



Maryland Population Research Center

WORKING PAPER

Global Migration Flows and Income Differentials

PWP-MPRC-2014-003

February 2014



Authors:

**Roberto Patricio
Korzeniewicz**
University of
Maryland

Scott Albrecht
University of
Maryland



Global Migration Flows and Income Differentials

Roberto Patricio Korzeniewicz, University of Maryland College Park

Scott Albrecht, University of Maryland College Park

Abstract

The global stock of international migrants increased from 92 to 165 million between 1960 and 2000, and would now represent the world's eighth largest country. While individual migrants respond to a countless number of unique incentives, we argue definitively that the single most important factor is the income differential between sending and receiving countries. We support this conclusion with analyses of a database of bilateral migrant stocks between more than 200 economies (Özden et al 2011) and a host of economic, geographic, political, social, and demographic variables. This conclusion runs in the face of what some believe to be a more sociological interpretation of international migration, and has been criticized for reducing a complex social process to economic fundamentals. Instead, we reconceptualize stratification as a global process; economic migrants are not merely rational utility maximizers, but are using migration to challenge the most significant system of stratification in the world today.

Introduction.

International migration provides a unique vantage point from which to better understand the extent of transformation undergone by global inequality over the past fifty years. But for the most part, sociologists have delegated to economists the study of how migration relates to income differentials. Many sociologists argue, for example, that focusing on income differentials as a driving force of migration narrows our analysis to rational decision-making by individuals, when we should concentrate instead on identifying the ways in which migration flows are shaped by social networks and social processes. Such a stance assumes that an empirical issue (the extent to which migration flows respond to wage differentials) inevitably leads us to a given theoretical framework (as provided by neoclassical economics). This is not the case. We argue in this article that wage differentials are of crucial importance in shaping migration, and that sociologists should use this empirical observation as an opportunity to engage more fully in theorizing migration as a strategy of social mobility used by populations that seek to overcome barriers of exclusion.

There are additional, entrenched reasons that further distance sociologists from focusing on the relationship between migration and international income differentials. For the most part, our discipline follows much of the social sciences in assuming that the nation-state constitutes the most important unit of analysis (that is, the unit that contains within itself the relevant processes to understand the phenomena at hand).¹ Among modernization perspectives, such an approach is compounded by the assumption that these nation-states follow similar paths of development—and most influential within this overall view has been the Durkhemian notion that countries move from traditional arrangements (in which ascribed characteristics tend to prevail) to modernity (in which ascription is displaced by achievement as the basis for social stratification). Combined, these two elements mean that social stratification is understood as a process that occurs primarily (if not solely) within nations. Migration across borders is not perceived as a crucial or even predictable dimension of social stratification—as noted by Farley (1999: xi) the postwar growth

of international migration came as a surprise to the social sciences—and has been considered a phenomenon worthy of attention by sociologists primarily due to its implications for social integration in receiving nations.²

Of course, some aspects of such a perspective are challenged by more critical approaches that emphasize instead the manner in which the expansion of markets or capitalism produces simultaneously both a demand for labor (pulling immigrants into receiving countries) and redundancies of workers (pushing migrants from sending countries). But even within such critical perspectives, the emphasis is on the ways in which migration is functional to, and part and parcel of, the exploitative relations inherent in the expansion of markets (e.g., the commodification of labor and nature) and/or capitalism (e.g., the exploitation of migrant workers, hired at lower than prevailing wages in receiving countries). Moreover, these critical approaches tend to share with modernization perspectives the assumption that the borders of nation-states are the boundaries that contain within them most of the forces (i.e., exploiting and exploited classes) shaping social stratification.

This article explores instead the ways in which between-country migration helps us reconceptualize stratification as a global social process. Moving in this direction requires that we rethink key aspects of these phenomena. For methodological purposes we should focus on global flows rather than on a single or limited number of national flows (e.g., migration to the United States, or to individual European countries). Moreover, rather than as naturally bounded by national borders, we should think of social hierarchies, stratification and mobility as significantly shaped by the creation of national boundaries and national citizenships.³ In this regard, nationality joins other relevant ascriptive criteria (e.g., gender, race, age, ethnicity) in shaping hierarchies and inequalities, inclusion and exclusion, on a global scale. From such a perspective, ascription has persisted on a global scale as a central criterion of social stratification, and migration represents one strategy used by populations that seek to overcome these barriers of exclusion. If so, we should avoid the assumption that migration flows are designed only or

primarily to meet the needs of employers—indeed, part of the intention of this contribution is to argue that sociologists can simultaneously pay greater attention to the relationship between income differentials and migration flows, and highlight to a greater degree the crucial role of agency, stratification and mobility as driving forces of between-country migration.

Theoretical Perspectives.

To frame our arguments, we begin with a stylistic review of the relevant literature. Many sociological studies have sought to emphasize that the forces “pushing” migrants out of sending countries and “pulling” them into receiving countries are not autonomous phenomena, but rather consider them to be intimately linked. For example, Portes (2007: 77) includes the income inequalities inherent in core periphery-relations as a crucial dimension of “push” forces:

It is within a context of extensive social and economic penetration of peripheral societies by the institutions of advanced capitalism that individual cost-benefit calculations or the emergence of relative deprivation as a motivator for out-migration make sense. In essence, migration resolves the inescapable contradiction between the undermining of local autonomy and the increasing diffusion of new consumption expectations in weaker nations without the parallel diffusion of the economic resources to attain them.

Likewise, Massey (1987: 1373) indicates that

In sending countries, migration represents an adjustment of inequalities in the distribution of land, labor and capital that arise in the course of economic development [...]. Processes of enclosure and mechanization displace rural workers from agriculture, while capitalization displaces urban operative workers from factories, generating underemployment and unemployment, leading to international migration.

From this perspective, migration is a consequence of profound changes accompanying economic development: “This process of transformation is inherently revolutionary and highly disruptive, as it displaces many people from traditional livelihoods and past ways of life. These displaced

people constitute the source for the massive population movements that inevitably accompany development” (Massey 1988: 383-4). In fact, from such a perspective, economic development is unlikely to advance without migration (Sassen 1988).

Additionally, several authors emphasize the importance of historical ties between core and peripheral countries: Massey (1990: 63), for example, indicates that “countries are likely to receive migrants from Third World nations that are geographically close, important trading partners, political allies or former colonies.”

We follow in the spirit of some of this literature by recognizing the relational character of “push” and “pull” forces. However, we depart from the literature in some important respects. In many versions of these critical approaches, including Dependency and some versions of World-Systems perspectives, there is a tendency to emphasize the direct exploitative relation between core and periphery. Many within such perspectives view “migration as a ‘flight from misery’ caused by global capitalist expansion, which is therefore inherently unable to resolve the structural conditions that cause migration” (De Haas 2010: 233). From such a perspective, migration flows are portrayed as part, and manifestation, of broader processes of core-periphery exploitation (Portes and Walton 1981; Sassen 1988).

Rather than treating migration flows as an effect of exploitation, we retain a relational approach, but argue that migration flows can be understood more productively as a social response, by disadvantaged populations, to the spatially-differentiated effects of what Joseph Schumpeter described as “Creative Destruction.” This draws from Arrighi and Drangel’s (1988) focus on competitive relationships and Schumpeterian creative destruction as central to the world-system.

Spatial mobility of labor permits a more rapid equalization of wage differentials. By migrating to sites where prior contests over the labor-capital balance have already been won by labor, workers are able to take advantage of those gains that have been institutionalized into conditions of the local labor market and into the general social

structure [...] [Page break] Similarly, movement to sites of very rapid capital expansion projects allow labor to leap over the slower process of struggle. Precisely because there are wage zone differentials, and given the drive of labor toward wage equalization, labor migrations take place, despite the fact that migration typically means working at lower wages and greater degrees of exploitation than indigenous workers in the labor market of destination (McLean Petras 1981: 49-50).

We differ from much of the sociological literature in another respect. While the essential role of wage differentials in promoting migration is well established in neoclassical economics (e.g., as developed in Todaro 1969 and 1976; Borjas 1989), sociologists tend to criticize the emphasis on wage differentials as an explanation of international migration as very limited in explanatory power. For example, Stark and Bloom (1985) emphasize the importance of considering the migration of individuals to urban areas or abroad as a strategy adopted by rural households to reduce risks; while Tyree, Semyonov and Hodge (1979) speculate that migrants might be attracted, not necessarily to higher incomes, but countries with a greater potential for social mobility.

More relevant for our purposes, sociologists often argue that the prevailing emphasis on wage differentials not only does not focus sufficiently on the patterns of interaction that produce these wage differentials in the first place; but that such an approach emphasizes individual decision-making in ways that fail to consider the role of social networks in promoting and/or constraining labor flows.

Regarding this latter point, Portes (2007: 75), for example, notes the importance of taking into account the

social context in which [...] individual calculations are made. This context accounts for the varying awareness of wage gaps in potential regions of outward migration, the meaning that these differentials have, and the availability of means to act upon them. Absent these elements, wage differentials, no matter how large, do not translate into sustained labor

flows.

Thus, as indicated by Tilly (2011: 678), “[s]ocial explanations [of migration] counter a simple market model by arguing that while cross-national income differences may be the main driver of migration, income differences explain very little of where and how migration takes place (Massey et al., 2002; Piore, 1979).” Along similar lines, Massey et al. (1998: 8) criticize neoclassical models of migration for their inability “to account for moves that are not economic in nature and the assumption that migrants are homogenous with respect to taste and risk so that, given a net real wage differential, movement becomes axiomatic” (Massey et al. 1998: 8; see also De Haas 2010: 231). While acknowledging that wage differentials might play a role in generating international migration, the authors indicate, “economic disparities alone are not enough to explain international movement. By themselves, they appear to be a necessary but not sufficient condition for labor migration to occur” (Massey et al. 1998: 8). In short, “the relative importance of wage differentials in causing international migration has often been overstated. Higher wages represent one of several incentives for international migration and not necessarily the most important” (Massey 1990: 65).

Key among the necessary conditions emphasized in this relational thrust are the networks inherent in existing stocks of previous migration. This has been long emphasized in the sociological literature: Petersen (1958: 263), for example, notes that migration in its early stages is always rather small, for individuals strongly motivated to seek novelty or improvement are not commonplace. The most significant attribute of pioneers, as in other areas of life, is that they blaze trails that others follow, and sometimes the number who do so grows into a broad stream. Migration becomes a style, an established pattern, an example of collective behavior. Once it is well begun, the growth of such a movement is semi-automatic: so long as there are people to migrate, the principal cause of emigration is prior emigration.

Thirty years later, somewhat more precisely, Massey (1987: 1373-44) argues that

Over time, the number of social ties between sending and receiving areas grows, creating a social network that progressively reduces the costs of international movement. People from the same community are enmeshed in a web of reciprocal obligations, and new migrants draw on these to enter and find work in the receiving society. Each new migrant becomes part of the network, and his entry expands its range of social contacts, which encourages still more migration, leading ultimately to the emergence of international migration as a mass phenomenon.

For Massey (1988: 397), the beginning of migration involves the “lower middle ranges” of a sending country, who are better able to meet the relatively higher costs of initial migration, but the expansion of migrant stocks eventually lowers these costs, facilitating migration by poorer sectors of the population.

There are also disagreements on the extent to which migration responds to wage differentials. Massey (1987: 1373) indicates, “secular fluctuations in the Mexican-American wage gap are not strongly correlated with temporal shifts in the volume of international migration.” Reviewing changes in migration stocks around the time of the 2008 Great Recession, Tilly (2011: 684) concludes, “the evidence for the economic model is mixed. Economic incentives do matter, but factors other than income differences modulate migration flows in the short run. Principal among them are differing regulatory regimes, themselves undergoing change.”

Behind these efforts, it is easy to discern an attempt to provide a more “social” explanation of migration. For authors in this critical perspective, an emphasis on wage differentials as crucial to migration tends to go hand-in-hand with a focus on individuals as isolated, rational actors whose behavior is shaped by economic incentives, leaving little room for human agency. Thus, Massey et al. (1998: 9) emphasize “a need to revise standard economic theory, especially with respect to what it assumes about human motivations.” Moreover, the same authors call for recognizing migrants as “active agents”:

Recognition of the complexity of international migration during the last quarter of the

twentieth century reveals multiple insufficiencies in traditional theoretical approaches. Migrants clearly do not respond mechanically to wage and employment differentials, if they ever did; they are not homogenous with respect to tastes and motivations; and the contexts within which they make their decisions are not the same (Massey et al. 1998: 15).

From such a perspective, the assumption is that a focus on markets and wage differentials as driving forces for international migration takes our attention away from the social processes in which individuals are embedded.

Of course, the models of international migration used by economists do incorporate several of the variables emphasized by sociologists (such as Massey 1989). For example, O'Rourke and Williamson's (1999) discussion of the causes and consequences of migration at the end of the nineteenth and the beginning of the twentieth century, besides focusing in on the impact of industrialization in releasing labor from agriculture and lowering the relative costs of international travel, emphasize the importance of younger "age cohort[s that] had a much higher propensity to emigrate" (O'Rourke and Williamson 1999: 124) and the role of emigrant stocks (in destination countries) that (a) provided resources through remittances that could be used to finance migration (especially when combined with lower transportation costs); and (b) made available room and board (and contacts for jobs) for migrants. As many sociologists, these authors acknowledge that "past emigration encourages present emigration –what economists call persistence or path dependence, and what historians call the friends and relatives effect" (O'Rourke and Williamson 1999: 131). In the late nineteenth- and early twentieth centuries, according to these authors, mass migration served to even out wage rates between core countries, and between core and semiperipheral areas, generating convergence.⁴

But rather than a mere equalization of wage rates through the integration of markets, as is often posed from a neoclassical perspective, international migration can be understood as one of the strategies through which some disadvantaged populations are able to actively engage in

upward social mobility. Indeed, as we indicate later in this article, the income gains derived from moving from a poor country into a wealthier one are often vastly superior to any effort to gain upward mobility within a given poor country. We argue that the extent of mobility gained through migration, in fact, serves to “flag” the vast categorical inequality embedded in national borders and citizenships. In such a context, migration from poor to wealthy countries embodies a challenge to one of the most significant forms of categorical inequality shaping contemporary social stratification.

To effectively assess the relative role of income differentials in explaining international migration, we should focus on global patterns of migration. All too often, authors draw conclusions from specific countries or periods of time, generating a limited picture of what migration looks like from a global and historical perspective. This has characterized the relevant literature for quite a while: already in the late 1950s, Petersen (1958: 256) observed that

Most studies of international migration are focused on the movement from or to a particular country, and virtually all of the other, somewhat broader works are concerned with a single historical era. Moreover, the emphasis is usually on description rather than analysis, so that the theoretical framework into which these limited data are fitted is ordinarily rather primitive.

In the section below, we review our data and methodological procedures. This is followed by a description of our findings, and we conclude by returning to a more theoretical discussion of between-country migration as an integral part of global social stratification.

Data and Methods

To explore the relationship between migration and income differentials, we have constructed a dataset that includes the size of migrant stocks by origin and destination in more than 200 countries and territories and a set of economic, geographic, demographic and political variables that describe origin and destination countries independently and relationally. Together, this

dataset allows us to measure the relationship between income and income differentials on migration while also controlling for the vast majority of the variables that are usually emphasized as relevant in the sociological literature –such as the cost of migration (both geographic and political), communication and access to information, cultural homogeneities, historical ties, and migration-related demographic trends.

The data on migration used in this exercise come from the World Bank's Global Bilateral Migration Database. Using over 1,000 national censuses and population registers, the database identifies country of origin for migrants in 226 host countries for five census rounds (1960, 1970, 1980, 1990, and 2000). The database was recently updated to 2010 (Özden et al 2011). In total, the dataset offers over 300,000 observations of bilateral migrant stocks.

For some exercises we need estimates of net migration. To this end, we convert our data from a measure of stocks to a measure of flows. We base these estimates on the change in the migrant stock from the beginning to the end of the period and adjust for mortality and return migration from the original migrant stock. We simulate annual mortality rates using the average of the life expectancies of the origin and destination countries and assume a uniform annual mortality rate for all members of each original migrant stock that would reproduce the estimated life expectancy. There is little empirical ground on which to base global estimates of return migration. The estimates reported here are based on a probability of return migration as falling with time from 1.5% annually to 0% after 30 years. These estimates are based roughly on results in Klinthall (2006). Because we cannot definitively account for attrition in the migrant stock for estimating net migration in the ensuing period, we ran models against a range of assumptions regarding mortality and return migration and found the results reported below to be robust.

We control for many of the variables noted in the relevant literature. We measure income differentials between countries using the GDP per capita (at exchange rates and purchasing power parity). In some models we include the growth rate as the logged ratio of the per capita

GDP from the current time to the previous time period and the unemployment rate. These measures allow us to assess, as often contended in the literature, whether migrants choose to leave countries with high unemployment for countries with low unemployment, high rates of economic growth and a higher per capita GDP.

Our models include geographical controls. Many note that distance reduces bilateral migration flows (Mayda 2005; Kim and Cohen 2010). Distance increases the cost of travel and communication (Greenwood 1975), but could also be correlated with omitted heterogeneities that tend to increase with distance—e.g., shared cultural traditions are less likely between more distant countries. We measure the distance between countries as the shortest circumferential distance in miles between population-weighted centers. Shared borders and access to water may reduce travel costs (Mayda 2005), so we included dichotomous variables that report whether or not two countries share a border and if a given country is bordered by water. Area is the physical territory of the country in square kilometers (World Factbook 2013).

We also incorporated a number of demographic controls. These include total population (World Bank 2013), fertility rate (lagged 20 years; UNPD 2011), population density (persons per square kilometer), infant mortality (IMR), and life expectancy (World Bank 2013). Because of the high correlation between IMR, life expectancy and GDP per capita, we created a “Health Index” that, first, estimates the standardized infant mortality and life expectancy not explained by per capita GDP (using OLS regression) and then subtracts the income-adjusted, standardized IMR from the income adjusted, standardized life expectancy. The resultant variable measures the physical well-being of the population independent of the relationship between health and income.

Hatton and Williamson (2005: 67) reported that the rate of natural increase, measured by the fertility rate lagged 20 years, had a “power effect” on emigration rates in Europe between 1860 and 1913. Kim and Cohen (2010) found that a relatively large working-age population was

associated with higher emigration rates. They also identified a strong relationship between IMR and migration, hypothesizing that infant mortality is acting as a substitute for quality of life.

Many argue that cultural homogeneities also facilitate migration (Clark, Hatton and Williamson 2007; Greenwood and McDonald 1982; McLean Petras 1981). We include a measure of the extent of religious homogeneity between two countries as the probability that two randomly selected individuals from each country will be members of the same major religious group (Christianity, Islam, Judaism, Hinduism, Confucianism, African indigenous, none). Languages within each country are classified as minority, regional, official or significant (World Factbook 2013). For sending countries, significant languages are given the most weight, followed by official languages; minority and regional languages are weighted equally. For receiving countries, official and significant languages are given the most weight, followed by regional and then minority languages. A source/destination pairing receives a score of 0 if they share no languages and a score of 10 if they share a significant language or a significant language in the sending country is an official language in the receiving country.

Empirical studies consistently note a positive relationship between colonial relationships and migration (Neumayer 2005; Pederson, Pytlikova and Smith 2000; McLean Petras 1981). Former colonial relationships can increase awareness, cultural understanding, and can be associated with political and legal exceptions that attract migrants. To reflect the potential importance of a colonial heritage, we have coded country pairings using three dichotomous variables based on the relationship of the country of origin to the destination: colony, colonizer and shared empire. A country pairing is defined as a colonizer if the sending country practiced political control over a significant population center or geographic region within the modern territorial boundaries of another country; the pairing is identified as a colony if the roles are reversed. Two countries that identify a shared colonizer belong to a shared empire.

Other political variables highlighted in the literature include the naturalization index, regime type, fractured state status, and conflict. The naturalization index scores the hurdles an immigrant

faces in becoming a citizen. We consider residency, linguistic, heritage, skill, religious, moral, work, and health requirements, fees/investment demands, whether naturalization necessitates permission from a political authority, and whether or not naturalization is a legal possibility (US Office of Personnel Management 2004). The greater the hurdles, the higher the naturalization index score. Political regimes are categorized as dictatorship, military dictatorship, one party democracy, communist, Islamic republic, social democracy, conservative democracy, European colony, civil war or failed state (Hsu 2008). Conflict is measured by the number of days of conflicts in the last decade as classified by the UCDP/PRIO Armed Conflict Dataset (Gleditsch 2002). Each conflict is counted independently, so this value can exceed the number of days in a decade.

Several authors (e.g., Zolberg 1981: 8; see also Morawska 2009; Zolberg 1989 and 1999), emphasize the importance of considering the relevance of states in shaping migration processes (states understood as the expression of collective interests, where “collective interests do not refer to some abstraction such as the public good, but rather to the social forces governing the process of decision-making in the sphere under consideration, whether it be by fiat or in a pluralist manner.”) The naturalization index does not directly measure political constraints to migration; instead, it reflects the broader political environment and the extent to which migrants may be dissuaded by an arduous path to citizenship. Regime type can reflect both the political and economic hurdles migrants may face. Conflict should repel immigrants, but the relationship between conflict and emigration may be more complicated. On one hand, potential emigrants may be forced to evacuate severe conflict zones; on the other hand, conflict can disrupt transportation networks, induce neighboring countries to secure their borders, and absorb resources necessary for migration.

Fractured state status identifies pairings that were once united within the same political entity. These primarily include the states of the former Soviet Union but also include Yugoslavia, Czechoslovakia, Ethiopia/Eritrea, and Sudan/South Sudan among others. This assesses whether

the bilateral migrant stock is greater within fractured states, but these pairings should also experience a relatively high rate of return migration after independence.

We tested a number of other variables that were excluded from the final analysis because while sometimes highlighted in the literature, they did not add substantially to the models or they introduced too many missing values. These include agriculture and manufacturing as a percent of GDP, economic recession (negative GDP growth from year to year), and shared continental landmass.

To estimate the relationship between these independent variables and the size of bilateral migrant stocks and flows, we begin with a gravity model

$$S = G \frac{P_s P_d}{D} \quad (1)$$

such that the migrant stock (S) between countries depends on the “masses” (population sizes) of those countries (P_s and P_d) and the distance between countries (D). G is a constant that scales the right side of the equation to fit the left, the intercept in linear modelling parlance.

The gravity model can trace its roots back to Ravenstein (1885 and 1889). The approach generates results that are easy to interpret and are tightly clustered across studies (Kim and Cohen 2010; Anderson 2010).

We can convert the gravity form to a linear equation by taking the natural log of each side, and we can add income and control variables to the model (X_i) to improve the fit. We solve this equation using ordinary least squares regression.

$$\ln(S) = B_{P_s} \ln(P_s) + B_{P_d} \ln(P_d) + B_D \ln(D) + \sum X_i B_i + e \quad (2)$$

In addition to testing for significance, we use standardized betas to compare the relative size effects of the various factors. All models are weighted to the population of the sending country.

Ultimately, the goal is to quantify the impact of incomes in sending and receiving countries on the size of migrant flows while controlling for, but also identifying interactions between, a fairly comprehensive list of control variables. We anticipate that the gap in per capita GDP between sending and receiving countries is the most important factor driving international migration. This relationship is moderated by other factors, particularly the GDP per capita of the sending country and the size of the migrant stock.

Findings.

Our findings, discussed below, provide strong support for our anticipated results. We begin by reviewing the main relationship between income differentials and between-country migration, and then proceed to show that this relationship is robust even after controlling for many other variables that are highlighted as relevant in the sociological literature.

Per Capita GDP and Emigration

Ceteris paribus, a migrant chooses the destination with the higher per capita GDP. But it does not hold that the countries facing the largest income gaps send the most migrants. “Lower levels of per worker GDP in the source country both strengthen incentives to leave and make it more difficult to overcome poverty constraints . . . due to fixed costs of migration and credit-market imperfections” (Mayda 2005: 4; Schiff 1998). Hatton and Williamson (2005: 67), for example, found that “rising incomes at home increased the emigration rate by releasing the supply constraint.”

The solid line in Figure 1 captures the dual nature of the relationship between per capita GDP in the sending country and emigration rates. We used logistic regression and the first four

degrees of logged GDP per capita to estimate the ratio of net emigration (by decade, 1960-2010) to total population. All four degrees of logged per capita GDP are significant. The line plots the predicted emigration rate against per capita GDP for 2000 to 2010. The result is an inverted-U, such that migration rates increase as incomes increase up to a point, and then fall. More specifically, individuals in countries with a per capita GDP around e^9 (in 2000 US\$) are the most likely to emigrate while those in the richest countries are the least likely to do so. This confirms findings elsewhere in the literature (e.g., De Haas 2010).

(Figure 1 about here)

Overlaying the line chart are the results from a second estimation procedure. In this case we simulated national income distributions using national Gini coefficients (Solt 2009), the per capita GDP, and an assumption of a log normal income distribution. We then calculated the percent of each national population that has an “income” above e^7 (about \$1,100) and below the median income of the United States. Presumably, this group is the most likely to migrate because they are poor enough to benefit from migration and yet have sufficient resources to invest in migration. We repeated the exercise above, replacing logged per capita GDP with this new variable, and plotted the predicted emigration rates. This single, casually defined variable nearly replicates the complex, nonlinear relationship between per capita GDP and emigration rates, suggesting that this logic closely approximates the true relationship between per capita GDP and emigration.

Migration as Economic Mobility

Migration is linked to “the disharmonious rates of growth among and within regional aggregates” (McLean Petras 1981: 45). From such a perspective, “In the long history of labor migrations [...] movement from lower wage to higher wage zones has generally predominated” (McLean Petras 1981: 48). Through this movement, “labor seeks options for better conditions and higher market prices for its labor power” (McLean Petras 1981: 49; see also Zolberg 1999).

Table 1 tracks international migration flows between 1990 and 2000. Countries are divided into three categories – low income (<\$1,000 per capita GDP), middle (>\$1,000, <\$10,000), and high (>\$10,000, 2000 US\$). The table tracks the size of each flow as a percent of total migration during the decade, the emigration rates per 100,000 population in sending countries, the size of the flow versus the expected size of the flow based on the total population of sending countries and the global emigration rate, and the percent of emigrants from each set of countries going to low, middle and high income countries.

(Table 1 about here)

Low-income countries account for only 36.0% of global emigrants despite containing more than half of the world's inhabitants. They produced only 61.9% as many migrants as expected based on the size of the population while middle income countries produced more than two times (220.5%) as many as expected.

Middle-income countries, on the other hand, produce 45.8% of all migrants. The largest net flow between 1990 and 2000 was from middle income countries to high-income countries, both in terms of the total figure (17.7 million) and as the rate per 100,000 people in sending countries (1,669.8). Almost a third of migration between 1990 and 2000 involved individuals moving from a middle income to a high-income country. In fact, migrants from both high and middle-income countries were twice as likely to end up in high-income countries as low and middle income countries combined. Migrants from low-income countries are still more likely to end up in high income countries, but almost a third end up in another low income country. Presumably, their options are constrained by a lack of resources, information, and internationally inconsistent immigration restrictions.

For workers in lower income countries, migration is a much more direct path to achieving wage convergence with workers in rich countries than riding economic growth in their own country. This point is illustrated in Figure 2. The chart tracks income differences for various groups between 2000 and 2010. Each black square represents a country, located using the per

capita GDP in 2000 on the x-axis and in 2010 on the y-axis. If the per capita GDP of a country did not change during this period, the square would center on the diagonal; squares above the diagonal represent countries that experienced real growth in terms of GDP per capita during the period. The size of squares reflects the relative population of the country. The circles track migrant groups by source and destination country, plotting the per capita GDP in 2000 of the source country and the per capita GDP in 2010 of the destination country. The circles are sized according to the relative size of each migrant flow.

(Figure 2 about here)

Over the ten-year period, the opportunities for broad upward mobility within a country, even accounting for the few cases with rapid economic growth, were limited. The potential for broad upward mobility through migration, though, is substantial. For example, India and China, the two largest squares in Figure 4, have clearly enjoyed growth in GDP per capita, but that movement is fairly insubstantial compared to the GDP per capita of rich countries. In this context, it makes sense that the heavy majority of migrants between 2000 and 2010 ended up in one of the world's richest countries.

Estimating Migrant Stocks

Having established the bivariate relationship between GDP per capita and international migration, we test the significance of this relationship against our array of control variables. In Tables 2 and 3, we estimate bilateral migrant stocks from 144 sending to 149 destination countries in 2000 using the gravity model framework. We used the average in cases where a metric varies over time (e.g., unemployment rate), and coded regime type as the percent of years by each regime type. We report clustered standard errors, clustered on the sending country, for significance testing to account for potential dependence between these observations.

We begin with the base model (distance and population), GDP per capita in the sending country and the GDP per capita gap between sending and receiving countries. These five

variables explain almost 50% of the variance in logged bilateral migrant stocks. Further, our GDP per capita measures have the largest size effect of the five according to the standardized beta – that is to say, when we convert the independent variables to the same scale, a one unit change in GDP per capita in the sending country has a larger effect on migrant stocks than distance and the respective populations. The coefficient for the population of the origin country is close to 1; this implies that the size of this population does not have a unique effect on emigration rates, but given a standard emigration rate, the larger population will tend to produce more emigrants.

(Table 2 about here)

In the next iteration of the model we add a number of control variables (Table 3). The additional variables improve the fit of the model but not dramatically. The unexplained variance falls 26.6% from 54.2% to 39.8%. The results are generally consistent with our expectations with one major exception: the stock of migrants from former colonies is not significantly larger than in other pairings. This is a salient finding, as much of the literature generally emphasizes colonial relationships as highly significant to both migrant stocks and flows.

(Table 3 about here)

Shared language and good health in destination countries are very important in determining the size of migrant stocks, and communist states are particularly abhorrent to potential migrants. But the most important factor driving the size of bilateral migrant stocks, according to the standardized betas, is the gap in GDP per capita between sending and receiving countries. The size effect of GDP per capita of the sending country is also very large. The standardized beta of the per capita GDP gap is more than two and half times larger than for all control variables.

Gross Domestic Product in these models is valued using exchange rates. If migration is a strategy individuals deploy to improve their standard of living, GDP figures adjusted to purchasing power parity (PPP) might better capture the forces driving migration. We substituted PPP-adjusted GDP per capita for the sending country and the differential, one at a time and

together (not shown). In each case, the explanatory power of the model fell slightly, suggesting that GDP per capita at exchange rates are, in fact, more relevant. We offer three explanations for this result. First, migrants do not always or immediately adopt local purchasing habits, so locally-adjusted PPPs overstate cost of living differences. Second, migrants often use global inequalities to overcome local inequalities or constraints in their country of origin, either for family members through remittances or with the intention of returning home; they are more interested in global command over resources than local living standards. Third, adjusting to purchasing power parity is a complex and incomplete science, and doing so may introduce noise that reduce the variables' explanatory power.

In the final model, we add per capita GDP growth and unemployment. Unfortunately, missing data cuts the samples by a third, but results are consistent from Full Model 1 to Full Model 2. Per capita GDP growth and unemployment have the anticipated results: migrants target countries with low unemployment and prefer rapidly growing economies. Notably, after controlling for economic growth in the sending country, GDP per capita in the sending country is still positively and significantly associated with emigration. Economic growth may displace workers and force migration, but that GDP per capita in the sending country, independent of economic growth trends, is many times more important in explaining emigration suggests, on the aggregate, that more migrants are actively choosing to invest in migration than escaping an unstable situation.

The models above measure only the unique effects of the independent variables on migrant stocks, but the effects of these variables can also depend on each other. An obvious example is that the opportunity cost of distance is greater for poorer potential migrants, so the effect of distance on the size of migrant stocks will be greater for migration from poorer countries. To test this relationship, we added the $\text{distance} * \text{GDPPC}_{\text{origin}}$ interaction term to Full Model 1. We used the coefficients for distance, $\text{GDPPC}_{\text{origin}}$ and the interaction term to estimate the net effect across

a range of income levels for countries at two different distances. We used $m=n$ resampling with replacement to estimate confidence intervals.

The vertical axis in Figure 3 measures the expected change in the logged migrant stock based on the distance and GDP per capita of the sending country against a baseline scenario of migration from a very poor country (GDP per capita=\$148.41) to a distant destination (distance=8,100 miles). First, if we trace the bottom of the two lines, we find a strong correlation between the per capita GDP of the sending country and the expected size of the migrant stock: as the sending country gets richer, the expected size of the migrant stock increases. This line represents migration between two distance countries (e.g., Canada and Vietnam). The second of the two lines reflects the relative size of migrants stock between two countries with population centers approximately 150 miles apart – Honduras to El Salvador or Ghana to Togo. Beginning at very low levels of GDP per capita, we see that the expected migrant stock between these pairs is much larger than between the more distant countries. Also, the size of the migrant stock increases with the income of the sending country, but the correlation (the slope of the line) is much weaker, such that the gap in the expected size of the migrant stock by distance is much smaller at very high levels of GDP per capita. In other words, higher incomes in sending countries always facilitate migration, but especially across great distances where transportation and communication costs are greater.

(Figure 3 about here)

We tested interaction terms for the per capita GDP gap by language, religion, colony, and naturalization. The coefficient for $GDPPC_{gap} * language$ and $GDPPC_{gap} * colony$ is positive and significant. This means that the effect of the income gap on migration is greater for former colonies and between countries with high linguistic homogeneity than in other cases. While it is possible that larger income gaps increase migration by increasing the appeal of linguistic homogeneities, it is more likely that linguistic homogeneities make it easier for migrants to exploit international income gaps.

The coefficient for $GDPPC_{gap} * \text{naturalization index}$ is also positive. Because the naturalization index is negatively associated with migration, this positive coefficient means that the effect of stricter naturalization requirements have less impact on migration when income gaps are larger. $\text{Religion} * GDPPC_{gap}$ was not significant at the .01 level.

By social science standards the percentage of variance explained by our model is very high. The full model explains 60% of the variance in the logged size of bilateral migrant stocks globally, leaving another 40% unexplained. We can speculate about the unexplained portion. Some variables might be misspecified (e.g., the “distance” variable measures is only a rough estimate of the actual distance travelled by migrants). Some error is introduced as measurement error in the size of migrant stocks: the dataset of global bilateral migrant stocks is the product of a very complex project drawing on imperfect data sources. The remaining unexplained variance in the size of bilateral migrant stocks reflects omitted variables not included in the model. One such factor is the purported role of an existing migrant stock to drive future migration.

The Impact of Migrant Stocks

The literature highlights the importance of path dependency or the friends and relatives effect. Unfortunately, because we do not have a direct measure of migrant flows we cannot accurately assess the relationship between the size of the migrant stock and future flows. This is highlighted in Table 4. In the first, “Standard” model, we replicate the regression estimating migrant stocks in 2000, but we replaced the dependent variable with estimated migrant flows between 1960 and 2000. The second model is a fixed effects regression model estimating migrant flows by decade using the same controls minus those that do not vary within pairs over time. In each case we added a new variable, the size of the migrant stock; we also added year dummy variables to the fixed effects model. In the first model, the coefficient for stock is positive and significant. In the second, the coefficient is significant but negative.

(Table 4 about here)

The reasons for this incongruity are technical, not substantive. In the first case, the size of the migrant stock at the beginning of the period also captures any fixed effects that encouraged migration before and after 1960 that were not included in the model. We can resolve this omitted variable bias by using fixed effects regression, but in so doing we introduce a new problem. Because the existing migrant stock is used to estimate net migration flows, the coefficient is significantly biased by measurement error and misspecification. For example, if we underestimate the size of the migrant stock in 1990, we will overestimate the size of net migration between 1990 and 2000. So, in the first case, the effect of the migrant stock is biased upwards and in the second case it is biased downwards.

One final exercise allows us to draw two meaningful conclusions about the effect of the existing migrant stock on the size of migrant flows. We regress the migrant stock at time T on the migrant stock at time $T+1$, the per capita GDP of the sending country and the gap, an interaction term, $GDPPC_{gap} * S_T$, and the host of control variables used in the other models (see Interaction, Table 4). The coefficient for the migrant stock is large and positive, as in the “Standard” model. This means that the larger bilateral migrant stocks at one point in time tend to still be the larger migrant stocks 10 years later. More important, the coefficient for the migrant stock is significantly less than 1. This suggests that, controlling for other variables, there is a tendency towards regression to the mean in the size of the migrant stock over time. This directly contradicts the proposition that the size of the migrant stock is a principal driver of migration flows.

Second, the coefficient for the interaction term is positive and significant. In other words, for a given gap in GDPPC, the migrant stock will tend to increase more where the original migrant stock is larger. In this regard, existing stocks might provide networks through which potential migrants can become aware of wage gaps, and reduce the costs of migration (Portes 2007). While we face limitations in estimating precisely the relative impact of stocks on migration, our

model suggests that even controlling for such stocks, income differentials not only are the sine qua non of between-country migration, but are also the best predictor of who migrates from where to where.

Projecting Future Flows

The magnitude of global migration relative to total global population has matched the peak of the early 20th century. Again, the United States, Canada, and Australia are major immigrant destinations, and the predominant flow is from semi-periphery to core nations. As they were one hundred years ago, most migrants are trying to improve their social condition by exploiting large international inequalities.

In many wealthy countries, rising migration has generated, under various guises, a strong backlash. This follows previous historical patterns. Already in the nineteenth century, labor in receiving countries responded to perceived competition from migrants with efforts to restrict these flows. This response developed gradually:

[c]ontrary to the conventional wisdom, there was not one big regime switch around World War I from free (and often subsidized) immigration to quotas, but rather an evolution toward more restrictive immigration policy in the New World. Attitudes changed slowly and over a number of decades rather than all at once” (O’Rourke and Williamson 1999: 185).

In the late nineteenth and early twentieth centuries, the backlash against migration often took the guise of a defense of the interests of unskilled workers, generally accompanied by considerable racism. As a consequence of the success of these constraints, there was eventually a shift in the relative importance of movement across borders to “internal” migration --most centrally, from rural to urban areas. Thus, international migration underwent a dramatic decline between 1930 and 1950.

Are we in the midst of a similar backlash today? One series of control variables from the analysis above may offer some insight into that question. To account for evolving migration propensities over time we use a dummy for each decade, 1960 to 1970, 1970 to 1980, 1980 to 1990 and 2000 to 2010, with 1990 to 2000 as the comparison group (not shown). In all four cases, the coefficients are negative and significant. Controlling for all other factors, net migration increased globally from 1970 to 1980 to 1990 and finally to 2000. In other words, the propensity to migrate increased over time between 1960 and 2000. But this trend reversed course between 2000 and 2010.

The growing propensity to migrate between 1960 and 2000 may reflect a number of factors – e.g., falling transportation and communication costs – but the sudden drop in migration between 2000 and 2010 warrants a unique explanation. Undoubtedly, economic insecurity in the rich world during the financial crisis and ensuing global recession made these less attractive destinations, a state that was exacerbated by local hostility towards certain immigrant groups in some cases. Unfortunately, our model offers no empirical assessment of this proposition.

Discussion.

The results discussed in the previous section clearly highlight the strong role of income differentials as a crucial force shaping international migration. Some might interpret these results as implying that little room is left for emphasizing, as sociologists generally do, the singular role of social networks and/or constructed social meanings. This is not the case. Income differentials generate actions that socially constitute stratification and mobility on a global scale.

Subjective agency with a high degree of indeterminacy at an individual level can translate into systemic patterns at a collective level. A parallel can be drawn with national birth rates. As the act of migration, the decision of whether or not to have a child is also characterized by subjective agency with a high degree of indeterminacy at an individual level. Here, at an individual level, there is a complex interaction of life cycles, sense of well-being, cultural

expectations, gender roles and so forth. But at a collective level, measured as national birth rates, all these individual decisions, with their high degree of indeterminacy, translate into a relative equilibrium. The same applies to international migration.

We often find such equilibria to be a bit disturbing. Generally, we prefer to think of individual agency as akin to the butterfly that spurs a tornado from the flutter of its wings: in this metaphor, small actions can have big outcomes. But sometimes, dealing with situations of equilibria, we find the opposite: even big actions can result in very small outcomes (or no significantly obvious change at a more aggregate level). Situations of equilibria or disequilibria call for different methodological approaches for productive inquiry (Abbott 2001). The results reported in this article suggest that global migration flows are characterized, indeed, by a remarkable equilibrium.

This equilibrium is only rendered visible by taking the whole world as our unit of analysis. Indeed, if we were to start from the more particular manifestations of these flows—say, the migration of Portuguese workers to France, of Caribbean women to health care occupations in the United States, of Bolivian farmers to Argentina, and/or of Russian au pairs to Turkey—it would be hard to ascertain in any way the relative weight of the various forces shaping migration on a global basis: each of these flows would appear merely as specific and ad-hoc. Instead, we can think of these flows as the particular embodiment—shaped by time and place—of a global, historical process of migration.

Moreover, emphasizing the crucial role played by wage differentials in shaping migration does not mean the displacement of the social by the individual. Instead, our task is to emphasize that the processes that respond to such wage differentials (as well as those that have generated the latter) are social at their very core. A given wage or the prevailing level of demand in a given labor market, for example, themselves imply processes of social construction. In fact, from such a perspective, international migration can be understood as one of the strategies through which actors actively engage in social mobility.

Constantly, Schumpeterian cycles of creative destruction create new labor demands in some places while reducing demand in others. Through migration, then, people often seek to escape the consequences of “destruction” and seek to secure access to the benefits of innovation (as inherent in social mobility). But migration is a complex, expensive, risky, and, with the emergence of the nation-state, politically sensitive activity. When migration is limited, the benefits of innovation become geographically constrained --the very unequal global distribution of wealth reflects these constraints.

Migratory movements can be understood as a response to wage differentials. They represent a social process, driven by household efforts to gain mobility –“as part of a broader household livelihood strategy to diversify income and overcome development constraints in the place of origin” (De Haas 2010: 245). From this point of view, at an individual/household level, migration represents a sort of Schumpeterian innovation that draws on the opportunities provided by market mechanisms to overcome exclusion and political barriers to entry. There are precedents for such a perspective: Petersen (1958: 258), for example, refers to the migration of persons “as a means of achieving the new,” or as “innovating.”

This is underemphasized in critical approaches that usually underline the exploitative character of market relationships (a la Polanyi). Peripheral migration around the turn of the century might have represented an additional mechanism for reducing world income inequalities. From this point of view, rather than being an expression of colonial practices, the ability of people in peripheral areas to resort to migration as a survival and/or mobility strategy was a central thrust behind the growing prevalence of free labor in the post-nineteenth century world-economy.

We share with other authors an effort to denaturalize state boundaries and see their enforcement as part of “a global wall erected by the rich industrial states to protect themselves from ‘invasion’ by the world’s poor” (Zolberg 1999: 72). As indicated by Zolberg 2000: 512),

In retrospect, one can only wonder at the strangeness of a historical trajectory whereby most of the population of the world's richest and most powerful countries, encompassing tens and eventually hundreds of millions of individuals, came to believe that they constituted mutually exclusive 'natural' communities, sharing a hallowed ancestry and destined in the divine scheme of things to share a common fate.

Along similar lines, as has been argued elsewhere (e.g., Korzeniewicz and Moran 2009), migration has come to constitute the single most immediate and effective means of global social mobility. For example, Malaysia and Mexico are receiving country for migrants from Indonesia and Guatemala (respectively), and sending countries to Australia and the United States (again, respectively). In the case of Guatemala, anyone belonging to the poorest six deciles would gain upward mobility by gaining access to the average income of the second poorest decile in Mexico; likewise, 70% of the population of Indonesia would be upwardly mobile were they able to attain the average income of the second poorest decile in Malaysia. In the case of Mexico, the incentives are even more striking, as all but the wealthiest decile would find upward mobility in gaining access to the average income of the second poorest USA decile; and only the richest decile in Malaysia would be not worse off than the second poorest decile in Australia. Such disparities help explain why economic migrants often are willing to abandon a professional status in their country of origin to work in more menial positions in their country of destination. In a world in which nationhood continues to be central in shaping global stratification, "jumping" categories by moving from a poorer country to a wealthier one is a highly effective strategy of mobility.

While this article focuses on between-country migration, many of our arguments (e.g., on the impact of income differentials, the need for resources to engage in migration, and so forth) might fit more broadly for within-country flows as well (and such flows have been and are of significant dimensions).⁵ However, we should emphasize that between-country migration is not simply a more "macro" manifestation of a general phenomena: there is a specificity to between-

country migration that arises from the prevalence of national borders (a historical phenomena) as a boundary of inclusion/exclusion.

Precisely because of this issue, a focus on the relationship between international migration and inequality allows us to restore much greater agency to migrants. It does not mean that there is no exploitation or functionality of between-country migration to capitalism. But from a global perspective on social stratification, between-country migration represents as well a strategy deployed from the bottom up to challenge existing hierarchies (in this case, the hierarchies constructed around national territoriality).

Prevailing critical perspectives, drawing on the notion that the extension of markets is promoted by elites to gain power and privilege, and emphasizing the importance of voice as a means of enhancing income and status, might balk at the notion that migrants might challenge hierarchies by using market mechanisms in their own favor. But, pace Polanyi, in situations in which privilege is obtained through exclusion (rather than exploitation), challenges to exclusionary mechanisms by the promotion of more competitive markets can be an effective means of pursuing social mobility. In this sense, “excluded” populations can exploit opportunities (paradoxically, as generated by exclusion) to competitively “push” their way into markets, leading to market expansion from below. To the extent that national borders have become a primary mechanism of selective exclusion, migration, as a push for inclusion, represents a significant avenue of challenging exclusion and pursuing social mobility.

Such a perspective, emphasizing the role of agency on the part of migrants as an explanation of these flows, tends to run counter to the narrative prevailing within some approaches adopting a critical perspective, in which the emphasis is often placed on the ways in which the development of a modern world economy “forces” people to change locations to ensure their survival. True, migration often matches the need for employers to secure steady/cheaper supplies of workers (and for these reasons, opposition to migration often is strongest, in a receiving country, among those feeling most threatened by this perceived competition --putatively, for

scarce jobs and government resources, but most often for cultural space as well). But migration can be understood more productively as an effective strategy deployed from below to overcome the constraints of the institutional arrangements in which the accumulation of wealth is embedded.

While often requiring a high level of courageous determination, migration tends to offer much more immediate and certain returns (although a different type of uncertainty might be precisely what calls for high doses of courageous determination, particularly for undocumented migrants). Thus, while academics might remain convinced that national borders provide the appropriate boundaries for understanding social mobility, both migrants (in their crossing of such borders) and non-migrants (when constrained by borders that hamper such crossings) reveal the relative boundaries and forces of stratification to be truly global.

Bibliography.

- Abbott, Andrew. 2001. *Time Matters: On Theory and Method*. Chicago: University of Chicago Press.
- Anderson, James E. 2010. "The Gravity Model" NBER Working Paper 16576.
- Arrighi, Giovanni and Jessica Drangel. 1986. "The stratification of the world-economy: An exploration of the semiperipheral zone." *Review* X 1, (Summer): 9-74.
- Azevedo, J.P. (2011) "wbopendata: Stata module to access World Bankdatabases," Statistical Software Components S457234, BostonCollege Department of Economics.
<http://ideas.repec.org/c/boc/bocode/s457234.html>
- Borjas, G.J. 1989. "Economic Theory and International Migration." *International Migration Review* 23 (3): 457-485.
- Central Intelligence Agency. 2013. *The World Factbook* 2013-14. Washington, DC: Central Intelligence Agency. <https://www.cia.gov/library/publications/the-world-factbook/index.html>, accessed on July 15, 2013.
- Clark, Ximena, Timothy J. Hatton and Jeffrey G. Williamson. "Explaining US Migration, 1971-1998." *The Review of Economics and Statistics* 89(2):359-373.
- De Haas, Hein. 2010. "Migration and Development: A Theoretical Perspective." *International Migration Review* 44:1 (SPRING): 227-264.
- Farley, Reynolds. 1999. "Foreword." Pp. xi-xii in C. Hirschman, P. Kasinitz and J. DeWind, eds. *The Handbook of International Migration: The American Experience*. New York: Russell Sage.
- Gleditsch, Nils Petter; Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg & Håvard Strand, 2002. "Armed Conflict 1946–2001: A New Dataset." *Journal of Peace Research* 39(5): 615–637.

- Global Bilateral Migration Database, World Bank Group and Özden, Ç, C. Parsons, M. Schiff and T. L. Walmsley. 2011. "Where on Earth is Everybody? The Evolution of Global Bilateral Migration, 1960-2000." *World Bank Economic Review* 25(1): 12-56.
- Greenwood, Michael J. 1975. "Research on Internal Migration in the United States: A Survey," *Journal of Economic Literature* 13(2): 397-433.
- Greenwood, Michael J, and John M. McDowell. 1982. "The Supply of Immigrants to the United States." Pp. 54-85 in B.R. Chiswick, ed. *The Gateway: US Immigration and Policies and Issues*. Washington, DC: American Enterprise Institute.
- Hatton, Timothy J. and Jeffrey G. Williamson. 2005. *Global Migration and the World Economy: Two Centuries of Policy and Performance*. MIT Press: Cambridge.
- Hikino, Takashi and Alice H. Amsden. 1994. "Staying Behind, Stumbling Back, Sneaking Up, Soaring Ahead: Late Industrialization in Historical Perspective." Pp. 285-315 in W.J. Baumol, R.R. Nelson & E.N. Wolff, eds. *Convergence of Productivity: Cross-National Studies and Historical Evidence*. Oxford: Oxford University Press.
- Hsu, Sara. 2008. "The Effect of Political Regimes on Inequality, 1963–2002." UTIP Working Paper 53, September 22. Available online at: <http://utip.gov.utexas.edu> [Accessed 25 March 2012].
- Kim, Keuntae and Joel E. Cohen. 2010. "Determinants of International Migration Flows To and From Industrialized Countries: A Panel Data Approach Beyond Gravity." *International Migration Review* 44: 4 (Winter): 899-932.
- Klinthall, Marshall. 2006. "Immigration, Integration, and Return Migration," International Symposium on International Migration and Development, June 28-30, Turin, Italy.
- Korzeniewicz, Roberto Patricio and Timothy P. Moran. 2009. *Unveiling Inequality*. New York: The Russell Sage Foundation.

- Leamer, Edward E. and James Levinsohn. 1995. "International Trade Theory: the Evidence" in Gene M. Grossman and Kenneth Rogoff, eds. *Handbook of International Economics*, 64: 335-61.
- McLean Petras, Elizabeth. 1981. "The Global Labor Market in the Modern World-Economy." Pp. 44-63 in M.M. Kritz, C.B. Keely & S.M. Tomasi, eds. *Global Trends in Migration: Theory and Research on International Population Movements*. Staten Island, NY: The Center for Migration Studies of New York, Inc.
- Massey, Douglas S. 1987. "Understanding Mexican Migration to the United States." *American Journal of Sociology* 92 (6): 1372-1403.
- Massey, Douglas S. 1988. "Economic Development and International Migration in Comparative Perspective." *Population and Development Review* 14 (3): 383-413.
- Massey, Douglas S. 1990. "The Social and Economic Origins of Immigration." *Annals of the American Academy of Political and Social Science* 510: 60-72.
- Massey, Douglas. 1999. "Why Does Immigration Occur? A Theoretical Synthesis." Pp. 34-52 in C. Hirschman, P. Kasinitz and J. DeWind, eds. *The Handbook of International Migration: The American Experience*. New York: Russell Sage.
- Massey, Douglas S., Joaquín Arango, Graeme Hugo, Ali Kouaouci, Adela Pellegrino and J. Edward Taylor. 1998. *Worlds in Motion: Understanding International Migration at the End of the Millenium*. Oxford: Clarendon Press.
- Mayda, Anna Maria. 2005. "International Migration: A Panel Data Analysis of Economic and Non-Economic Determinants," IZA Discussion Paper No. 1590.
- Morawska, Ewa. 2009. *A Sociology of Immigration: (Re)Making Multifaceted America*. London: Palgrave Macmillan.
- Neumayer, E. 2005. "Bogus Refugees: The Determinants of Asylum Migration to Western Europe," *International Studies Quarterly* 49:389-409.

- O'Rourke, Kevin H. and Jeffrey G. Williamson. 1999. *Globalization and History: The Evolution of a Nineteenth-Century Atlantic Economy*. Cambridge, MA: The MIT Press.
- Özden, Ç., C. Parsons, M. Schiff and T. L. Walmsley (2011) 'Where on Earth is Everybody? The Evolution of Global Bilateral Migration, 1960-2000', *World Bank Economic Review* 25(1):12-56.
- Pederson, PJ, M. Pytlikova, and N. Smith. 2008. "Selection and Network Effects – Migration Flows into OECD Countries 1990-2000," *European Economic Review* 52:1160-1186.
- Petersen, William. 1958. "A General Typology of Migration." *American Sociological Review* 23:3 (June): 256-266.
- Portes, Alejandro. 1999. "Immigration Theory for a New Century: Some Problems and Opportunities." Pp. 21-33 in C. Hirschman, P. Kasinitz and J. DeWind, eds. *The Handbook of International Migration: The American Experience*. New York: Russell Sage.
- Portes, Alejandro. 2007. "Migration, Development, and Segmented Assimilation: A Conceptual Review of the Evidence." *Annals of the American Academy of Political and Social Science* 610 (NAFTA and Beyond: Alternative Perspectives in the Study of Global Trade and Development): 73-97.
- Portes, Alejandro and John Walton. 1981. *Labor, Class and the International System*. New York: Academic Press.
- Ravenstein, E.G. 1885. "The Laws of Migration." *Journal of the Royal Statistical Society* 48: 2 (June): 167-235.
- Ravenstein, E.G. 1889. "The Laws of Migration: Second Paper." *Journal of the Royal Statistical Society* 52: 2 (June): 241-305.
- Rogers, A. 2006. "Demographic Modeling of the Geography of Migration and Population: A Multiregional Perspective," Population Program Working Paper. Boulder, CO: University of Colorado.

- Sassen, Saskia. 1988. *The Mobility of Labor and Capital. A Study in International Investment and Labor Flow*. Cambridge: Cambridge University Press.
- Shachar, Ayelet. 2009. *The Birthright Lottery: Citizenship and Global Inequality*. Cambridge, MA: Harvard University Press.
- Solt, Frederick. 2009. "Standardizing the World Income Inequality Database." *Social Science Quarterly* 90(2): 231-242.
- Tilly, Chris. 2011. "The Impact of the Economic Crisis on International Migration: A Review." *Work, Employment and Society* 25 (4): 675-692.
- Todaro, Michael P. 1969. "A Model of Labor Migration and Urban Unemployment in Less Developed Countries." *American Economic Review* 59 (March): 138-148.
- Todaro, Michael P. 1976. "Urban Job Expansion, Induced Migration and Rising Unemployment." *Journal of Development Economics* 3 (September): 211-225.
- Tyree, Andrea, Moshe Semyonov and Robert W. Hodge. 1979. "Gaps and Glissandos: Inequality, Economic Development, and Social Mobility in 24v Countries." *American Sociological Review* 44: 3 (June): 410-424.
- United Nations, Department of Economic and Social Affairs, Population Division. 2011. *World Population Prospects: The 2010 Revision*, New York: United Nations.
<http://data.un.org/Data.aspx?d=PopDiv&f=variableID:54>
- US Office of Personnel Management 2004
- Villarreal, Andres & Erin R. Hamilton. 2012. "Rush to the Border? Market Liberalization and Urban- and Rural-Origin Internal Migration in Mexico." *Social Science Research* 41: 1275-1291.
- The World Bank. 2013. *World Development Indicators*. Accessed through Stata module wbopendata on 23 April 2012 and 2 May 2013.
- Zolberg, Arisitide R. 1981. "International Migrations in Political Perspective." Pp. 3-27 in M.M. Kritz, C.B. Keely & S.M. Tomasi, eds. *Global Trends in Migration: Theory and Research on*

International Population Movements. Staten Island, NY: The Center for Migration Studies of New York, Inc.

Zolberg, Aristide R. 2006. "The Next waves: Migration Theory for a Changing World."

International Migration Review 23: 3 (Autumn): 403-430.

Zolberg, Aristide R. 1999. "Matters of State: Theorizing Immigration Policy." Pp. 71-93 in C.

Hirschman, P. Kasinitz and J. DeWind, eds. *The Handbook of International Migration: The American Experience*. New York: Russell Sage.

Zolberg, Aristide R. 2000. "The Dawn of Cosmopolitan Denizenship." *Indiana Journal of*

Global Legal Studies 7:2 (Spring): 511-518.

Zolberg, Aristide R. 2006. "Managing a World on the Move." *Population and Development*

Review 32: 222-253.

Endnotes

¹ Here, scholars in many ways followed the behavior of states, who “continue to adhere to the normative assumption that they consist of self-reproducing populations, and to assess their situation from this antiquated perspective, in relation to which emigration and immigration are constructed as disturbances” (Zolberg 2006: 222).

² Portes (1999: 32) notes that “[i]n the absence of theory, what we have today is mostly an amorphous mass of data on immigration to different countries and a series of concepts whose scope seldom exceeds that of a particular nation-state.”

³ An important contribution in this regard is the work of Shachar (2009: 21), who points out that “today's birthright citizenship laws resemble ancient property regimes that shaped rigid and tightly regulated estate-transmission rules. Birthright citizenship operates not merely as if it were any other kind of inherited property; rather, it moves down the generations like an entail form of untaxed inherited property.”

⁴ “In theory, the forces of late-nineteenth-century convergence could have included commodity price convergence and trade expansion, technological catch-up, and human capital accumulation, but in fact mass migration was the central force (O’Rourke and Williamson 1999: 165).

⁵ Thus, Villarreal and Hamilton (2012: 1275) point out that “more migrants migrate within Mexico on an annual basis than from Mexico to the United States.”

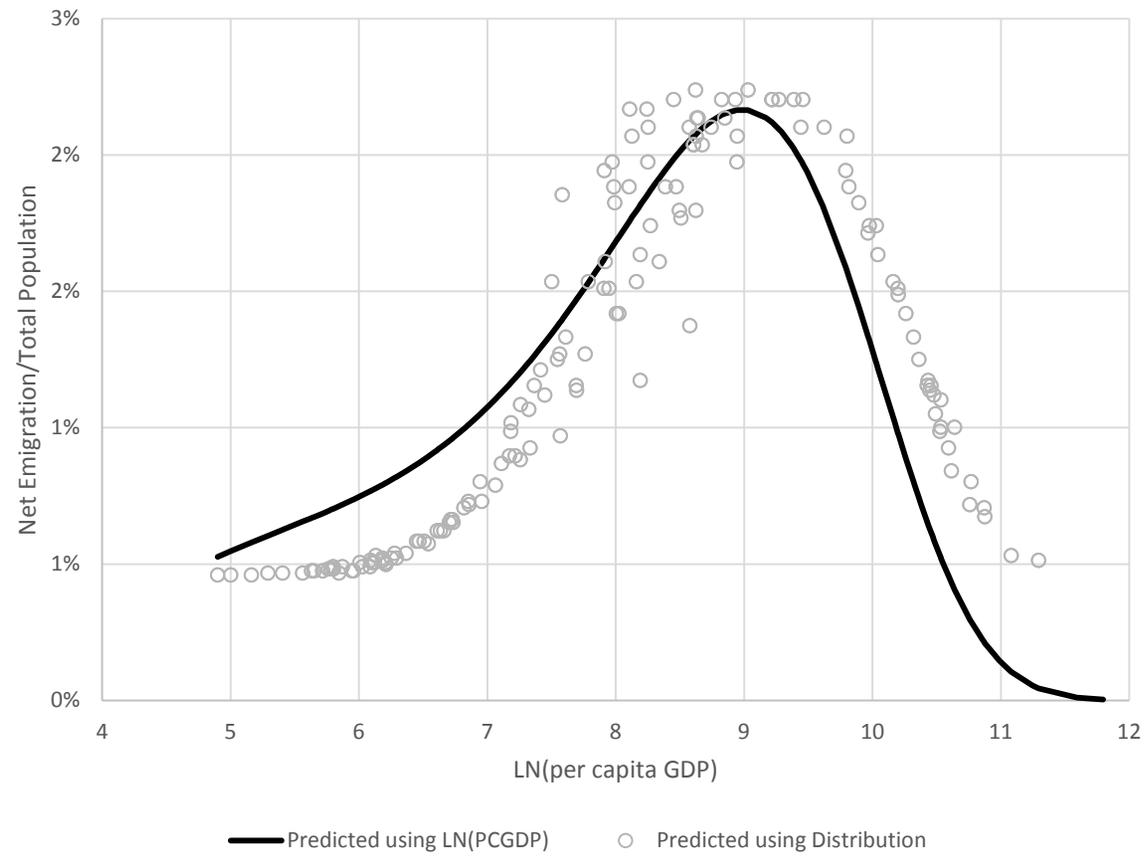
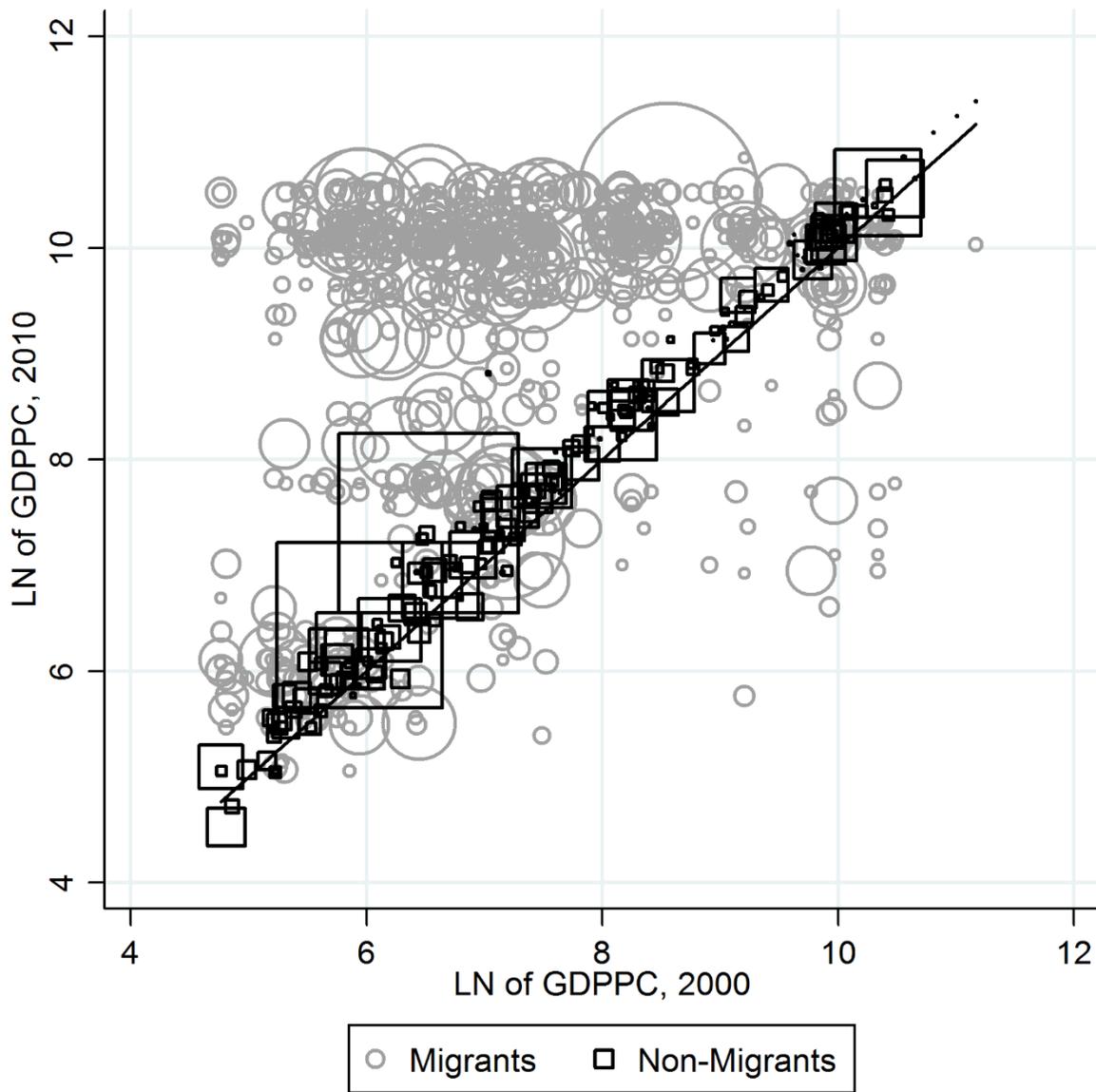
Figure 1. Emigration Rates by per capita GDP_{sending}

Table 1. Migration by GDP per Capita, 1990 to 2000

Origin/Dest	Low	Middle	High	Total
<i>Low</i>				
Net Flow	6,005,320	6,534,458	8,031,136	20,570,914
% of Total	10.5%	11.4%	14.0%	36.0%
NF/100K	202.9	220.8	271.3	695.0
vs. Exp	54.3%	59.0%	72.6%	61.9%
Row %	29.2%	31.8%	39.0%	100.0%
<i>Middle</i>				
Net Flow	2,589,782	5,933,002	17,700,000	26,222,784
% of Total	4.5%	10.4%	30.9%	45.8%
NF/100K	244.3	559.7	1,669.8	2,473.8
vs. Exp	65.3%	149.7%	446.5%	220.5%
Row %	9.9%	22.6%	67.5%	100.0%
<i>High</i>				
Net Flow	943,974	2,622,697	6,853,890	10,420,561
% of Total	1.6%	4.6%	12.0%	18.2%
NF/100K	87.4	242.8	634.6	964.9
vs. Exp	23.4%	64.9%	169.7%	86.0%
Row %	9.1%	25.2%	65.8%	100.0%
<i>Total</i>				
Net Flow	9,539,076	15,090,157	32,585,026	57,214,259
% of Total	16.7%	26.4%	57.0%	100.0%
NF/100K	187.0	295.9	638.9	1,121.8
vs. Exp	50.0%	79.1%	170.9%	100.0%

Figure 2. GDP Per Capita Growth via National Economic Growth and Migration



Notes: Symbol size reflects the national population (non-migrants) and net migration (migrants)

Table 2. Estimating Bilateral Migrant Stocks, 2000, OLS Regression

Bilateral Migrant Stock (logged)	Base + GDP PC		Full Model 1		Full Model 2	
	Beta	S-Beta	Beta	S-Beta	Beta	S-Beta
Population						
Origin	1.049*** 0.044	0.502	0.860*** 0.057	0.412	0.816*** 0.059	0.378
Destination	0.646*** 0.020	0.300	0.685*** 0.022	0.318	0.733*** 0.021	0.352
Distance	-1.636*** 0.136	-0.306	-1.455*** 0.114	-0.273	-1.464*** 0.133	-0.276
GDP Per Capita						
Origin	1.334*** 0.080	0.604	1.094*** 0.133	0.496	1.228*** 0.160	0.565
Difference	0.940*** 0.037	0.578	0.846*** 0.081	0.520	1.008*** 0.109	0.626
Controls	No		Yes		Yes	
Intercept	-21.150*** 1.859		-17.557*** 2.239		-19.116*** 2.330	
R ²	0.458		0.602		0.629	
Pairs (N)	21,323		21,323		14,150	
Origin Countries	144		144		115	
Dest. Countries	149		149		124	

Notes: *p<.05, **p<.01, ***p<.001; observations weighted to the population of the sending country; all non-indexed, non-dichotomous variables are logged; significance testing based on clustered standard errors on the sending country.

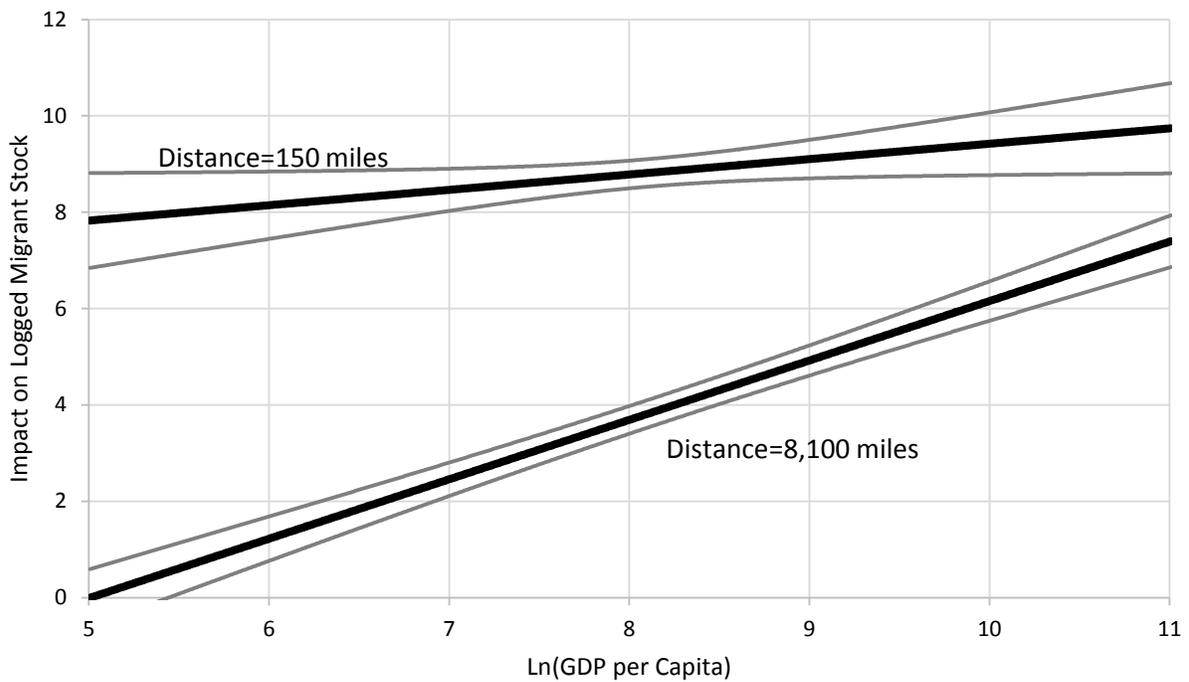
Source: World Bank Global Migration Database (2011), World Bank World Development Indicators (2013), CIA World Factbook (2013), UNDP (2011), Hsu (2007), USOPM (2004), Gleditsch (2002)

Table 3. Control Variables for Table 2

Bilateral Migrant Stock (logged)	Full Model 1		Full Model 2	
	Beta	S-Beta	Beta	S-Beta
Coast				
Origin	0.255	0.017	-0.011	-0.001
Destination	0.198*	0.023	-0.238*	-0.028
Shared Border	1.237**	0.063	0.782	0.043
Area/10 ⁶				
Destination	0.015	0.008	-0.010	-0.006
Pop. Density/10 ³				
Origin	0.091	0.004	0.091	0.004
Destination	-0.235*	-0.020	-0.545***	-0.052
Fertility Rate				
Origin	-0.105	-0.042	-0.154**	-0.062
Destination	0.084	0.042	0.243	0.123
Health				
Origin	0.117**	0.065	0.083	0.046
Destination	0.222***	0.105	0.305***	0.134
Shared Language	0.124***	0.189	0.119***	0.195
Shared Religion	0.243	0.020	0.516	0.042
Colony	0.291	0.008	0.287	0.009
Colonizer	1.047**	0.029	0.877*	0.025
Shared Empire	0.678***	0.078	0.747***	0.087
Fractured State	2.772	0.064	2.787	0.062
Naturalization				
Destination	-0.007	-0.011	-0.024*	-0.039
Regime (vs. Soc. Dem.)				
Dictatorship	-1.257***	-0.113	-1.104***	-0.095
Mil. Dictatorship	-1.576***	-0.089	-1.819***	-0.099
Civil War	-0.617	-0.018	-0.965*	-0.020
One Party Democ.	-1.468***	-0.051	-1.143***	-0.042
Communist	-4.280***	-0.320	-2.738***	-0.193
Islamic Republic	-3.058***	-0.073	-4.225***	-0.066
European Colony	-0.684	-0.018	0.390	0.011
Cons. Democracy	-0.667***	-0.069	-0.330	-0.034
Failed State	-1.149***	-0.045	-0.359	-0.013
Conflict/10 ³				
Origin	-0.049*	-0.043	-0.025**	-0.022
Destination	-0.232	-0.068	-0.307	-0.094
Growth				
Origin			14.248***	0.097
Destination			14.073***	0.091
Unemployment				
Origin			0.025	0.026
Destination			-0.066***	-0.112

Notes: See Table 2

Figure 3. Distance, $GDPPC_{\text{sending}}$ and the Size of the Migrant Stock



Note: We estimated coefficients for distance, $GDPPC$ and their interaction using OLS regression with controls on the migrant stock in 2000. The 95% confidence intervals are based on re-estimation of coefficients using $m=n$ resampling with replacement.

Table 4. Evaluating the Role of Migrant Stocks in Migration

Dependent:	Standard	Fixed Effects	Interaction
	Flow, 1960-2000	Flow, by decade	Stock, by decade
Population			
Origin	0.646 *** 0.019	0.802 *** 0.101	0.103 *** 0.016
Destination	0.377 *** 0.017	-2.583 *** 0.070	0.122 *** 0.024
Distance	-0.951 *** 0.035		-0.207 *** 0.041
GDP Per Capita			
Origin	1.034 *** 0.037	1.132 *** 0.057	0.281 *** 0.021
Gap	0.781 *** 0.022	0.929 *** 0.042	0.190 *** 0.014
Stock	0.280 *** 0.008	-0.247 *** 0.008	0.813 *** 0.016
Interaction			0.022 *** 0.003
Stock*GDPPC,gap			
Controls	Yes	Yes	Yes
Intercept	-14.439 *** 0.719	24.430 *** 2.290	-2.737 *** 0.567
R2	0.472	0.691	0.803
R2 Within		0.107	
Pairs	21,323	26,017	26,908
N		93,935	99,004

Notes: *p<.05, **p<.01, ***p<.001; observations weighted to the population of the sending country; all non-indexed, non-dichotomous variables are logged; clustered standard errors on sending country.

Source: World Bank Global Migration Database (2011), World Bank World Development Indicators (2013), CIA World Factbook (2013), UNDP (2011), Hsu (2007), USOPM (2004), Gleditsch (2002)