positive externality associated with inward migration. Migration brings future investments in a location and so, as noted by Buch et al (2006), this should be factored in the cost-benefit analysis of the immigration debate in developed countries that often focuses on the negative short-term labor market consequences of immigration.

7.1.3 Methodological contribution

This dissertation relies on novel measures for capturing migrant activity in their COR. I construct a database of migrant organizations using the data on tax-exempt organizations registered in the United States. Using the detailed information available for these organizations, especially related to the founding year of each organization and its geographic location, I create three new proxies for measuring migration-related variables – diaspora age, migrant organization stock and international migrant organization stock. While diaspora age and migrant organization stock are used to measure the institutional affinity of a region, international migrant organization stock is used to measure the connectedness provided by migrants between their COO and COR. All of these are non-economic measures that capture the institutional changes in the regional environment with respect to the migrants' COO. Lastly, I introduce the notion of temporary migrants, or persons who are non-immigrants in a COR, to the literature. The idea here is to capture the new knowledge connections brought by the temporary migrants.

7.2 Implications

The studies in this dissertation are likely to benefit practitioners and policy makers. The first benefit may come to firms seeking to invest overseas, who may or may not be tapping into the knowledge sources of its own migrant workers and managers. The second benefit may come to decision-makers of firms in low-income countries that are seeking to internationalize their operations. By tapping into the knowledge networks of migrants of their COO, either through participation in international professional organizations, or industry associations, managers and entrepreneurs in migrants' COO seeking to set up a subsidiary or a factory or a sales location in migrants' COR can help reduce their search costs and overall transaction costs. Tertiary-educated migrants from a COO may act as conduits of knowledge of niche opportunities in the COR region, and help business providers in their COO in 'seeing' those opportunities, which may not be obvious to those business providers due to geographical and institutional constraints. A third benefit may come to development economists seeking to provide policy guidelines to decision-makers in developing countries. Depending on the concentration of migrants from a COO in a (developed) host country, different mechanisms (or a combination of mechanisms as elaborated upon in the framework) are likely to be effective for developing countries seeking to tap into its migrant population for the purposes of economic development. Finally, policy makers in several developed economies (such as United Kingdom, United States and Germany among others, which are home to migrants from around the world) may also benefit from the studies in this dissertation as the conceptual framework proposed here elaborates on the mechanisms through which

migrants influence inward investments into subnational regions of their country of residence, thus contributing to its competitiveness.

7.3 Limitations

Study 1: Migrants and inward foreign direct investment: A country-level analysis

Despite the fact that I use panel data with three census year observations for migrant data, and data for three benchmark years for FDI stock (unlike prior studies that have typically used two time periods or are cross-sectional), this study suffers from a few limitations.

First, I rely on only one proxy of resource commitment. Using different measures of FDI stock, such as value-added and gross property and plant values would help in identifying the effect of migrants on different forms of resource commitment. Future studies could employ different proxies for resource commitment in order to capture the various motivations for FDI in a host country as new, comparable data becomes available. A second limitation of this study is that I examine the relationship between migration and FDI at the level of the host country. Future studies could examine the phenomenon at a more disaggregated level. While I attempt to do this in second study of this dissertation; that too suffers from some data limitations; I talk about those in the next sub-section.

Another limitation of this study is related to the process used to construct the new migrant organization database. As noted in Chapter 3, this database consists of over eighteen thousand organizations (out of the total of 1.5 million tax-exempt organizations registered in the U.S.). I relied on name matching based on the country and the nationality names (such as in the example of China and Chinese in the name of the organization) for assigning each organization to a migrant COO. While name matching is a technique that is commonly used in ethnic studies, this process may have resulted in the

overrepresentation of organizations for some countries, and underrepresentation of organizations for others. However, the use of additional proxies for the institutional affinity and the institutional connectedness measures helps in alleviating concern around this issue. Lastly, I rely on the count of migrant organizations as a measure of institutional affinity in this study as well as the second study. A better measure of institutional affinity in migrants' COR would be the membership information of these migrant organizations. This creates an avenue for future research.

Study 2: Migrants and inward foreign direct investment: A regional analysis

The second study in this dissertation, described in Chapter 5, also suffers from several limitations. First, it is a cross-sectional study and so I am unable to examine the effect of change in migration variables on FDI over time, at a disaggregated level. While I am unable to conduct a panel study due to unavailability of data for 2007 and 2012, and due to the lack of comparability of older data, I do present the estimations for another cross-section that uses the FDI values for 1997, for comparison purposes. Another limitation of this study is that the establishment-level data made published by the Bureau of Economic Analysis (BEA) is publicly available only for seven countries that are all high-income countries. This prevents me from assessing the effect of migration on low-income countries at the regional level. This, however, creates an avenue for future research, as discussed in the next section.

Study 3: Migrants and outward foreign direct investment: A country-level analysis

In the third study, unlike prior outward FDI studies that have typically relied on data for two time periods, I use panel data with four census year observations for migrant data and direct investment position stock. This study, however, still suffers from a few limitations.

First, I rely on only one proxy for resource commitment – direct investment position. As the country of investment in the balance of payments data may not always be the country of ultimate investment (because multinational firms often use offshore financial centers in third countries like Bermuda, Mauritius, Cayman Islands etc. to direct their capital flows from home country to country of final destination), the financial and operating data (consisting of employment, total assets, or property, plant and equipment) may provide alternative proxies for resource commitment in migrants' COO. It must be noted, however, that these other proxies of non-bank affiliates, while useful measures of the level of affiliate activities, are not comparable over a longer period of time. This is due to the changes in the grouping of these data by the BEA in the recent decades. A second limitation of this study is that I examine the relationship between migration and FDI at the level of the host country; future studies could use disaggregated data to examine this phenomenon at a more granular level.

Two other limitations apply to all the three studies in this dissertation. One, I am unable to differentiate among the four motives for direct investment – market-seeking, natural resource seeking, efficiency seeking and strategic asset seeking (Dunning & Lundan, 2008). Two, the research context for the all the three studies in this dissertation is the United States. As a result, the findings of my studies may not be generalizable to other host contexts, such as emerging market economies or low-income countries.

7.4 Future research

The main empirical finding of this dissertation is that institutional affinity offers a location advantage to firms from emerging economies. This finding leads to some other

interesting research questions from an international business perspective: Are these investments from low-income countries primarily market-seeking, meaning that these firms from migrants' COO are serving the product and service needs of its ethnic community? Or are these investments more specific to occupational industries of its migrants? While these disaggregated data are not publicly available for low-income countries, access to firm-level data on foreign multinational firms in the U.S. in conjunction with the data on institutional affinity and institutional connectedness can be used to answer these research questions. Similarly, as an extension of the third study, it would be interesting to examine the extent to which migrants in each state of the U.S. influence outward FDI from that state to the migrants' COO.

A more direct examination of the relationship between migration and FDI at the firm level is likely to provide a clearer picture of the extent and the geographic spread of the relationship. Using a pilot group of U.S. multinationals from the Benchmark Survey of the U.S. direct investment abroad for a reference year, one can use the visa information on migrants to examine the direct relationship between the two using the framework proposed in this dissertation. Lastly, using migrant organization membership information at the country and the regional-level will add more richness and completeness to the studies presented in this dissertation.

8 References

8.1 Bibliography

- Agrawal, A., D. Kapur, & J. McHale. 2008. How do spatial and social proximity influence knowledge flows? Evidence from patent data. *Journal of Urban Economics*, 64(2): 258-69.
- Agrawal, A., D. Kapur, J. McHale, & A. Oettl. 2011. Brain drain or brain bank? The impact of skilled emigration on poor-country innovation. *Journal of Urban Economics*, 69(1): 43-55.
- Aharoni, Y. 1966. *The foreign investment decision process*. Boston: Division of Research, Harvard University.
- Alcacer, J. & P. Ingram. 2013. Spanning the institutional abyss: The intergovernmental network and the governance of foreign direct investment. *American Journal of Sociology*, 118(4): 1055-98.
- Almeida, P., A. Phene, & S. Li. 2015. The Influence of Ethnic Community Knowledge on Indian Inventor Innovativeness. *Organization Science*, 26(1): 198-217.
- Almeida, Paul & Bruce Kogut. 1999. Localization of Knowledge and the Mobility of Engineers in Regional Networks: Institute for Operations Research and the Management Sciences.
- Bain, J. S. 1959. *Industrial Organization*. New York: Wiley.
- Barney, Jay. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17(1): 99.
- Bates, T. 1997. Financing small business creation: The case of Chinese and Korean immigrant entrepreneurs. *Journal of Business Venturing*, 12(2): 109-24.
- Beck, Katie. August 2015. Noodle makeover: How one Japanese migrant made it in the US. Honolulu: BBC News.
- Beine, Michel, Frédéric Docquier, & Çağlar Özden. 2011. Diasporas. *Journal of Development Economics*, 95: 30-41.
- Berry, Heather, Mauro F. Guillen, & Nan Zhou. 2010. An institutional approach to cross-national distance. *J Int Bus Stud*, 41(9): 1460-80.

- Beugelsdijk, Sjoerd, Jean-Francois Hennart, Arjen Slangen, & Roger Smeets. 2010. Why and how FDI stocks are a biased measure of MNE affiliate activity. *Journal of International Business Studies*, 41(9): 1444-59.
- Bevan, Alan, Saul Estrin, & Klaus Meyer. 2004. Foreign investment location and institutional development in transition economies. *International Business Review*, 13(1): 43-64.
- Bhattacharya, U. & P. Groznik. 2008. Melting pot or salad bowl: Some evidence from US investments abroad. *Journal of Financial Markets*, 11(3): 228-58.
- Blomstrom, M., Ari Kokko, & S. Globerman. 2001. The determinants of host country spillovers from foreign direct investment: a review and synthesis of the literature. In Pain, N., editor, *Inward Investment, Technological Change and Growth: The Impact of MNCs on the UK Economy*. London and New York: Palgrave Macmillan.
- Blonigen, Bruce A. 2005. A Review of the Empirical Literature on FDI Determinants. *Atlantic Economic Journal*, 33(4): 383-403.
- Bonacich, E. 1973. A theory of middleman minorities. *American Sociological Review*, 38: 583-94.
- Brainard, S. Lael. 1997. An Empirical Assessment of the Proximity-Concentration Trade-off Between Multinational Sales and Trade. *The American Economic Review*, 87(4): 520-44.
- Brewer, Thomas L. 1993. Government Policies, Market Imperfections, and Foreign Direct Investment. *Journal of International Business Studies*, 24(1): 101-20.
- Buch, Claudia M., Jörn Kleinert, & Farid Toubal. 2006. Where enterprises lead, people follow? Links between migration and FDI in Germany. *European Economic Review*, 50(8): 2017-36.
- Buckley, P.J. & M.C. Casson. 1976. *The Future of the Multinational Enterprise*. London: Macmillan.
- Burt, R. S. 2000. The network structure of social capital. *Research in Organizational Behavior*, 22: 345-423.
- Burt, R. S. 1992. *Structural Holes: The Social Structure of Competition*. Boston: Harvard University Press.
- Cameron, C. & P.K. Trivedi. 2010. *Microeconometrics Using Stata*. College Station, Texas: Stata Press.

Cantwell, J. 1991. The Methodological Problems Raised by the Collection of Foreign Direct Investment Data. *Scandinavian International Business Review*, 1(1): 86-102.

Cantwell, J. & Rajneesh Narula. 2003. Revisiting the eclectic paradigm: new developments and current issues. In Cantwell, J. & Rajneesh Narula, editors, *International Business and the Eclectic Paradigm: Developing the OLI Framework*. New York: Routledge.

Cantwell, J., A. Piepenbrink, & P. Shukla. 2014. Assessing the impact of JIBS as an interdisciplinary journal: A network approach. *Journal of International Business Studies*, 45(7): 787-99.

Cantwell, John & Grazia D. Santangelo. 2002. The new geography of corporate research in Information and Communications Technology (ICT). *Journal of Evolutionary Economics*, 12(1/2): 163.

Caves, Richard E. 1971. International Corporations: The Industrial Economics of Foreign Investment. *Economica*, 38(149): 1-27.

Caves, Richard E. 1996. *Multinational Enterprise and Economic Analysis*. Cambridge: Cambridge University Press.

Chaganti, R. S., A. D. Watts, R. Chaganti, & M. Zimmerman-Treichel. 2008. Ethnic-immigrants in founding teams: Effects on prospector strategy and performance in new Internet ventures. *Journal of Business Venturing*, 23(1): 113-39.

Chin, Ku-Sup, In-Jin Yoon, & David Smith. 1996. Immigrant Small Business and International Economic Linkage: A Case of the Korean Wig Business in Los Angeles, 1968-1977. *International Migration Review*, 30(2): 485-510.

Choudhury, Prithwiraj. 2015. Return Migration and Geography of Innovation in MNEs: A Natural Experiment of On-the-job Learning of Knowledge Production by Local Workers Reporting to Return Migrants. *Journal of Economic Geography*.

Chung, H. F. L., J. Naruemitmongkonsuk, & P. Enderwick. 2010. Immigrant employee effects in international strategy: An exploratory study of international service firms. *International Marketing Review*, 27(6): 652-75.

Chung, Henry F. L. & Rosalie L. Tung. 2013. Immigrant social networks and foreign entry: Australia and New Zealand firms in the European Union and Greater China. *International Business Review*, 22(1): 18-31.

Clemens, Michael A. & Jeffrey G. Williamson. 2000. Where did British Foreign Capital Go? Fundamentals, Failures and Lucas Paradox: 1870-1913, *NBER Working Paper No. 8028*.

Coase, R. H. 1937. The Nature of the Firm. *Economica*, 4(16): 386-405.

Coughlin, Cletus C., Joseph V. Terza, & Vachira Arromdee. 1991. State Characteristics and the Location of Foreign Direct Investment within the United States. *Review of Economics & Statistics*, 73(4): 675.

Cyert, Richard M. & James G. March. 1963. *A Behavioral Theory of the Firm*. Englewood Cliffs, NJ: Prentice-Hall.

Dierickx, Ingemar & Karel Cool. 1989. Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12): 1504-11.

Docquier, Frédéric & Hillel Rapoport. 2012. Globalization, Brain Drain, and Development: American Economic Association.

Dunning, John H. 1958. *American Investment in British Manufacturing Industry*. London: Allen & Unwin.

Dunning, John H. 1988. Changes in the level and structure of international production: the last 100 years, *Explaining International Production*. Winchester: Unwin Hyman.

Dunning, John H. 1973. The Determinants of International Production. *Oxford Economic Papers*, 25(3): 289-336.

Dunning, John H. 1988. The Eclectic Paradigm of International Production: A Restatement and Some Possible Extensions. *Journal of International Business Studies*, 19(1): 1-31.

Dunning, John H. 1993. The emergence and maturing of international production: an historical excursion, *Multinational Enterprises and the Global Economy*. Reading, Mass.: Addison-Wesley.

Dunning, John H. 2005. Institutional reform, foreign direct investment and European transition economies. In Grosse, Robert, editor, *International Business and Government Relations in the 21st Century*: Cambridge University Press.

Dunning, John H. 1995. Reappraising the eclectic paradigm in an age of alliance capitalism. *Journal of International Business Studies*, 26: 461-91.

Dunning, John H. 1980. Toward an Eclectic Theory of International Production: Some Empirical Tests. *Journal of International Business Studies*, 11(1): 9-31.

Dunning, John H. 1977. Trade, location of economic activity and the MNE: a search for an eclectic approach. In Ohlin, B., P. Hesselborn, & P.M. Wijkman, editors, *The international allocation of economic activity*. London: The Macmillan Press Ltd.

- Dunning, John H. & Sarianna M. Lundan. 2008. *Multinational Enterprises and the Global Economy*. Northampton: Edward Elgar.
- Ellis, P. 2000. Social ties and foreign market entry. *Journal of International Business Studies*, 31(3): 443-69.
- Ellis, P. D. 2011. Social ties and international entrepreneurship: Opportunities and constraints affecting firm internationalization. *Journal of International Business Studies*, 42(1): 99-127.
- Faeth, Isabel. 2009. Determinants of Foreign Direct Investment - A Tale of Nine Theoretical Models. *Journal of Economic Surveys*, 23(1): 165-96.
- Fang, Di. 1996. Japan's Growing Economic Activities and the Attainment Patterns of Foreign- Born Japanese Workers in the United States, 1979 to 1989. *International Migration Review*, 30(2): 511-34.
- Filatotchev, I., R. Strange, J. Piesse, & Y. C. Lien. 2007. FDI by firms from newly industrialised economies in emerging markets: corporate governance, entry mode and location. *Journal of International Business Studies*, 38(4): 556-72.
- Foad, H. 2012. FDI and immigration: a regional analysis. *Annals of Regional Science*, 49(1): 237-59.
- Foad, H. 2011. Immigration and equity home bias. *Journal of International Money and Finance*, 30(6): 982-98.
- Foley, C. Fritz & William R. Kerr. 2012. Ethnic Innovation and U.S. Multinational Firm Activity. NBER Working Paper No. 17336, *NBER Working Paper Series*. Boston MA: National Bureau of Economic Research.
- Freeman, C & F Louca. 2001. The emergence of a new techno-economic paradigm: the age of information and communication technology, *As Time Goes By - From the Industrial Revolutions to the Information Revolution*. New York: Oxford University Press.
- Freeman, Richard B. 2006. People Flows in Globalization. *Journal of Economic Perspectives*, 20(2): 145-70.
- Gao, Ting. 2003. Ethnic Chinese networks and international investment: evidence from inward FDI in China. *Journal of Asian Economics*, 14(4): 611-29.
- Ghemawat, Pankaj. 2001. Distance Still Matters. The Hard Reality of Global Expansion. *Harvard Business Review*, 79(8): 137-47.

- Gillespie, K., L. Riddle, E. Sayre, & D. Sturges. 1999. Diaspora interest in homeland investment. *Journal of International Business Studies*, 30(3): 623-34.
- Girma, S. & Z. H. Yu. 2002. The link between immigration and trade: Evidence from the United Kingdom. *Review of World Economics*, 138: 115-30.
- Glennie, A. & L. Chappell. 2010. Show Me the Money (and Opportunity): Why Skilled People Leave Home — and Why They Sometimes Return, *Electronic Article: Migration Policy Institute*.
- Globerman, Steven & Daniel Shapiro. 2003. Governance Infrastructure and US Foreign Direct Investment. *Journal of International Business Studies*, 34(1): 19-39.
- Gould, David M. 1994. Immigrant Links to the Home Country: Empirical Implications for U.S. Bilateral Trade Flows. *Review of Economics & Statistics*, 76(2): 302.
- Granovetter, Mark. 1985. Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, 91(3): 481-510.
- Granovetter, Mark S. 1973. The Strength of Weak Ties. *American Journal of Sociology*, 78(6): 1360-80.
- Grieco, Elizabeth M., Yesenia D. Acosta, G. Patricia de la Cruz, Christine Gambino, Thomas Gryn, Luke J Larsen, Edward N. Trevelyan, & Nathan P. Walters. 2012. The Foreign-Born Population in the United States: 2010 *American Community Survey Reports*. Washington, DC: U.S. Census Bureau.
- Grosse, Robert & Len J. Trevino. 1996. Foreign direct investment in the United States: an analysis by country of origin. *Journal of International Business Studies*, 27(1): 139-55.
- Groznik, P. 2003. Immigration and international financial flows, Available at SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=384143.
- Henisz, Witold J. 2000. The Institutional Environment for Multinational Investment. *Journal of Law, Economics, & Organization*, 16(2): 334-64.
- Hernandez, Exequiel. 2014. Finding a Home away from Home: Effects of Immigrants on Firms' Foreign Location Choice and Performance. *Administrative Science Quarterly*, 59(1): 73-108.
- Hines, James R. 2010. Treasure Islands. *Journal of Economic Perspectives*, 24(4): 103-25.
- Hines, James R. & Eric M. Rice. 1994. Fiscal Paradise: Foreign Tax Havens and American Business. *Quarterly Journal of Economics*, 109(1): 149-82.

Hirsch, Barry T., David A. Macpherson, & Wayne G. Vroman. 2001. Estimates of Union Density by State. *Monthly Labor Review*, 124(7): 51-55.

Hirschman, Charles. 2004. The Role of Religion in the Origins and Adaptation of Immigrant Groups in the United States. *International Migration Review*, 38(3): 1206-33.

Hoefer, Michael, Nancy Rytina, & Bryan Baker. 2011. Estimates of the unauthorized immigrant population residing in the United States: January 2010. *DHS Office of Immigration Statistics*(February).

Hofstede, Geert. 1980. Culture and Organizations. *International Studies of Management & Organization*, 10(4): 15-41.

Hornung, E. 2014. Immigration and the Diffusion of Technology: The Huguenot Diaspora in Prussia. *American Economic Review*, 104(1): 84-122.

Hung-Wen, Lee. 2007. Factors that Influence Expatriate Failure: An Interview Study. *International Journal of Management*, 24(3): 403-13.

Hymer, S.H. 1960. *The International Operations of National Firms: A Study of Direct Foreign Investment*. Cambridge, MA: MIT Press.

Ietto-Gillies, G. 2012: 53. *Transnational Corporations and International Production: Concepts, Theories and Effects*. Second ed. Northampton: Edward Elgar.

Jaffe, Adam B., Manuel Trajtenberg, & R. Henderson. 1993. Geographic localization of knowledge spillovers as evidenced by patent citations. *Quarterly Journal of Economics*, 108(3): 577.

Javorcik, Beata S., Çağlar Özden, Mariana Spatareanu, & Cristina Neagu. 2011. Migrant networks and foreign direct investment. *Journal of Development Economics*, 94(2): 231-41.

Johanson, J. & J. E. Vahlne. 2009. The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, 40(9): 1411-31.

Johanson, Jan & Jan-Erik Vahlne. 1977. The Internationalization process of the firm: A model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8(1): 25-34.

Kaufmann, D., Aart Kraay, & Massimo Mastruzzi. 2013. The Worldwide Governance Indicators. www.govindicators.org.

Kerr, W. R. 2008. Ethnic scientific communities and international technology diffusion. *Review of Economics and Statistics*, 90(3): 518-37.

- Kerr, William R. & Martin Mandorff. 2015. Social Networks, Ethnicity, and Entrepreneurship. *National Bureau of Economic Research Working Paper Series*, 21597.
- Kindleberger, C.P. 1969. American Business Abroad. *The International Executive*, 11: 11-12.
- Kogut, Bruce & Harbir Singh. 1988. The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, 19: 411-32.
- Kogut, Bruce & Udo Zander. 1993. Knowledge of the firm and the evolutionary theory of the multinational corporation. *Journal of International Business Studies*, 24: 625-45.
- Kostova, Tatiana, Kendall Roth, & M. Tina Dacin. 2008. Institutional theory in the study of multinational corporations: A critique and new directions. *Academy of Management Review*, 33(4): 994-1006.
- Kostova, Tatiana & Srilata Zaheer. 1999. Organizational legitimacy under conditions of complexity: The case of the multinational enterprise. *Academy of Management Review*, 24(1): 64-81.
- Kuemmerle, W. 1999. The drivers of foreign direct investment into research and development: An empirical investigation. *Journal of International Business Studies*, 30(1): 1-24.
- Kuemmerle, Walter. 1997. Building Effective R&D Capabilities Abroad. *Harvard Business Review*, 75(2): 61-70.
- Kugler, M & H Rapoport. 2005. Skilled emigration, business networks, and foreign direct investment, *CESifo Working Paper No. 1455*.
- Landolt, P., L. Autler, & S. Baires. 1999. From hermano lejano to hermano mayor: The dialectics of Salvadoran transnationalism. *Ethnic and Racial Studies*, 22: 290-315.
- Levin, D. Z. & H. Barnard. 2013. Connections to distant knowledge: Interpersonal ties between more- and less-developed countries. *Journal of International Business Studies*, 44(7): 676-98.
- Levin, D. Z. & R. Cross. 2004. The strength of weak ties you can trust: The mediating role of trust in effective knowledge transfer. *Management Science*, 50(11): 1477-90.
- List, John A. 2001. US county-level determinants of inbound FDI: evidence from a two-step modified count data model. *International Journal of Industrial Organization*, 19(6): 953-73.

Liu, X. H., L. Gao, J. Y. Lu, & Y. Q. Wei. 2015. The role of highly skilled migrants in the process of inter-firm knowledge transfer across borders. *Journal of World Business*, 50(1): 56-68.

Loree, David W. & Stephen E. Guisinger. 1995. Policy and Non-Policy Determinants of U.S. Equity Foreign Direct Investment. *Journal of International Business Studies*, 26(2): 281-99.

Lorenzen, Mark & Ram Mudambi. 2013. Clusters, Connectivity and Catch-up: Bollywood and Bangalore in the Global Economy. *Journal of Economic Geography*, 13(3): 501-34.

Madhavan, Ravi & Akie Iriyama. 2009. Understanding global flows of venture capital: Human networks as the “carrier wave” of globalization. *Journal of International Business Studies*, 40: 1241-59.

Martinez, C., M. E. Cummings, & P. M. Vaaler. 2015. Economic informality and the venture funding impact of migrant remittances to developing countries. *Journal of Business Venturing*, 30(4): 526-45.

Massey, Douglas S., Joaquin Arango, Graeme Hugo, Ali Kouaouci, Adela Pellegrino, & J. Edward Taylor. 1993. Theories of International Migration: A Review and Appraisal. *Population and Development Review*, 19(3): 431-66.

Massey, Douglas S. & Garcia Espana. 1987. The social process of international migration. *Science*, 237: 733-38.

Mataloni, Raymond J. 1995. A Guide to BEA Statistics on US Multinational Companies. *Survey of Current Business*(March): 38-55.

McPherson, Miller, Lynn Smith-Lovin, & James M. Cook. 2001. Birds of a Feather: Homophily in Social Networks: Annual Reviews Inc.

Meyer, Klaus E., Saul Estrin, Bhaumik Sumon Kumar, & Mike W. Peng. 2009. Institutions, Resources, and Entry Strategies in Emerging Economies. *Strategic Management Journal*, 30(1): 61-80.

Meyer, Klaus E. & Hung Vo Nguyen. 2005. Foreign Investment Strategies and Sub-national Institutions in Emerging Markets: Evidence from Vietnam*. *Journal of Management Studies*, 42(1): 63-93.

Miller, R. Stewart, E. Douglas Thomas, Lorraine Eden, & Michael Hitt. 2009. Knee Deep in the Big Muddy: The Survival of Emerging Market Firms in Developed Markets. *Management International Review*, 48(6): 645-66.

- Mudambi, Ram & Pietro Navarra. 2002. Institutions and international business: a theoretical overview. *International Business Review*, 11(6): 635-46.
- Nahapiet, Janine & Sumantra Ghoshal. 1998. Social Capital, Intellectual Capital, and the Organizational Advantage. *Academy of Management Review*, 23(2): 242-66.
- Ndofor, H. A. & R. L. Priem. 2011. Immigrant Entrepreneurs, the Ethnic Enclave Strategy, and Venture Performance. *Journal of Management*, 37(3): 790-818.
- Neville, F., B. Orser, A. Riding, & O. Jung. 2014. Do young firms owned by recent immigrants outperform other young firms? *Journal of Business Venturing*, 29(1): 55-71.
- Nonaka, Ikujiro. 1994. A Dynamic Theory of Organizational Knowledge Creation. *Organization Science*, 5(1): 14-37.
- North, Douglass C. 1994. Economic performance through time. *The American Economic Review*, 84(3): 359.
- North, Douglass C. 1991. Institutions. *The Journal of Economic Perspectives*, 5(1): 97-112.
- North, Douglass C. 1990. *Institutions, institutional change and economic performance*. New York: Cambridge University Press.
- OECD. 2016. "Immigrant and foreign population", OECD Factbook 2015-2016. In Economic, Environmental and Social Statistics, editor. Paris: OECD Publishing.
- Oettl, A. & A. Agrawal. 2008. International labor mobility and knowledge flow externalities. *Journal of International Business Studies*, 39(8): 1242-60.
- Özden, Çağlar, Christopher R. Parsons, Maurice Schiff, & Terrie L. Walmsley. 2011. Where on Earth is Everybody? The Evolution of Global Bilateral Migration 1960–2000. *The World Bank Economic Review*, 25(1): 12-56.
- Pandey, Abhishek, Alok Aggarwal, Richard Devane, & Yevgeny Kuznetsov. 2006. The Indian diaspora: A unique case? In Kuznetsov, Yevgeny, editor, *Diaspora networks and the international migration of skills*. Washington, DC: The World Bank Development Studies.
- Peng, M. W., S. L. Sun, B. Pinkham, & H. Chen. 2009. The Institution-Based View as a Third Leg for a Strategy Tripod. *Academy of Management Perspectives*, 23(3): 63-81.
- Penrose, E.T. 1959. *The Theory of the Growth of the Firm*. Oxford: Blackwell.
- Polanyi, M. 1961. *The tacit dimension*: University of Chicago Press.

Portes, Alejandro. 1995. Economic sociology and the sociology of immigration: a conceptual overview. In Portes, Alejandro, editor, *The economic sociology of immigration*. New York: Russell Sage Foundation.

Portes, Alejandro. 1997. Immigration Theory for a New Century: Some Problems and Opportunities. *International Migration Review*, 31(4): 799-825.

Portes, Alejandro & Julia Sensenbrenner. 1993. Embeddedness and Immigration: Notes on the Social Determinants of Economic Action: University of Chicago Press.

Quijano, Alicia. 1990. A Guide to BEA Statistics on Foreign Direct Investment in the United States. *Survey of Current Business*(February).

Ramamurti, R. 2004. Developing countries and MNEs: extending and enriching the research agenda. *Journal of International Business Studies*, 35(4): 277-83.

Rangan, S. & M. Sengul. 2009. The Influence of Macro Structure on the Foreign Market Performance of Transnational Firms: The Value of IGO Connections, Export Dependence, and Immigration Links. *Administrative Science Quarterly*, 54(2): 229-67.

Rangan, Subramanian & Metin Sengul. 2009. The Influence of Macro Structure on the Foreign Market Performance of Transnational Firms: The Value of IGO Connections, Export Dependence, and Immigration Links: Johnson Graduate School of Management at Cornell University.

Rauch, James E. 2001. Business and Social Networks in International Trade. *Journal of Economic Literature*, 39(4): 1177.

Rauch, James E. & Vitor Trindade. 2002. Ethnic Chinese Networks in International Trade. *Review of Economics & Statistics*, 84(1): 116.

Riddle, Liesl & Jennifer Brinkerhoff. 2011. Diaspora entrepreneurs as institutional change agents: The case of Thamel.com. *International Business Review*, 20(6): 670-80.

Ruggles, Steven , Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, & Matthew Sobek. 2010. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.

Saxenian, AnnaLee. 2002. Brain Circulation: How High-Skill Immigration Makes Everyone Better Off: The Brookings Institution Press.

Saxenian, AnnaLee. 2005. From brain drain to brain circulation: Transnational communities and regional upgrading in India and China. *Studies in Comparative International Development*, 40(2): 35-61.

Saxenian, AnnaLee. 2006. *The New Argonauts*. Cambridge, Massachusetts: Harvard University Press.

Saxenian, AnnaLee. 1999. *Silicon Valley's New Immigrant Entrepreneurs*. San Francisco: Public Policy Institute of California.

Saxenian, AnnaLee. 2002. Transnational communities and the evolution of global production networks: The cases of Taiwan, China and India. *Industry and Innovation*, 9(3): 183-202.

Saxenian, Annalee & Jinn-Yuh Hsu. 2001. The Silicon Valley–Hsinchu Connection: Technical Communities and Industrial Upgrading. *Industrial and Corporate Change*, 10(4): 893-920.

Saxenian, AnnaLee & Charles Sabel. 2008. Roepke Lecture in Economic Geography—Venture Capital in the 'Periphery': The New Argonauts, Global Search, and Local Institution Building: Clark University.

Schotter, Andreas & Dina Abdelzaher. 2013. The Boundary Spanning Effects of the Muslim Diaspora on the Internationalization Processes of Firms from Organization of Islamic Conference Countries. *Journal of International Management*, 19(1): 82-98.

Sequeira, J. M., J. C. Carr, & A. A. Rasheed. 2009. Transnational entrepreneurship: Determinants of firm type and owner attributions of success. *Entrepreneurship: Theory and Practice*, 33(5): 1023-44.

Sheng, S. B., K. Z. Zhou, & J. J. Li. 2011. The Effects of Business and Political Ties on Firm Performance: Evidence from China. *Journal of Marketing*, 75(1): 1-15.
Shrestha, Laura & Elayne Heisler. 2011. The changing demographic profile of the United States: Congressional Research Service.

Smeets, R. 2008. Collecting the pieces of the FDI knowledge spillovers puzzle. *World Bank Research Observer*, 23(2): 107-38.

Sonderegger, Petra & Florian Taeube. 2010. Cluster life cycle and diaspora effects: Evidence from the Indian IT cluster in Bangalore. *Journal of International Management*, 16(4): 383-97.

Stark, Oded. 1984. Migration decision making: De Jong, Gordon F. and Robert W. Gardner, eds., (Pergamon, New York, 1981). *Journal of Development Economics*, 14(1): 251-59.

Teece, David J., Gary Pisano, & Amy Shuen. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7): 509-33.

- Tilly, Charles. 1990. Transplanted Networks. In Yans-McLaughlin, Virginia, editor, *Immigration Reconsidered: History, Sociology, and Politics*. Oxford, UK: Oxford University Press.
- Tong, Sarah Y. 2005. Ethnic Networks in FDI and the Impact of Institutional Development. *Review of Development Economics*, 9(4): 563-80.
- Tsang, Eric W. K. & Paul S. L. Yip. 2007. Economic distance and the survival of foreign direct investments. *Academy of Management Journal*, 50(5): 1156-68.
- Tung, Rosalie L. 1982. Selection and Training Procedures of U.S., European, and Japanese Multinationals. *California Management Review*, 25(1): 57-71.
- U.S Bureau of Economic Analysis and U.S. Bureau of the Census. 2007. Foreign Direct Investment in the United States: Establishment Data for 2002. Washington DC: U.S. Government Printing Office.
- United Nations. 2016. International Migration Report 2015: Highlights. In, Department of Economic and Social Affairs, editor. New York: United Nations.
- Uzzi, B. 1997. Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42(1): 35-67.
- Vaaler, Paul M. 2011. Immigrant remittances and the venture investment environment of developing countries. *J Int Bus Stud*, 42(9): 1121-49.
- White, Roger & Bedassa Tadesse. 2011. *International Migration and Economic Integration: Understanding the Immigrant-Trade Link*. Northampton, MA: Edward Elgar Publishing, Inc.
- Williamson, Oliver E. 1981. The Economics of Organization: The Transaction Cost Approach. *American Journal of Sociology*, 87(3): 548-77.
- Wong, P. L. K. & P. Ellis. 2002. Social ties and partner identification in Sino-Hong Kong international joint ventures. *Journal of International Business Studies*, 33(2): 267-89.
- Wooldridge, Jeffrey M. 2002. *Econometric Analysis of Cross Section and Panel Data*. Cambridge, Massachusetts: The MIT Press.
- Xu, Dean & Oded Shenkar. 2002. Institutional distance and the multinational enterprise. *Academy of Management Review*, 27(4): 608-18.
- Yamin, M. 2000. A critical re-evaluation of Hymer's contribution to the theory of the transnational corporation. In Pitelis, C.N. & R. Sugden, editors, *The Nature of the Transnational Firm*. New York: Routledge.

Zaheer, S., A. Lamin, & M. Subramani. 2009. Cluster capabilities or ethnic ties? Location choice by foreign and domestic entrants in the services offshoring industry in India. *Journal of International Business Studies*, 40(6): 944-68.

Zaheer, Srilata. 1995. Overcoming the liability of foreignness. *Academy of Management Journal*, 38: 341-63.

8.2 Appendix

8.2.1 Systematic review of the business and management literature

To identify the scholarly articles that have examined the effect of migration on international economic activity, I used Thomson Reuters' Web of Science (WoS) database. I searched for all articles published since 1980 to 2015 whose, either the abstract, or the keywords, or the title contained any of the following keywords – diaspora, immigrant, immigration, migrant, migration, ethnic ties, ethnic group, social ties, ethnic enclave, ethnic community, brain gain, brain drain and brain circulation; this search resulted in 76,372 records. I then refined my results by web of science categories. While business and management are my key disciplines of interest, I included economics, finance and sociology disciplines as well, as these are the core disciplines that the fields of business and management draw upon (Cantwell, Piepenbrink, & Shukla, 2014); in addition they are also relevant for the nature of my analysis. Refining my results to include these five subject categories resulted in 16,778 records. I further refined the results by document types. As I am primarily interested in scholarly articles, I excluded all documents types, except articles and reviews. Also, since keywords like 'migration' and 'ethnic ties' are quite generic and applicable to a variety of research areas, I further restricted my sample to include articles that fall in the domain of international for-profit firms, with the following keywords – foreign direct investment, FDI, multinational firm, MNC, MNE, TNC, globalization, internationalization, transaction, firm, investment, or knowledge transfer; this resulted in 1,688 records. Finally, I refined my sample to include only those articles that were published in the top fifteen journals (as determined by their

two-year impact factor ranking in 2014) in each of the five WOS categories; this step resulted in 182 records. The list of top fifteen journals ranked by their two-year impact factor was obtained from Thomson Reuters Journal Citation Reports (JCR), which publishes journal rankings each year; I used the 2014 listing, which was the latest listing available at the time of this analysis. This list consisted of sixty-seven journals (and not seventy-five as some journals were covered in more than one WoS category). The final sample of 182 articles belonged to forty-five of these sixty-seven journals (Table 8-1 shows the list of the forty-five journals). A closer look at the sample shows a dearth of studies examining the migration-FDI link in the mainstream literature and that corroborates the claim made by earlier studies (Javorcik, Özden, Spatareanu, & Neagu, 2011) in this stream of literature, and supports the call by Ramamurti (2004) to scholars, to pay more attention to the role of diaspora in FDI activities.

Table 8-1: Journal list

Academy of Management Journal	Journal of Finance
Academy of Management Perspectives	Journal of Financial Economics
Accounting Organizations and Society	Journal of Financial Markets
Accounting Review	Journal of Information Technology
Administrative Science Quarterly	Journal of International Business Studies
American Economic Review	Journal of International Money and Finance
American Journal of Sociology	Journal of Management
American Sociological Review	Journal of Management Studies
Annals of Tourism Research	Journal of Marketing
Annual Review of Sociology	Journal of Marriage and Family
Cornell Hospitality Quarterly	Journal of Political Economy
Corporate Governance-an International Review	Journal of the Academy of Marketing Science
Economic Systems Research	Journal of the European Economic Association
Entrepreneurship Theory and Practice	MIS Quarterly
European Sociological Review	Organization Science
Gender & Society	Quarterly Journal of Economics
Human Ecology	Review of Economic Studies
International Review of Economics & Finance	Social Networks

Journal of Accounting & Economics	Social Problems
Journal of Applied Psychology	Sociological Theory
Journal of Business Venturing	Strategic Management Journal
Journal of Economic Literature	Supply Chain Management-an International Journal
Journal of Economic Perspectives	

Since I used a broad range of keywords in the search criteria, I ended up with a rather large sample of journal articles, many of which were not related to my area of research interest. For example, some papers in my sample dealt with executive migration between firms, while others examined the effects of migrants on labor markets, and still others were focused on wage inequality arising from migration. Therefore, I read the abstracts of all 182 the articles in my sample and eliminated papers that were not relevant to the research areas of global business and strategic management. For this purpose, I specifically looked for articles that focused on the contributions of migrants, ethnic or social ties, or effects of migrant characteristics on international economic activities, irrespective of the levels of analyses (i.e. country-level or firm-level or individual-level). This step resulted in further narrowing down the sample to thirty-two articles. A list of these articles is provided in Table 8-2.

Table 8-2 Literature review snapshot – Migration and international economic activities

	Year	Authors	Title of the Article	Theoretical underpinnings	Key related findings	Journal Title
	1. Market Entry and Performance					
1	2000	Ellis, P	Social ties and foreign market entry	Granovetter(1973); Burt(1992)	Information about foreign market entry opportunities is commonly acquired via existing social ties	Journal of International Business Studies
2	2002	Wong, PLK; Ellis, P	Social ties and partner identification in Sino-Hong Kong international joint ventures	Granovetter(1973); Burt(1992)	Weak ties (measured as business ties between suppliers, customers employees etc.) are valuable in identifying international joint venture partners; stronger ties (family ties and friendship ties) lead to stronger inter-partner cooperation.	Journal of International Business Studies
3	2008	Chaganti, RS; Watts, AD; Chaganti, R; Zimmerman-Treichel, M	Ethnic-immigrants in founding teams: Effects on prospector strategy and performance in new Internet ventures	Hambrick & Mason (1984)	Migrant presence in the founding team was associated with more aggressive strategy of seeking new market and product opportunities and frequent experimentation	Journal of Business Venturing
4	2009	Rangan, S; Sengul, M	The Influence of Macro Structure on the Foreign Market Performance of Transnational Firms: The Value of IGO Connections, Export Dependence, and Immigration Links	Granovetter (1985); Ingram, Robinson & Busch (2005)	Immigration links between home and host countries of MNCs leads to better foreign market performance of MNCs.	Administrative Science Quarterly
5	2011	Sheng, SB; Zhou, KZ; Li, JJ	The Effects of Business and Political Ties on Firm Performance: Evidence from China	Granovetter(1973); Uzzi(1997)	Business ties have a stronger positive effect on firm performance as opposed to political ties.	Journal of Marketing

2. Entrepreneurship						
6	1997	Bates, T	Financing small business creation: The case of Chinese and Korean immigrant entrepreneurs	NA	Chinese and Korean immigrant entrepreneurs finance their startup using family wealth and not using social resources such as the rotating credit associations. Following family wealth, the secondary source of finance for Asian migrant businesses is debt.	Journal of Business Venturing
7	2009	Sequeira, JM; Carr, JC; Rasheed, AA	Transnational Entrepreneurship: Determinants of Firm Type and Owner Attributions of Success	Landolt, Autler & Baires (1999); Portes, Haller & Guarnizo (2002); Shane(2003)	Entrepreneurs' positive perceptions of opportunities in their COR and greater embeddedness in their COO activities helps in predicting the type of ventures (circuit, or cultural or ethnic enterprises) that they would start Migrants' embeddedness in their COO influences the determinants of success for these firms.	Entrepreneurship Theory and Practice
8	2010	Prashantham, S; Dhanaraj, C	The Dynamic Influence of Social Capital on the International Growth of New Ventures	Burt (2000)	Entrepreneurs dynamically create and appropriate social capital over time by extending their networks in existing markets, through proactively searching new international markets (use of co-ethnic ties) and through relying on resources in their local network to access new overseas ties.	Journal of Management Studies
9	2011	Ellis, PD	Social ties and international entrepreneurship: Opportunities and constraints affecting firm internationalization	Social network theory	International venture opportunities sought through social ties tend be of higher quality, but social ties also constrain the entrepreneur, who only considers limited opporunities due to geographic, pyschic and linguistic differences.	Journal of International Business Studies
10	2011	Ndofor, HA; Priem, RL	Immigrant Entrepreneurs, the Ethnic Enclave Strategy, and Venture Performance	Granovetter (1973); Uzzi (1997)	Migrants with greater social capital in their ethnic communities pursue enclave strategies. Migrants with prior entrepreneurial experience tend to pursue enclave strategies, while those with managerial experience tend to follow dominant market strategies.	Journal of Management
11	2014	Neville, F; Orser, B; Riding, A; Jung, O	Do young firms owned by recent immigrants outperform other young firms?	Grant (1996); Kogut & Zander (1992)	Migrant-owned young exporter firms outperform young domestically-owned firms. Access to international networks of migrants is further supported by the finding that new export firms founded by recent migrants outperformed other comparable firms. On the contrary, new domestic firms (or non-exporting firms) founded by recent migrants underperformed on average, suggesting lack of embeddedness in COR.	Journal of Business Venturing

3. Foreign investment and trade						
12	1999	Gillespie, K; Riddle, L; Sayre, E; Sturges, D	Diaspora interest in homeland investment	Bonacich & Modell (1980); Portes & Bach (1985); Shane (1996)	Survey responses from diaspora communities of Armenia, Cuba, Iran and Palestine in the U.S. provide consistent support to altruistic behavior and perceptions of ethnic advantage with regard to interest in investment in their respective COO.	Journal of International Business Studies
13	2008	Bhattacharya, U; Groznik, P	Melting pot or salad bowl: Some evidence from US investments abroad	NA	U.S. investments, both direct and portfolio are positively affected by the size of migrant population in the U.S.	Journal of Financial Markets
14	2009	Zaheer, S; Lamin, A; Subramani, M	Cluster capabilities or ethnic ties? Location choice by foreign and domestic entrants in the services offshoring industry in India	Granovetter (1985); Marshall (1920); Porter (1990)	Ethnic networks exert greater influence on location decisions as opposed to cluster capabilities.	Journal of International Business Studies
15	2009	Madhavan, R; Iriyama, A	Understanding global flows of venture capital: Human networks as the "carrier wave" of globalization	Granovetter (1985)	Networks of highly educated migrants provides a mechanism for industry globalization.	Journal of International Business Studies
16	2011	Yang, D	Migrant Remittances	NA	Provides a review of the literature on remittances. Altruism, exchange for services bought, insurance against economic shocks, loan repayment and investment are noted as key motives for migrant's remittances.	Journal of Economic Perspectives
17	2011	Vaaler, PM	Immigrant remittances and the venture investment environment of developing countries	Coase (1937); Henisz (2000); Williamson(1985); Kogut & Zander (1993); Ouchi (1980)	Remittances help increase venture capital availability. New business start-up rates are positively affected by remittances for developing countries with small public sector.	Journal of International Business Studies
18	2011	Foad, H	Immigration and equity home bias	Portes & Rey (2005); Grauer & Haskansson (1987)	Inward migration is positively correlated with increased foreign equity positions and reduced home bias.	Journal of International Money and Finance
19	2013	Koska, OA; Saygin, PO; Cagatay, S; Artal-Tur, A	International migration, remittances, and the human capital formation of Egyptian children	Stark (1993); Stark (1997)	The probability of enrollment of children in schools and the age at which children enter the labor force rises with the probability of receipt of remittances.	International Review of Economics & Finance
20	2014	Khraiche, M	Trade, capital adjustment and the migration of talent	NA	Higher trade volumes lead to a decrease in the rate of skilled migration when the capital adjustment costs are low. On the other hand, higher trade volumes lead to an increase in the rate of skilled migration at high levels of capital adjustment costs.	International Review of Economics & Finance

21	2014	Hernandez, E	Finding a Home away from Home: Effects of Immigrants on Firms' Foreign Location Choice and Performance	Granovetter (1985); Kogut & Zander (1992)	The concentration of same-nationality immigrants in a state raises the probability of locating operations and surviving in a state. This relationship is strong for firms lacking prior experience in the country. It is also strong for locations in which immigrants can help firms capitalize on industry-specific knowledge spillovers. Lastly it is also strong for firms with knowledge-seeking motives.	Administrative Science Quarterly
22	2015	Giannetti, M; Liao, GM; Yu, XY	The Brain Gain of Corporate Boards: Evidence from China	Fama & Jensen (1983); Adams, Hermalin, Weisbach (2010)	Board directors with foreign experience help raise firm performance by adoption of strong corporate governance practices and through engaging in internationalization.	Journal of Finance
23	2015	Martinez, C; Cummings, ME; Vaaler, PM	Economic informality and the venture funding impact of migrant remittances to developing countries	North (1990); Williamson (1985, 1993);	Migrant remittances make funds available for founding of new business ventures in countries where the informal sector constitutes over 46% of the GDP.	Journal of Business Venturing
4. Innovation and knowledge flows						
24	2008	Oettl, A; Agrawal, A	International labor mobility and knowledge flow externalities	Jaffe et al. (1993); Almeida & Kogut, 1999	Cross-border mobility of inventors benefits both home and host countries. COR of migrant benefits more than the firm that hires the inventor. Migrant's prior firm in her COO benefits from increased knowledge flows from migrant's hiring firms as well as the COR.	Journal of International Business Studies
25	2013	Levin, DZ; Barnard, H	Connections to distant knowledge: Interpersonal ties between more- and less-developed countries	Granovetter (1985); Levin & Cross (2004)	Knowledge from developed countries is useful when there is a strong personal tie, when there is a need for new-to-industry knowledge and when the transfer of knowledge does not require a lengthy conversation.	Journal of International Business Studies
26	2014	Hornung, E	Immigration and the Diffusion of Technology: The Huguenot Diaspora in Prussia	NA	High-skilled immigration has positive long-term effect on productivity and capital growth.	American Economic Review
27	2015	Wang, D	Activating Cross-border Brokerage: Interorganizational Knowledge Transfer through Skilled Return Migration	Argote & Ingram (2000); Burt (1992); Levin & Cross (2004)	Home and host-country embeddedness facilitates knowledge transfer success. Presence of other returnees reduces the positive effect of COR embeddedness. Similarity of returnees' industry background to COO industry multiplies the positive effect of COR embeddedness.	Administrative Science Quarterly

28	2015	Almeida, P; Phene, A; Li, S	The Influence of Ethnic Community Knowledge on Indian Inventor Innovativeness	Granovetter (1992); Uzzi (1996); Uzzi(1999); Portes (1998)	Indian inventors embedded in their ethnic community have the benefit of collaborating and sourcing knowledge from others in the same community. Strong reliance on ethnic community lower innovation quality.	Organization Science
5. Macroeconomics						
29	2006	Freeman, RB	People flows in globalization	NA	Reviews reasons for migration, performance of migrants and effect of migration. Migrant flow is generally from low-GDP per capita countries to high-GDP per capita countries. Migrants earn less than native-born overall, but differences decline over time.	Journal of Economic Perspectives
30	2012	Docquier, F; Rapoport, H	Globalization, Brain Drain, and Development	NA	Main channels through which brain drain can positively influence migrants' COO - remittances, temporary and return migration, human capital formation, network/diaspora effects on trade, FDI technology adoption and institutions.	Journal of Economic Literature
31	2013	Burchardi, KB; Hassan, TA	The Economic Impact of Social Ties: Evidence from German Reunification	NA	Individuals with valuable social ties causally effect regional economic growth.	Quarterly Journal of Economics
32	2015	di Giovanni, J; Levchenko, AA; Ortega, F	A Global View of Cross-border Migration	NA	In the long-run, the impact of levels of migration is large and positive both for the natives of the receiving as well as sending countries. Sending countries natives benefit through remittances, while migrant- receiving countries benefit through increased product variety (larger market).	Journal of the European Economic Association

8.2.1 Cleaning (IFDI) investment position data

Many countries in the Bureau of Economic Analysis (BEA) position data were assigned non-numeric values for the benchmark years. I took several steps to prepare these data for analysis. The BEA data included the following non-numeric values- n.s. (meaning not significant), (D) meaning that data has been suppressed to avoid disclosure of individual companies, and (*) meaning that the value is between -\$500,000 to +\$500,000. 41 countries had a combination of these non-numeric values for the benchmark years being examined in this study; I assigned 0 values to all these countries. Next, all data points with a (*) value were replaced with 0.5 to capture the fact that some FDI (non-zero) did take place from these countries. For 2002, for example, Algeria, Bulgaria, Honduras, Iran, Kenya, Lebanon, Paraguay, Tanzania, Tunisia, Ukraine, Zambia were subject to this problem. Next, for those countries, which had a (D) value for one or more years, I replaced it with the mean value, which was calculated using the position for other benchmark years. Though not a perfect measure, it ensures that I don't drop these countries and also don't count these countries as ones with no FDI. Several countries had this problem, for example, for 2002, 28 countries – Afghanistan, Angola, Aruba, Belarus, Brunei, Colombia, Cyprus, Equatorial Guinea, French Islands Caribbean, Gibraltar, Grenada, Guatemala, Guinea, Iceland, Jordan, Kuwait, Malta, Marshall Islands, Mauritius, Oman, Pakistan, Peru, Qatar, Romania, Saudi Arabia, Slovenia, Sri Lanka, Yemen (Sanaa) were subject to this problem. While the BEA captures the position of Taiwan separately from China, the United Nations Global migration database does not have a separate entry for Taiwanese migrants; therefore I add the position for Taiwan to the position for China for respective years, thereby resulting in a dataset of 216 countries.

Similarly, position for Curacao for 2012 was merged with Netherland Antilles as prior to 2011 Netherland Antilles included data for Curacao. Of the 215 countries, 19 countries had missing data for several explanatory and control variables; these countries, which included mainly small island countries such Cook Islands, Faeroe Islands, St. Pierre and Miquelon among others, in addition to other countries such as French Guiana, Western Sahara etc., were dropped from the dataset resulting in a final dataset of 196 countries.

8.2.1 Cleaning (OFDI) investment position data

Of the 196 countries in my dataset, many countries did not have a position as U.S. multinational firms don't invest in all the 196 countries so I assigned 0 to all these countries. For 1980, 47 countries did not appear on the list of countries with investment position; I set the investment position for these countries to 0. For 1990, 49 countries did not appear on the Bureau of Economic Analysis (BEA) list of countries with investment positions; I set the investment position for these 49 countries to 0. These countries include Aruba, Afghanistan, Albania, Andorra, Armenia, Azerbaijan, Burundi, Benin, Bulgaria, Belarus, Bhutan, Central African Republic, Comoros, Cape Verde, Eritrea, Estonia, Georgia, Gambia, Guinea-Bissau, Equatorial Guinea, Iraq, Kazakhstan, Kyrgyzstan, Cambodia, Kiribati, Laos, Lithuania, Latvia, Monaco, Moldova, Mongolia, Mozambique, Namibia, Nepal, Solomon Islands, San Marino, Serbia, Sao Tome and Principe, Seychelles, Tajikistan, Turkmenistan, East Timor, Ukraine, Uzbekistan, Vietnam, Samoa, Zambia, and Zimbabwe. For 2000, the investment position for 18 of the 196 countries was set to 0, as U.S. did not have any investments in these countries. For 2010, only 17 countries of the 196 had zero investment position for the United States. These countries are Andorra, Burkina, Cape Verde, Gambia, Guinea-Bissau, Greenland, Kiribati, Laos, Mauritania, Niger, North Korea, Rwanda, Solomon Islands, San Marino, Togo, Tajikistan, and Tonga.

Similar to the study described in Chapter 4, in this study, I find that many countries in the BEA position data were assigned non-numeric values for years that I am examining – 1980, 1990, 2000 and 2010. These values include n.s. (meaning not significant), (D) meaning that data has been suppressed to avoid disclosure of individual

companies, and (*) meaning that the value is between -\$500,000 to +\$500,000. All data points with a (*) value were replaced with 0.5 to capture the fact that some FDI (non-zero) did take place from these countries. Four countries (Burundi, Macau, North Korea and Swaziland) had (*) for 1980, I assigned a value of 0.5 to these countries. Five countries (Dominica, Iran, Lebanon, Madagascar and North Korea) had (*) values for 1990, I assigned a value of 0.5 to these countries. For 1990, 10 countries had this problem – Andorra, Armenia, Central African Republic, Greenland, Laos, Madagascar, Namibia, Seychelles, Tonga, Samoa. Ten countries had (*) values for 2010, these are Burundi, Bhutan, Central African Republic, Comoros, Cuba, Djibouti, Burma, Sudan, Somalia and Seychelles, I assigned a value of 0.5 to these 10 countries. To address the issue of data points with a value of (D), I took the following steps. First, I looked at the annual estimates data from adjacent years and if a numeric value was found, I replaced the (D) value with this numeric value. For 1980, for example, I found values in adjacent years for only two countries – Togo and Seychelles; for the remaining 17 countries with (D) values, corresponding values from 1990 were assigned as that was the closest value available for these countries. For 1990, I found values for 18 of the 19 countries with (D) values in the adjacent years. For 2000, values for 11 countries were taken from data available in adjacent years. For 2010, values for 22 countries were taken from values in adjacent years for respective countries. While not a perfect measure, this ensures that observations with undisclosed values are not dropped from the estimations.

As in study 4, I have merged data for Taiwan with data on China. Note that Czechoslovakia, which separated into two countries – the Czech Republic (CZE) and

Slovakia (SVK) in 1993¹, did not have any U.S. investments in 1980, but had an investment position between -\$500,000 to +\$500,000 (value of (*)) appears in the BEA data) for 1990 so, consistent with my data coding scheme, I assigned \$250,000 to each of the two countries for 1990. Also note that Yugoslavia split into six independent republic states during 1990-1992 - Socialist Republic of Bosnia and Herzegovina, SR Croatia, SR Macedonia, SR Montenegro, SR Slovenia, and SR Serbia². U.S. did not have any investment position in Yugoslavia in 1980, so I set the values for these six countries to 0 for 1980. In 1990, BEA data shows that there was some investment in Yugoslavia, but the value of (D) does not allow me to split the value into the six constituent countries. Therefore, I average the values for years for which data is available for these countries and assign the average value to each of these countries.

¹ <http://www.britannica.com/place/Czechoslovakia>

² <https://history.state.gov/milestones/1989-1992/breakup-yugoslavia>