

The Dynamics of Development and International Migration

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Introduction

Migration is a controversial subject, especially emigration from less developed states of the South to the developed states of the North. States often enact policies in order to “cure” the roots of immigration by encouraging economic and social development in sending countries. This focus on development emphasizes the apparent role development plays on migration, and for policy makers stimulates the question, does increasing economic development in less developed countries decrease migration from those countries? This leads us to a broader question concerning migration, and the focus of this research paper. Why are there larger numbers of emigrants leaving some states than there are leaving other states? In terms of development, this question is, does the level of development in a state impact the number of people who emigrate? The focus of this research paper is to determine the relationship between development and migration. In order to give a better-rounded analysis of the relationship, individual levels of development will be applied along with state levels of development to give both a micro and macro study of the relationship between development and migration.

My hypothesis is that as development increases, emigration similarly increases until a level of development is reached wherein emigration begins to decrease. This curvilinear relationship should be reflected at both the micro and macro levels of development, but the micro levels should display a slightly stronger role, as the decision to migrate is generally an individual one. Development can be measured at the state level by using the economic measurement of Gross Domestic Product (GDP). Development at

the human level is measured by using the United Nations Human Development Index (HDI), which is a socio-economic measure of the individual's status in a state.

This study is unquestionably significant, in that migration is more than just the movement of people from one state to another. Migration is a multidisciplinary venture, with a plethora of issues tied to it. Foreign policy and tension between immigrants and natives are some of the more visible effects of migration. As numbers of migrants in a country increase, tension between the natives and migrants also seems to increase.

Countries with especially large numbers of immigrants, such as the United States and Germany, make it clear that immigration is a concern of the top priority. Additionally, the question of what emigration (such as the emigration of large numbers of highly skilled labor, or "brain drain") does to the sending countries is also important, especially for developing countries. On the social and policy levels, migration is significant for all involved; the sending states, receiving ones, and the migrants themselves. Infrastructure has to be adapted to accommodate swelling migrant populations, as well as the social issue of integrating them into their new state's society. Similarly, development is also a source of concern for sending and receiving states. Receiving states have an interest in improving development if the increasing numbers of immigrants are a concern to them. Likewise, sending states should also be concerned about how the levels of emigration, especially of skilled labor, either improve or hinder development within the state.

Delineating between individual levels of development and state levels of development are important in order to focus efforts in the right arena.

This study serves current the academic discussion in a number of ways. Migration theory is an important field of study, and this project will serve to clarify

existing hypotheses on migration and development by the support of quantitative analysis. Analysis of migration in terms of both macro and micro levels of development will be important to support existing migration and development theory, as it will explore the relationship between migration and development at two different, but intertwined levels. Also, although there have been a number of local studies on migration and development, this study is of importance because it analyzes the relationship on a global level. Numerous studies have supported the curvilinear relationship between socio-economic development and migration in a localized framework. This study will test whether or not the relationship found in a localized atmosphere is still perceptible at the statewide level, and worldwide level.

Theories of International Migration

The reigning theories of international migration are those with an economic basis: the neoclassical economic theory of migration, the new household economics of migration, and dual labor market theory. These theories apply classic supply and demand paradigms to migration at the individual level, the household unit, and in determining where employment opportunities are for migrants.

The neoclassical economic approach to migration argues that migration is a process in which individual actors measure the opportunities offered to them in their current state, against opportunities offered at a different location. Simply put, migration in this theory is a “cost-benefit decision” (Massey 701) undertaken to maximize income by emigrating to places with those income-maximizing opportunities. High levels of unemployment in developing states are a major factor in emigrating (Zachariah et al. 55,

Massey 702) and relative wages in sending and receiving countries have an empirically examined significant positive correlation (Massey 304, Icduygu et al 40). The weighing of options at home and abroad, are labeled as “push-pull” factors (Corkhill 831). The “push” factors are factors that make staying in the state undesirable. This often refers to economic considerations such as wages and unemployment, but can also be negative social factors such as crime and repressive government (Pellegrino 121). For example, the disintegration of the Soviet Union placed ethnic Russians residing in CIS states in a precarious position. Much of the repatriation movement of ethnic Russians was a result of their decreased civil and political rights and restrictions on their private activities in the newly independent CIS states (Zayonchkovskaya 348). The “pull” factors are the maximizing opportunities abroad relative to those at home. In the economic sense, this means higher wages and employment. In the social sense, this means greater prospects for personal development (Pellegrino 121). This individual rational calculus is often the underlying assumption in spatial choice migration modeling (Pellegrini and Fotheringham 489) as both push and pull factors can be quantified and modeled. However, potential migrants often act on limited or distorted information of the conditions at potential destinations, making this rational actor model somewhat flawed (Malmberg 30).

The new household economies of migration are similar to the neoclassical economic approach, except the unit of analysis is the entire family or household, instead of the individual. This approach argues that the decision to migrate is based on maximizing the gain for the household, and also minimizing risk. Especially in areas with weak institutions and instable economic conditions, characteristics of developing

states, diversifying the household income by sending a member abroad minimizes the risks inherent in instable economies and states (Tapinos 304). Consequently, remittances are the foundation of this economic approach, as they increase productivity in home ventures (Massey 713), and improve the standard of living for the household involved (Zachariah et al. 56). This new household economies approach also explains the often temporary nature of migration, an item that the neoclassical approach doesn't address (Massey 305). Although the new household economies approach has its basis in the same theories of the neoclassical approach, it's important difference is that it argues that migration is not an exclusively individual act, but is often a collective decision made by a household unit in order to diversify income (Malmberg 30).

Dual labor market theory approaches migration in terms of employment opportunities for migrants. In the developed regions of the world, there are two job sectors: the primary, well paying jobs with benefits offered to well-educated people, and the secondary market, with low wages and undesirable working conditions. In areas of high employment, these jobs are unattractive to native workers and are an opportunity for migrants to fill the positions (Massey 305). Although the dual labor market theory has an economic basis, the current demographics of developed states are a drive in creating opportunities for migrants. Europe is experiencing an acute aging of the population, with the working age populations projected to peak between 1995 and 2020, necessitating replacement migration (Hollander 147). In Spain, there are serious labor shortages, but natives are unwilling to accept low wages or perform menial tasks, creating opportunities for migrant workers (Corkhill 829). This dual labor market means that people in developing states such as Turkey (Icduygu et al. 44), Kerala (Zachariah et al. 43), Sub-

Saharan states and Latin America (Corkhill 832), are able to find employment opportunity in the secondary labor markets in the better developed states of Europe and the Gulf area.

Besides the theories founded on economic principles, other theories have a basis on the social networks fabricated from interaction. These networks can have a historical basis, the approach of world systems theory, or the interpersonal web of network theory. Although these two theories take different approaches to interactions that spark increased migration, they are both based on the assumption that connections between states and people pave the way for greater numbers of people to embark on the journey of migration.

World systems theory is a theory of a divided world: there is a core set of wealthy and developed states, and at the periphery in wealth and development are the states disrupted and transformed by those at the core (Massey 722). As capitalism displaces the traditional occupations of the periphery states, sectors of the population are pressed to migrate internationally in order to find employment (Massey 722). This theory relates to dual labor market theory in that it is the periphery states that send migrants in order to fulfill secondary sector jobs. Globalization has sped up the process of capitalization, an idea emphasized by the fact that labor market bifurcation is at its most extreme in the most globalized cities of the world (Massey 305). World systems theory also captures the historical relationship between the formerly colonized and the colonizers (which often currently means the less developed and the developed). Immigration into such former colonial powers such as Spain and Portugal reveal the strength of historical ties, with

most of their immigrants coming from former colonies in Africa, Brazil, and Latin America (Corkhill 832).

Network theory also reflects interactions, but at the level of the individual and community. The premise of this theory is that migrants establish interpersonal ties in their countries of origin and destination that increase the likelihood of others migrating to that particular destination. Networking in this way decreases the risk of migration by making it more likely to gain employment through connections in the country of origin (Massey 728). Having family members at a potential destination also increases the likelihood of actually migrating to that location (Massey 731). Networks based on familial ties, or country of origin provides social support and “make the migratory process safer and more manageable for the migrants and their families” (Castles 272). Once a network system has been established, migration becomes self-sustaining, and diffused to the point that large numbers of people are able to migrate safely within its net. Like world systems theory, network theory in large part explains what economic models are unable to accomplish: the non-economic influences of migration (Malmberg 42).

Development and Migration

Migration is typically characterized by its “South to North” or “less developed to developed” nature. A major contributing factor to this perception is the high population growth of the less developed states that is not matched by a growth in employment and economic opportunity (Hammar and Tamas 6). Although lack of economic opportunities in less development states encourages migration, “international migration does not stem from a lack of economic development but from development itself” (Massey 304). In the

very least developed states, there is little opportunity for migration, but the beginnings of development bring about changes that increase the individual's resources and mobility. These early developmental processes, such as a growing market and domestic development strategies, make it possible for the individual to conceive of a better well being, and acquire the necessary resources to take the step to migrate (Tapinos 298). For example, although the increase in female migration is heavily tied to the feminization of poverty, in West African states higher educational attainment among females has also increased their mobility and ability to migrate (Adepoju 7). In conjunction with the economic theories of migration, those in the very poorest areas are unable to migrate, those in slowly developing states migrate if they are able as an economic enterprise, and those in the most well developed states have little incentive to migrate. Although sending states are on average poorer than receiving states, middle-income states have a much higher emigration rate than the poorest states (Fischer et al 96). The parabolic relationship between migration and development has been demonstrated in several localized studies. In an analysis of a Turkish region, Icduygu et al. were able to support this curvilinear hypothesis. Their results, between emigration from the region and socio-economic development, revealed that emigration increased as regions got poorer, but once socio-economic development reached a certain low, emigration was curtailed (49).

Development clearly has a relationship with migration, but there is speculation as to what that relationship is. Development seems to stimulate migration, but does migration stimulate development, or hinder it in, and if so, in what ways? One of the main developmental concerns with migration is "brain drain," or the outflow of skilled labor from developing nations. A large portion of immigrants work in the secondary job

market of developed states, but there is increasing demand for highly skilled labor in the primary sector as well. In the case of several Latin American countries such as Uruguay, Panama, and Cuba, the percent of migrants with doctorates surpass the average of the U.S. born population (Pellegrino 117). Highly skilled labor is important for a developing state, and “brain circulation” (temporary periods overseas, such as work or school) are beneficial to the development of the state (Pellegrino 118). However, the permanent exodus of such labor is of increasing concern to developing states in dire need of skilled labor in order to build the national infrastructure (Hermele 136). Although the economic situation at home might be unfavorable to skilled labor working overseas, by depriving their home states of their skills they may in fact be contributing to delayed development.

Remittances, or wages sent home from abroad, are another area in which migration effects development in the state of origin. Remittances can increase the standard of living at home (Zachariah et al. 57) and increase the stability of a family’s economic welfare as outlined under the new household economies of migration theory. However, remittances are usually used for purposes that don’t substantially increase development in the origin state. Remittances are usually used to purchase land, for housing, saved as insurance, and other spending confined to household consumption (Hermele 136). It has even been argued that remittances cause inflation by increasing demand that exceeds productive capacity (Hermele 136). However, it is generally accepted that remittances can boost economic productivity by bringing in important multiplier effects that stimulate local industry (Hermele 139). Unlike the exodus of highly skilled labor, states generally welcome remittances as an invaluable boost to the local and national economy.

Although development and migration have a somewhat ambiguous relationship, the presence of the relationship is obvious, if not the direction. Brain drain, brain circulation, the impact of remittances, and the other socio-economic factors involving development and migration are part of the growing pains involved in moving towards a better developed situation in the world.

Sending States

There is little doubt about the attention given to the effects of migration on receiving countries. However, the effects of migration on sending states have been given relatively less observation. The modern era of mass international immigration began with the demise of the Cold War. The Cold War kept international immigration at an artificially low level because of tensions between the two world powers (Massey 311). The end of the Cold War precipitated the softening of borders, combined with a Western world more amenable to taking in refugees from the “other side,” based on ideology- and the assumption that the other half of their bipolar world would generally work diligently to keep its denizens and supporters within their borders (Massey 311). With borders now open, and no clear ideological enemy, the Western world began to tighten its own borders against the outside. Sending states, although now able to send, have faced increasingly strict regulations regarding immigration, and even refugee and asylum status.

Although most sending states of the South do not have specific emigration policies, (Hammar and Tamas 12) several countries, such as the Philippines, Pakistan, and Sri Lanka do have policies encouraging labor emigration. In order to deal with the strain of unemployment, these countries encourage surplus labor to work abroad. The

policies don't actively pursue permanent emigration, but place workers abroad with the premise that new skills learned would be able to be utilized by the sending state when the workers return (Hammar and Tamas 12). Sending states use policies that encourage emigration of labor and circulation of skills as a strategy to increase development by decreasing unemployment, and increase the domestic infrastructure (Massey 311).

Remittances are also a cornerstone for many developing states, and the national economic plans of some of these states explicitly set goals in terms of emigration numbers and specific remittances targets (Massey 311). Certain developing areas are so dependent on migration and remittances, that a sudden cessation in migration could cause overwhelming economic upheaval. In order to prevent disaster, many states are developing programs to diversify the skill of their emigrant workers, so that they will be ensured a place in the global market (Zachariah et al 64-65).

One of the most sensitive subjects for sending states is that of brain drain, the previously mentioned outflow of highly skilled labor in sending states contributing to the retardation of development. Although a lot of immigrant work done in developed states is of the low skilled variety, in an age of powerful technological advances, the need of skilled labor becomes an important issue. As Fischer, Martin, and Strabhaar note, "the increasing division of labor as well as the increasingly international provision of services work specifically in favor of high-skilled migration" (99). Although much of the talent in developing countries leaves in the form of students studying abroad, after receiving their higher education, many never return (Weil 46). 63 per cent of foreign students in US doctoral programs plan to remain permanently in the US (Pellegrino 118). The recovery of talent is an important part of migration policy for sending states. Some states have

special programs in order to bring emigrants with high skill levels back to their home state (Massey 312) and both Taiwan and China have specific policies encouraging graduate students to return home (Pellegrino 120). Aiding these strategies to increase the return on skilled labor are the programs intended to ease recirculation for those who migrate. The creation of a program designed to collectivize West Africa made the free movement of people between states an important issue (Adepoju 10). The freedom of movement within and between the intra-regional states was an important step in ensuring free labor movement and the guarantee of re-circulation of migrants, and has been a success (Adepoju 13).

Another issue of contention is the treatment of immigrants by the receiving states. Mistreatment of immigrants can cause a state to intervene, which has often led to tension between the sending and receiving states. Marginalized immigrants, such as ethnic Russians in post-Soviet republics, Chinese communities throughout Southeast Asia, and Mexican immigrants in the United States have often had their home states issue pressure, either real or symbolic, on their behalf (Krebs and Levy 86). Receiving state immigration policies likewise have a stiffening effect on relations between sending and receiving states.

Receiving States

Much of the policy concerning immigration has been focused on states occupying the receiving end of migration flows, or more precisely, the developed states of the North receiving immigrants from the less developed states of the South. Many of the states enacting more stringent immigration regulations are among those most in need of

influxes of workers in order to maintain an adequate working-age population. Despite stricter policies, however, people in the less developed nations often choose to migrate to these states, often circumventing obstacles in the form of illegal immigration. In Monar's study of comprehensive migration policy, he notes that there are four major components of such a policy. These are: prevention policy (or to cooperate with the country of migration origin in order to decrease migration), admission policy (to define categories of immigrants), control policy (in order to manage flows of immigration), and integration policy (to combat tensions between natives and immigrants) (56-57).

However, despite the fact that immigration is often seen in a negative light, there are several reasons receiving states generally do not impose a no immigration policy. As previously mentioned, there is the concern for maintaining a working age population. Additionally, there are humanitarian concerns with regard to immigrants, especially refugees fleeing violence, and arguably, "economic refugees." In his article, "The Philosopher and the Policymaker" Carens discusses the balance between maintaining a feasible immigration policy and taking into account the lives of people from less developed nations, lives that might be substantially improved through immigration.

Prevention immigration policies are designed to stem immigration from its roots, to make living in the receiving state a less desirable prospect than staying home, or moving to another receiving state. The effect of such policies, however, is mixed at best. The Immigration Reform and Control Act of 1986 caused a decrease in wages of both documented and undocumented workers of Hispanic origin (Massey 233). The goal of the IRCA, to decrease immigration, was not met (Massey 234). Programs that fail to meet their goals, and instead create unnecessary burden on immigrants both legal and

illegal signal the need to create policy that is effective for both the sending and the receiving states.

Theory and Hypothesis

The basis of my hypothesis is that there is a curvilinear relationship between migration and development is a parabola, or an inverted U shape. This is based on the idea that although development sparks immigration, the most highly developed states have little immigration due to the rational preference for people to stay in a country that is fulfilling their needs more than another country might. In less developed states, a swiftly growing population often overwhelms economic opportunities for individuals. In order to increase their standard of living, individuals are often forced to seek employment opportunities outside of their country of residence. This hypothesis captures major aspects of neoclassical economic theory, and to a lesser extent the new household economies theory. There is a rational calculation, either made by the individual or the familial unit (a decision influenced by the strength of networks in potential receiving states) based on the level of development achievable in the home state. At the lowest levels of development, migration is not accessible because of the lack of resources or information. At medium levels of development, emigration is stimulated by the availability of resources to leave, the “push” of a poor economic outlook in the country of origin, and the “pull” of economic opportunities in other states. At the highest levels of development, there is no “push” because, relative to most other states, current economic status is desirable, and subsequently, no “pull” of the option of something better. Studying the impacts of development on the individual level as well as the statewide level

gives a more in depth analysis of the relationship between migration and development, and may give a more accurate picture of the hypothesized curvilinear relationship between migration and development. The state development indicator of GDP and its relationship with migration gives a generalized picture of economic development and migration. However, supplementing this broad view of development and immigration with individual factors reveals the impact development has on the individual. The Human Development Index, a measurement of the individual's socio-economic status, will be used to compare with the state measurement of development, GDP. I hope to contribute a well-rounded observation and analysis of the effects of development on migration to the field of development and migration theory and illustrate the neoclassical economic theory of migration in an empirical and quantified model. This analysis will serve to clarify existing hypotheses and observations on the impacts of development on the state and the individual when it comes to migration.

Data Source

Data for the variable gross domestic product (GDP) were derived from the United Nations World Statistics Pocketbook. Human Development Index data came from the United Nations Human Development Report of 2000. Net migration rates came from the CIA World Fact Book, accessible to the public on the Internet. The three sources of data I am using, two from United Nations statistics divisions, and one from a CIA data source, are generally considered to be reliable indicators of world trends. The statistics compiled from these agencies can be considered accurate because they fall under the specialization of these agencies. The agencies involved have distinguished international reputations,

and are well respected for their diligence and relative inerrancy regarding data and statistics compilation. Data from these sources are generally considered to be reliable, and thus will be able to give a reliable indication of a relationship, if one exists.

Variables

The dependent variable, net migration rate, is a commonly used demographic tool in measuring the ratio of migrants and emigrants to the total population of a state. Net migration rate is the number of immigrants into a state minus the number of emigrants leaving the state. A net migration rate of zero indicates a balance between outgoing and incoming populations, or is indicative of a negligible amount of migration activity in either direction. A positive rate indicates a net balance of more immigrants than emigrants. A negative rate indicates a negative net balance in terms of people leaving the state. For example, Canada, a major receiving state on the international scene, has a net migration rate of 6.07. Cape Verde, on the other hand, has a negative net balance of – 12.26, indicating more people are emigrating than are immigrating. The independent variable, GDP is the sum gross value added by all resident producers in an economy plus product taxes and minus subsidies not included in the value of the product. The UN reference used indicates the amount of GDP in millions of constant 1995 US dollars. This will be the indicator of statewide development. The Human Development Index uses one simple composite index to measure human achievement. HDI is a measurement of the relative socio-economic factors of longevity (measured in life expectancy at birth), knowledge (adult literacy rate and combined enrollment ratio) and standard of living (adjusted per capita income in US dollars). The value of HDI ranges from 0 to 1, with 1

being the highest state of human development, and 0 being the lowest state of human development (Human Development Report 147-148). In a multivariate model of these measures, I expect the outcome to closely match that of GDP, the statewide indicator of developmental status. Although migration occurs simultaneously with development, development is the initial causal factor in the relationship. However, since this isn't a time series study, the strong correlative relationship and the substantial theory of development and migration should be substantial in indicating a relationship. Analysis should reveal that those states with marginal development and those that are highly developed have far less emigration than developing states.

Validity

The validity of the independent and dependent variables can be mostly addressed at face value. GDP is a valid measure of statewide development, as it measures economic status, which can be judged relative to other states in the world. However, GDP can be problematic in that very large states with large populations can have staggering economies that mean very little once spread out over the entire population. On the other hand, a very small state can be well developed but not have a sizable GDP in comparison to a larger state, even if that state is less developed. Generally speaking, however, GDP is the most often used measure of a state's economic development. GDP is a valid measure of state development because it measures the output and production within the state, including foreign ventures and investments within that state. I chose GDP over gross national product (GNP) because GDP measures the economy within the state's borders. Foreign companies located within the boundaries of a state have a greater

impact on the local and domestic economy than do domestic investments out of the state. GDP is not a flawless measure of state level development, but it is more valid measure of state development than GNP. Because the numbers for GDP are so accurate, and it generally fits the criteria for validity in the face of competitors, GDP is an accurate and valid measure of state development.

The Human Development Index is both an accurate and valid measure of individual human achievement and development in a state. By making a composite index of socio-economic factors such as longevity, education, and standard of living, the index is able to capture a broader range of developmental concepts than a simple economic sum, such as GDP per capita. Increases in longevity, education, and standard of living, are generally indicative of improving development. A significant increase or decrease in any one of these factors might indicate an acute developmental crisis or problem. An examination of the data itself shows face validity (Canada has a HDI value of .935, whereas Sierra Leone has a HDI value of .252). In relation to GDP, the examples of Canada and Sierra Leone are effective as they show that development measured in GDP (568,072 millions of US dollar in Canada, 1,271 millions of US dollars in Sierra Leon) relates the similar distances between the two countries in terms of individual development. The Human Development Index is a valid measure of individual development because it captures the socio-economic factors most crucial to measuring human achievement and experience in a state.

Net migration rate measures the balance of emigrants and immigrants in a population. Although a straightforward emigration number for each state would have been preferable, data on emigration numbers is exceedingly difficult to compile,

considering the lack of resources, and the discrepancies in methods used by each state. Because emigration often isn't diligently monitored (not nearly as much as immigration in most states) or states don't release accurate information about the number of people leaving the country, the CIA World Fact Book's data on net migration rates was the most comprehensive in terms of number of states (all). Net migration in itself is an accurate measure of emigration from a country, because it reveals the ratio of people leaving, to those staying, and also to those immigrating from other states. It is probably more valid than a single emigration rate, because it shows how emigration and migration affect the demographics of a state. A very large state could have a very large number of emigrants, but they might be insignificant in the face of the sizable population. On the other hand, a smaller state might have a lower number of emigrants, but those might represent a larger proportion of their population than the larger state's emigrants.

Generalizability

I expect this analysis to be generalizable on the macro level of migration and development, because even though I'm using individual measures of human development, the unique characters of smaller locales are somewhat lost in this larger model. However, if a curvilinear relationship were established, I would surmise that the effects of development and migration could be applied to regional and local studies. Because migration is somewhat of an individual (or household) decision, development in a region acutely effects the individual decision to migrate. Icduygu et al. successfully applied the hypothesis to a localized region in Turkey and verified a curvilinear relationship supporting the theory. At the state level, I think that the generalized

relationship between development and migration is also meaningful, barring some extreme and exclusive factor in that state's development, because development is a process that many states are experiencing the same difficulties with. The results would be generalizable at the state level, because the developmental theory could easily be applied. There are not any other concerns with generalizability because a population (states of the world) is being analyzed instead of a sample.

Results

The distribution for the dependent variable, net migration rate was a mean of .3948 and a standard deviation of 5.976. The distribution of net migration rates were notably clustered around 0, or negligible in either direction away from the mean (appendix 1). Most of the states in the model had either a zero net migration rate, or net migration rates, positive or negative, were small. The distribution of the independent variable GDP was a mean of 139720.3 with a standard deviation of 659122.237. GDP had the greatest variance of the variables, which may have accounted for its relatively small impact on net migration rates. The variance of HDI was a mean of .6187 and a standard deviation of .1755. Most of the states were on middle ground in terms of human development, with relatively few near to 1, and few very close to 0.

Table 1: The Impact of Development on Migration: A Multivariate Regression Model

	Unstandardized Coefficients (SE)	Beta Weights
Constant	17.832	
GDP	-9.238E-08	-.014

Human Development Index***	-64.263	-2.478
HDI2***	52.052	2.571

*** = p<.05, ** = p<.01, *** = p<.001**

R Square = .122 N = 171

The multivariate model of the relationship between GDP and HDI on net migration was only significant in terms of HDI. As table 1 shows, relative weight of GDP in explaining variance in net migration is minimal, however, the weight of HDI in accounting for variance in the model is significant in comparison. The R square of .122 reveals that although only a small percentage of the variance can be explained by the independent variables, the independent variables account for a real and positive explanation of the variance in the dependent variable. The curvilinear hypothesis between GDP, HDI, reveals a net increase in migration for increases in HDI:

$$Y = 17.745 + .0000000189 (\text{GDP}) - 64 (\text{HDI}) + 51 (\text{HDI}^2)$$

The line for HDI is a parabola, and only measures of HDI were significant in explaining migration rates. Although the R square results weren't impressive, there is a strong correlation between HDI rates and net migration, as the significance when a curvilinear relationship was explored with HDI (table 1). The null hypothesis can be rejected on in the case of HDI. HDI and other factors account more in the variation of net migration rates than do GDP

Discussion

Support for increases in emigration due to development was only significant at the individual level. Contrary to my hypothesis, statewide development had an insignificant causal effect on the levels of emigration. Although the curvilinear relationship was present, the inverted U hypothesis wasn't as strong as I was expecting. There is a perceptible curvilinear relationship between human development indicators and net migration rates. Higher Human Development Index ratings correspond with higher net migration rates. However, developing states also have a high influx of migrants, a factor that reduces the clarity of the curvilinear relationship, and balances out emigration rates. States at the lowest end in terms of human development have very little emigrants and migrants, and as development increases, emigration corresponds with an increase. At higher levels of development, emigration increases, but the scatter plot (appendix 2) additionally captures the effect of increased in-migration. At the highest levels of human development, there is little emigration, but an increased influx of immigrants. Results from the table reveal that the relationship between development and migration is only significant in terms of individual development as opposed to statewide measures of development. Beta scores indicate that the impact of individual development (Human Development Index scores) on net migration is much higher than the impact of statewide development (GDP). The line for the relationship between the Human Development Index and net migration is a parabola, with an overall positive relationship between human development and net migration. Although the model summary of the relationship between the independent variables is insignificant (only .217 can be explained by the independent variables) the relationship between the individual indicator of human

development and net migration shows a strong correlation (the significance levels being below .001). Significance for GDP, however, was surprisingly unimpressive in comparison, with a score of .946. The results reveal that although the independent variables together did little to explain variation in levels of net migration, the effect of development on the individual level showed a strong positive relationship with the net migration rate of a state. The curvilinear relationship had a strong positive pull, with increases in Human Development Index scores showing a strong relationship with net migration rates.

The significance of this analysis is that statewide development measured in GDP has little impact on net migration rates. Although the HDI significance supports neoclassical economic theories of migration, the statewide measure of GDP is, interestingly enough, almost irrelevant in determining the move from one state to another. GDP is accurate in measuring relative brute power of wealth, but it doesn't capture the dynamics of development that HDI does. A more socio-economic measure of state level development is probably more appropriate for deriving conclusions about the movement of individuals between states. I would expect a composite index of socio-economic development, like HDI, would be a more reliable indicator of the impact of statewide development on migration. GDP is a valid measure of a state's resources, but it tends to bypass the importance of the socio-economic condition of the people who inhabit the state. Additionally, a state level impact such as the existence of a repressive government, or state sponsored human rights violations might also be more explanatory in terms of explaining the movement of people out of a state. The economic theories of migration tend to view rational calculations and decisions based on purely monetary terms. In order

to focus on delineating economic theory and migration, controlling for repressive state and civil strife would be appropriate. Likewise, HDI captures important socio-economic conditions but socio-political considerations are left out of the composite. Either focusing on these variables in order to get a fully rounded analysis on why people migrate, or controlling for these factors in order to clarify the economic influences of development on migration would likely yield interesting (and more compelling) results.

Despite the limitations of this analysis, I think that it clarified existing theory and is significant in its contributions. States often focus on bolstering the statewide development, but as noted in the literature review, these efforts often have little effect on those who migrate in order to improve their standard of living. This analysis quantitatively indicates that development efforts must be at an individual level as well in order to decrease migration. However, increasing individual development at a pace the state is unable to keep up with in terms of employment opportunities will still raise immigration rates. A policy of co-development that addresses both of these factors would likely be the most successful in a strategy to decrease immigration to the countries of the North.

Conclusion

In accordance to neoclassical and the new household economic theories of development, migration is determined largely in part by the status of the individual in a state. Although statewide levels of development such as GDP lend an understanding to the relative status of an entire state's wealth compared to other states, individual levels of development have a greater impact on a state's migration rate. In terms of receiving state

policy, emigration will continue to be necessary to replace aging population, and is inevitable in an era of globalization and increasingly permeable borders. Although this study gives some valuable insights to migration and development, fostering individual development in a country does not seem feasible without a concurrent program on a state level in order to sustain a developing population. Beyond the policy implications of this study, are the future opportunities to explore the relationship between development and migration in a more accurate fashion. Finding a suitable variable for statewide development, that accurately reflects the relative standing of that state in the world would be one direction to go in. Additionally, the other factors that “push” and “pull” people to and from states deserve attention. Economic theory places an emphasis on the market side of migration, while often ignoring other compelling human incentives to leave. The decision to stay or to go is a powerful dynamic, and migration becomes a demographic that is turning out to be more and more important as the world enters an era of intense globalization. Understanding this dynamic is an invaluable tool in understanding why emigrants embark on their journeys so far from home.

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