Immigration and Security: A Cross-Discipline Approach

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ABSTRACT

This project explores the circumstances under which migrants pose a threat to host state security. Specifically, it assesses classical national security concerns, economic security concerns, and health security concerns to determine a single framework that can explain the degree to which immigrants constitute a threat. This work argues that it is the nexus of migrant characteristics and state capacity that determines the circumstances under which immigrants pose a threat to host state security. Existing research on the subject remains largely limited by subfield and case studies. As such, this dissertation's main contribution is providing a single framework with which to work across disciplines and testing the premise of this dissertation in a cross-national, predominantly quantitative way.

This work seeks to contribute primarily to two different literatures. First, it adds to the literature on immigration and the classical notion of national security, by quantitatively and cross-nationally testing the degree to which immigrants pose a threat to host state national security. In doing so, it makes clear that immigrants do not always pose a threat to host states; it is only certain migrants in certain circumstances, when states lack the capacity to deal with immigration (such as during civil war), who may pose a threat to host state security. Second, this research contributes to the literature on immigration and health by looking at the nexus of migrant characteristics, state capacity, and disease characteristics to point out that migrant characteristics and disease characteristics matter only in circumstances when states lack the capacity to control who crosses their borders and when. Specifically, the research indicates that screening mechanisms are effective in protecting host states against the potential health threat

that immigrants can pose and it is those states which lack screening mechanisms that are most at risk.

In this dissertation, I borrow approaches and methodologies from the economics literature in order to both quantitatively and qualitatively test my hypotheses in the national security and health security fields. Using a cross-national, time-series cross-section model to analyze dyadic international migration flows (from 1990 to 2004), I look at the impact that immigration has both on the likelihood that a given state will become involved in a conflict as well as on disease prevalence and incidence rates. My findings suggest that this migrant and state characteristics framework is appropriate for looking at the threat that immigrants pose across disciplines. I demonstrate that it is those states that lack the capacity to deal with immigration, and the potential threat that it may pose, that are most likely to be at risk, regardless of the number of immigrants coming in and their characteristics.

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CHAPTER ONE: Introduction

On September 11, 2001, as millions of people in the U.S. readied themselves for the nearly cloudless day ahead, nineteen terrorists hijacked four airliners and crashed them, killing nearly three thousand people, in what President Bush called "acts of war". A total of ten hijackers commandeered American Airlines Flight 11 and United Airlines Flight 175, which would later hit the two towers of the World Trade Center. Another five hijackers boarded and took over American Airlines Flight 77, which they flew into the Pentagon and a final group of four terrorists who, in a failed attempt on Washington D.C., crashed United Airlines Flight 93 into a field near Shanksville, Pennsylvania (National Commission on Terrorist Attacks Upon the United States, 2004, pp. 1-14). After the details emerged about these events, what surprised many people was that these terrorists were able to come to the U.S. legally, a few as students, and several had even undergone pilot training once in the U.S. (National Commission on Terrorist Attacks Upon the United States, 2004, pp. 215-240).

In response to this breach of national security, and the tragedy that followed, the United States launched two wars, reframed security as "global security," and debated the necessity of sealing the borders. This creation of a U.S. homeland security zone allowed the government "to toughen the requirements for people seeking to enter, to incarcerate potential suspects, to use the military and intelligence services to 'police' inside [the country]" all in the hopes of preventing a future attack (Bigo, 2008, p. 85).

However, it is important to note that September 11, 2001 was neither the birth of a new age of terrorism nor the precipitating factor for a change in U.S. immigration law. While it was unusual to have the U.S. mainland attacked, the plane hijackings of the 1970s and suicide bombing against U.S. (and French) armies in Beirut certainly indicate that this was not the first

time the U.S. faced terrorism (Bigo, 2008, p. 70). On the same note, while discussions of closing the borders certainly peaked in the post 9/11 period, in light of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and the Anti-Terrorism and Effective Death Penalty Act of 1996, which expanded grounds for removal under criminal law and increased penalties for violations of immigration laws, the changes to immigration law after 9/11 certainly cannot be considered a turning point in U.S. immigration policy (Chacon, 2008, pp. 152-154). Similarly, the rethinking of U.S. refugee policy that followed the attacks cannot be considered a watershed moment as, according to Baylis (2008, pp. 166-167), new limitations on asylum were introduced in 1993 and finalized in 1995, prior to 9/11 (Adamson, 2006, p. 166). In short, the terrorist attacks of 9/11, while not the cause of a shift toward initiatives on immigration, certainly consolidated "the shift toward linking immigration with security" and, by doing so, seemed to confirm that migration is, or may be, a threat to U.S. security (Chebel D'Appolonia & Reich, 2008 , p. 8).

The tragedy of September 11, 2001 is just one, unique example of how immigration can be seen as a threat to national security. Events of such magnitude are, thankfully, rare and, in this work, I will elucidate ways in which migration affects national security on a more systematic and steady basis. In this dissertation, I am interested in assessing the degree of threat that immigrants pose to national security and to the new realms of security as well. I argue that the degree of threat that they pose is determined primarily by the nexus of state capacity and migrant characteristics.[1]

In this chapter I discuss how and when the realm of security studies expanded to include concerns about immigration. In doing so, I outline the evolution of the notion of security. In addition, I define terms that will be of importance throughout this dissertation. Since

[1] In the case of health security, disease characteristics matter as well.

immigration will be the overarching topic of all subsequent chapters, I provide a background about immigration, including an overview of immigrant characteristics, stocks and flows cross-nationally, and longitudinally, and state responses to immigration. Lastly, I will present the query of this dissertation. In the following chapters, I argue that, for each issue area, national security, economic security and health security, it is the nexus of state capacity and migrant characteristics that determines the degree of threat the migrants pose.

NOTIONS OF SECURITY: EXPANSION TO IMMIGRATION

Historically, discussions about security focused solely on the realm of national political and military security. Today, scholars generally agree that the post-Cold War period has seen an expansion of what is considered state security (MacLean, 2008; Rudolph, 2006, pp. 23-28; Younde, 2009, p. 196). During the Cold War, scholars mostly associated security with the realist notion of security, which considered threats "to a state's security principally to arise from outside its border" and also to be primarily military in nature (Ayoob, 1994, p. 225; Rudolph, 2006, p. 200). For these scholars, immigration was, at best, "a peripheral concern because only phenomena affecting questions of war and peace [were] important for the analysis of international relations" (Miller, 1998, p. 24). However, that narrow definition of security is incomplete and, in the following section, I will discuss the classical notions of security as well as how the notion of security has expanded to include human security, of which both economic security and health security are dimensions. Ultimately, I show that a common framework (state capacity and migrant characteristics) can be applied when examining all of these issue areas, especially when looking at the impact that immigration has on security, in all of its forms.

Classical Notions of Security

The notion of the nation-state dates back centuries, to the Peace of Westphalia (1648) (Steinbruner 2000, 85). Many propose that, from the establishment of the nation-state, the guiding principle of security studies has been sovereignty, whereby citizens yield to a sovereign in order to be sheltered from civil and religious war as well as hostile incursion (Hobbes 1985). This national security has to do with the state's right to determine its national interests, to enact policy to further them and to protect these "long-term, core collective objectives" (Poku, Renwick, & Glenn, 2000, p. 9). Often this included states determining their borders, who crosses them, and what the consequences of crossing are. Despite the fact that migration is the first thing that comes to mind in a discussion of border crossing, in reality, a few individuals crossing, as opposed to armies crossing, were never at the forefront of national security concerns. Instead states were concerned with having sufficient military capabilities to protect their borders and to ensure their survival.

"The concept of national security has until now been defined mostly by Realists for whom the referent is the state whereas the contents is narrowly related to military security" (Drifte, 2006, p. 103). In other words, all classical notions of security focus on the state: these scholars generally emphasize the competition between independent, rational and self-interested states "wherein a state that fails to pursue its self-interest in a tough-minded manner thereby risks its security" (Russett, 1990, p. 53).

In contrast, liberals, who also focus on the nation-state, believe that states tend to have common interests, such as peace, security, and economic well-being, all of which are parts of national security, making cooperation between states prudent. This way of thinking became prominent with the establishment of the United Nations (UN) and the North Atlantic Treaty

Organization (NATO) (Rudolph, 2006, p. 3). The liberal concept of the state emphasizes the centrality of economics and thus incorporates economic security into the fold of security issues.

Since the 1980s, and even more so in recent history, globalization has had consequences for security beyond just concerns for interstate military conflict and insurgency. Globalization can "affect the balance of power, change the offense-defense balance or other factors that might affect the security dilemma and the likelihood of war, or transform the ability of the state to defend its own interests" (Kirshner, 2006, p. 2; Rudolph, 2006, p. 200). One of the ways in which these advances in transportation and communications technology have changed the world is that there has been an increase in the ease with which people move across borders. This ease of mobility has had a tremendous impact on national security, economic security and health security, all of which fall under the expanded notion of security.

Human Security

This expanded notion of security is often called human security, which incorporates economic, societal, and ecological security into the traditional security perspective. The new term, human security, which traditional security scholars fear will only "dilute the analytical power of security" (Fagan & Munck, 2009, p. 6), can be broadly defined as: "the security of persons against threats to their basic needs" (Gasper, 2009, p. 158). Alternatively, human security can be defined as a provision of security for "the fundamentals" – though this definition in itself is very broad and open to interpretation as people have a difficulty of agreeing on what "the fundamentals" are. The UN defines these fundamentals as freedom from fear and freedom from want (Poku, Renwick, & Glenn, 2000, p. 19). More conservative scholars define human security as the "physical, bodily security of persons," which some restrict further by adding "against intentional threats" (Gasper, 2009, p. 158). Nevertheless, an increasing number of

security scholars have accepted Mahbub ul-Haq's definition of security as "the safety of the individual against starvation, loss of property, violations of bodily integrity, torture and other forms of aggression," in addition to the protection of the sovereignty of states (Kleinschmidt, 2006, p. 96).

Generally speaking, the notion of security has been expanded in three ways. First, the notion has expanded to include more than just the nation-state and may include other actors, such as the individual, ethnic or religious group, society, state or international system (Poku & Graham, 1998, p. 10; Rudolph, 2006, p. 200). Second, in the last twenty years or so "the human individual has been recognized as a unit for whome [sic] security in a broader sense should be provided" (Cockerham & Cockerham, 2010, pp. 34-35; Kleinschmidt, 2006, p. 61). This human-centric approach to security, which will be addressed in subsequent chapters in more detail, has developed to encompass "the conditions of existence which are affected by political, economic, societal, and environmental factors, in addition to military factors" (Drifte, 2006, pp. 103-401). This means that issues such as economic welfare, unemployment, disease, and social conflict are no longer outside the purview of security scholars (MacLean, 2008, p. 476) and since individuals are now considered actors whose actions have security implications, the movement of people, immigration, is a security concern.

Security and Immigration

Many traditional realists fear that this new concept is an "attack against the Westphalian system of nation states because it questions the link between national security and national borders" (Kleinschmidt, 2006, p. 105). However, an expansion of security beyond the nation-state is necessary as, "contrary to realist assumptions that states with sufficient military capabilities are the only actors of significance in world politics, a handful of people crossing

unarmed into another country can have tremendous consequences for international security, as the attacks of September 11, 2001 amply demonstrated" (Koslowski, 2004, p. 6).

Some scholars point to the WWI-WWII era as the historical break that pushed immigration to the forefront of security studies. The transformation of the European landscape and the redrawing of territorial lines created displaced minorities who felt insecure and were able to make the host states feel insecure, with concerns over dual loyalties. Traditional security and issues of migration merged when concerns arose, during both world wars, that certain migrant groups were conspiring with their countries of origin. Though concerns over the "fifth column" had arisen previously, most notably with the establishment of conscription in France, by WWII fear and suspicion of the Japanese lead to the establishment of internment camps in the U.S. and Canada, while in several other countries people of foreign birth or origin, such as Germans, were harassed (Cohen, 1985, pp. 42-59; Graham, 2000, p. 195).

Others date the expansion of security to include immigration issues to the end of the Cold War and the fall of the Soviet Union. They point to the domino effect of the "exodus of East Germans to Austria through Czechoslovakia and Hungary in…1989", and the subsequent opening of borders by the German Democratic Republic, massive outmigration of East Germans, the absorption of those individuals by the Federal Republic of Germany, the fall of the Berlin Wall and ultimately, the reunification of Germany as a single state as the perfect example of how migration can change the world (Drifte, 2006, p. 103; Guild, 2009, p. 8; Poku & Graham, 1998, pp. 3-6; Weiner, Security, Stability, and International Migration, 1992, p. 91).

These scholars support their argument by pointing to the fact that since the early 1990s immigration shows no sign of lessening, that the breakup of the Soviet Union led to a paradigm shift where the focus of security studies was no longer on the two hegemons and their nuclear

arsenals, but on a unipolar world where non-state actors played a significant role in world events. This, and the resurgence of "violent secessionist movements that create refugee flows" (Weiner, Security, Stability, and International Migration, 1992, p. 92), along with the fact that barriers to exit from the former Soviet Union and Eastern Europe had been lifted, rekindled concerns for migration. Sadako Ogata, the UN High Commissioner of Refugees, is reported to have said that "migration must be treated …as a political problem which must be placed in the mainstream of the international agenda as a potential threat to international peace and security" (Lyons & Mastanduno, 1992, p. 20).

Still others point out that migration was always of concern to certain sectors of government, claiming that the importance of migration, and its impact on security, has only moved it into the sphere of high international politics in more recent times. Most notably, scholars such as Bigo (2008, pp. 68-69), Friman (2008, pp. 130-133) and Koslowski (2004, pp. 138-144) point to September 11, 2001 as the turning point which led to an unprecedented focus on the globalization of security and a fear of internal networks of terrorist cells, which may "render traditional territorial borders meaningless" (Bigo, 2008, p. 89). The assault on the Twin Towers, the Pentagon, and the attempted attack on the Capitol, proved beyond measure that a small group of individuals, crossing a border legally, can have a colossal impact on both national and world security (Koslowski, 2004, p. 6). It is clear that in the current global climate it is impossible to disregard threats from non-state actors. In fact, some of these scholars take this notion a step further and claim that it is not international migration that is a threat to international security, but international mobility in general (Rudolph, 2006, pp. 11-15). This is because the number of tourists and business people far exceeds the number of immigrants, and, as is evident, permanent migration is not a prerequisite for a person to infect him- or her-self with a biological

agent or to take part in a suicide-bombing. In a post-9/11 world, few individuals would argue that immigration, or mobility, and security are not forever unyieldingly intertwined.

I conclude that immigration has historically been on the fringes of national security, but has increasingly become a central component of it. The importance of immigration has peaked at times when the number of immigrants increased in a post-conflict time (such as after WWI, WWII, and the Cold War); when immigration increased and shifted somehow, giving it the potential to significantly impact the territories to which migrants were moving. Regardless of the era to which scholars point to as the initiation of immigration concerns, immigration is a concern to both national sovereignty and human security, thus justifying research on the conditions under which immigrants are a security concern.

Indeed, immigration is especially prominent now in the post-9/11 era where we have securitized immigration. The question is, should we be spending our resources on securitizing immigration and more closely guarding our borders? The answer really is, in a sense, yes, because to a large degree it is state capacity, regardless of which issue area you look at, that determines the degree of threat that migrants pose to the host state.

Every year the number of people who cross international borders is staggering and this has indisputably had an impact on security, thereby making immigration a necessary subset of security studies. Immigration matters for security, however it is defined. Since immigration will be the overarching theme of this dissertation, some basic definitional and historical background information is in order. Because immigration is a central topic for each of the subsequent chapters, in the quest for brevity, some issues need to be addressed at the onset: Who are these immigrants? How has immigration changed over time? And, how have states responded?

IMMIGRANTS: FOUR DIMENSIONS

The answer to the question of who is a migrant is not straightforward. Because the focus of this dissertation is immigration, it is important to elaborate on a number of terms that will be used throughout the work. Migrants are not a homogenous group and different groups of migrants can impact security in varying ways, therefore necessitating the articulation of what differences characterize migrants, though all of the variation is difficult to account for. While states have an assortment of definitions, the United Nations (UN) defines a migrant as "someone entering a country for twelve months or longer" (Adamson, 2006, p. 170). In this work, I use the UN definition, though I do not strictly adhere to the twelve month threshold. Instead, I use each state's classification of individuals as migrants, which often includes people who plan to stay a prolonged period, not necessarily twelve months, in a state, and become part of its community (Guild, 2009, pp. 20-21). In her article "Crossing Borders: International Migration and National Security," Fiona Adamson (2006, pp. 171-175) provides a helpful prism through which to view and describe immigrants. She provides four dimensions on which a given migrant will find him- or her-self.

First, she points to the fact that immigrants can either emigrate voluntarily, which includes individuals who leaves their homes intentionally, without force or coercion, to reunite with families or to enhance their financial situation, or both. Most people think of this group when they think of immigrants. However, there is the group of immigrants that is forced to migrate. This involuntary migration can be due to humanitarian crises, such as drought or famine, political or religious oppression, or a variety of other dangerous situations, such as war, during which people flee to prevent loss of life, limb, or liberty (Messina & Lahav, 2006, p. 10). The Office of the UN High Commissioner for Refugees "estimates that world-wide 13.2 million

people have fled their countries" of origin (Lammers, 1999, p. 9). The chief group here is refugees (and asylum-seekers, whose claims for refugee status have not yet been determined) (United Nations High Commissioner for Refugees, 2009), whom the UN defines as "people who are outside their countries because of a well-founded fear of persecution based on their race, religion, nationality, political opinion or membership in a particular social group, and who cannot return home" (United Nations High Commissioner for Refugees, 2005). There are also instances where people are forcibly moved, as is often the case with human trafficking. The 2000 UN Protocol to Prevent, Suppress, and Punish Trafficking in Persons has sought to remedy the problem of human trafficking and defines trafficking in persons as:

> "(..) the recruitment, transportation, transfer, harbouring [sic] or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation" (Gozdziak & Collett, 2005, p. 104).

The second dimension that Adamson (2006, p. 172) enumerates is economic versus political migration. Economic migrants tend to leave their countries of origin in order to pursue economic opportunities, such as employment or education, while political migrants leave to better their lives in other ways, such as to flee from war or political persecution. This group can include asylum-seekers and refugees, though even these groups sometimes have "a degree of choice in their country of destination" (Adamson, 2006, p. 172). However, these groups are not homogenous either. Economic migrants can be educated or uneducated, skilled or unskilled and they can also emigrate permanently, temporarily or they can be seasonal workers, who annually migrate for a specific type of work. And while the image that often comes to mind for Americans and Western Europeans alike is that of a "young, male, worn-out clothes, low-skilled, [with] language problems," the increased trend for the migration of skilled labor and family

reunification has resulted in a very different reality; since the 1980s there has been an "increasing feminization of migration flows" (Deutsche Bank Research, 2006, p. 19).

Adamson also distinguishes between legal and illegal or, as Messina and Lahav (2006, 10) suggest "irregular" migration, which is dependent on the channel that the migrant takes in order to change his- or her- place of residence. Illegal, or irregular migrants, come in many types. The type of "illegal" migrant that most commonly comes to mind is one "who enters a country without documentation or formal authorization or clandestinely assumes or maintains residence there" (Messina & Lahav, 2006, p. 10). Surprisingly, a large number of individuals who fall into this "undocumented" category are actually "overstayers," who entered the country legally, but remained after their tourist, student, or other temporary visa expired.

Finally, Adamson differentiates between "permanent migration," those individuals who plan to permanently resettle and "temporary migration." Permanent migration is what most people think of when they hear the term migration. "Temporary migration," though the intent is often different from the outcome, as seen by the large groups of "overstayers," includes guest workers, seasonal laborers, and students. It is important to note not only that within each of the aforementioned categories there are distinctions among individuals (Messina & Lahav, 2006, pp. 9-11), but also that there is a great deal of overlap between some of these categories. As a final point, people who travel for business or pleasure for short periods of time are not considered migrants, as per the definition above and for the most part as excluded from the analyses in this dissertation.

These four dimensions are illustrated in Table 1. The table is a convenient way of visualizing the many aspects of immigration and which groups of immigrants are the focus of this work.

Table 1. Four Dimensions of Migration

	Forced/Involuntary Migration			Voluntary Migration		
Political Migration		**Legal**	**Illegal**		**Legal**	**Illegal**
	Temporary	**Refugees[2] due to political or religious oppression, war, etc.**		**Temporary**		
	Permanent	**Refugees[3] due to political or religious oppression, war, etc.**		**Permanent**	**Family Reunification, etc.**	
Economic Migration		**Legal**	**Illegal**		**Legal**	**Illegal**
	Temporary	**Refugees[4] due to drought, famine, etc.**	**Human Trafficking Victims**	**Temporary**	**Guest Workers, Seasonal Workers, & Students**	**Undocumented Workers**
	Permanent	**Refugees[5] due to drought, famine, etc.**	**Human Trafficking Victims**	**Permanent**	**Many legal, skilled workers**	**"Overstayers" & Undocumented Workers**
	Permanent	**Refugees[6] due to drought, famine, etc.**	**Human Trafficking Victims**	**Permanent**	**Many legal, skilled workers**	**"Overstayers" & Undocumented Workers**

For the purposes of this dissertation I will predominantly focus on voluntary, legal migration flows, highlighted in green in Table 1. That is not to say that the other migrant flows are unimportant; I focus on these flows for several reasons. First, I focus on these flows because this segment of flows accounts for the largest number of people, at least in developed countries (Passel, 2005).[7] More specifically, of the 175 million people who live outside of the country of their birth, only 13 million or so are refugees or asylum seekers (Watanabe, 2006, p. 21). The rest are primarily permanent, voluntary migrants, both legal and illegal, and visitors. The focus of this dissertation is on permanent migrants because these are the individuals who are able to

[2] Or asylum-seekers
[3] Or asylum-seekers
[4] Or asylum-seekers
[5] Or asylum-seekers
[6] Or asylum-seekers
[7] Data also tend to be most available for OECD countries, as is evident from the analyses performed in chapters 2 and 4.

have a long-term impact, both economically and politically, on a host state; visitors are unlikely to have such an impact on a polity. I focus explicitly on legal migration flows because these are the individuals who, over the long-term, tend to acquire voting rights and have a political impact on host state politics. In addition, I focus on this subgroup because these are the data that are most readily available and I would prefer to minimize data problems, which are rampant in migration research. I do not emphasize the impact of the economic-political dimension of migrants throughout the work because, in many cases, there is an overlap between these categories. I do, however, discuss the political dimension of migration in the physical security context and the economic dimension in the economic security chapter. In addition, I do not distinguish between permanent and temporary migrants as history has shown that temporary worker programs, both in the U.S. and Europe, have often led to permanent migration (Castles & Miller, 2003, pp. 69-82; Teitelbaum, 2006, p. 642; Weiner, 1995, p. 25:83).

IMMIGRATION OVER TIME AND STATE RESPONSES TO IMMIGRATION

Migration: Early

Migration goes back further than recorded language. From the initial movement of people from Africa sixty thousand to 200,000 years ago, people have moved from their land of origin (National Geographic Society n.d.). Examples through recorded history are rampant as well. From Moses leading his people from Egypt, to the Greek colonies in the Mediterranean, to the eleventh century when the Vikings invaded and settled in Britain, history has many examples of migration (Weiner, 1995, p. 21). However, it was not really until after the Treaty of Westphalia and the establishment of the modern nation-state that state-to-state migration, and state policies on migration began.

Scholars differ in their classification of the waves of migration, but many point to the seventeenth century as the start of the first wave of migration. While some Europeans had already migrated within Europe, a large outward movement began when European states became colonial powers. This period of migration was characterized by two main factors: 1) large scale emigration from Europe to Africa, Asia, and subsequently to the Americas, and ultimately to Australia and New Zealand, and 2) the movement of non-European people for labor. Initially, the European powers (Britain, Spain, Portugal, the Netherlands, and France) all established colonies which helped ease the pressure caused by their growing populations. It is estimated that from 1821 to 1924 fifty-five million Europeans migrated overseas. At the same time, European traders transported slaves from their homes in Africa to the Americas and the Caribbean. It is estimated that 15 million people were taken to the Americas before 1850. In the second half of the 19th century, slaves were replaced by indentured servants from the Indian sub-continent and Asia. This changed the world's landscape as populations were transformed and indigenous populations were ravaged. This wave of migration lasted through the end of the First World War (Castles & Miller, 2003, pp. 51-56; Handlin, 1990; Weiner, 1995, pp. 21-22).

Migration: Modern

With all of the loss of life that occurred during WWI, the time that followed the Great War was characterized by a shortage of labor in war-ravaged countries. Though for most countries this was a period of economic stagnation, resulting in reduced international labor migration, many of the former colonial powers prevented foreign workers from leaving or otherwise set up labor recruitment programs in order to meet their labor demands. During this time, few host states voiced concerns over the economic impact of immigrants, whether skilled or unskilled, educated or uneducated. However, this period overlapped with and was soon

followed by one in which large-scale refugee flows, which resulted from the dissolution of the great empires and the arbitrary drawing of new state boundaries, led to a large exchange of populations throughout, especially, Europe. These large flows, coupled with most immigrants' lack of language skills, post-war assumptions about migrants being "unassimilable", and stagnant economies, made it so that migrants were now considered a threat to both state and economic security. The economic stagnation of the 1930s, the Russian Revolution, and the rise of Hitler did nothing to minimize the concern over immigrants (Castles & Miller, 2003, pp. 62-66; Keely, 1990; Weiner, 1995, p. 22).

The end of WWII sparked an increase in the volume and a change in the character of international migration.[8] However you classify it, the period following World War Two was characterized by a large movement of labor into highly-developed countries. The impetus for this was twofold. First, the world economic strategy shifted toward a focus on a post-colonial economic policy, one which shifted investment and production to highly developed countries (including Europe, North America, and oil-producing countries in the Middle East). This investment, combined with the labor shortages that were generated by population losses during World War II meant the import of "guest workers". At this point in time, several states realized that this economic situation might be temporary and instituted strict "guest worker" programs with rules against permanent settlement and family reunification. Second, the break-up of colonial empires lead to the establishment of many new, or newly independent, states, which were often ethnically divided and authoritatively ruled, thereby leading to both large refugee flows, and the migration of 'colonial workers' to the former colonial powers. These groups of immigrants, who were often different racially, ethnically, and less educated and socially

[8] Some scholars, such as Weiner (1995) date the start of the next, and arguably final, wave of migration anywhere from the end of WWII until the 1950s, with a subsequent escalation of migration in the 1950s and 1960s. Others, such as Castles and Miller (2003) make a clear break in 1973.

disadvantaged, soon faced racism, discrimination and changes to immigration laws which were meant to prevent further post-colonial migration and family reunification. This racism and discrimination increased as concerns over the ability of these immigrants to assimilate into their host states increased (Castles & Miller, 2003, pp. 68-79; Rudolph, 2006, pp. 43-55; Weiner, 1995, pp. 22-24).

In the period following the 1973 oil crisis there were no consistent waves of migration. Migration to the U.S.A. grew steadily; Western Europe shelved its temporary foreign worker programs, and many other countries, which were previously viewed as countries of emigration, found themselves playing the dual roles of source and destination states (Castles & Miller, 2003, pp. 79: 82-89; Rudolph, 2006, pp. 55-66). While there was a slight uptick in migration to Western Europe and North America after the collapse of the Soviet Union, the major shift in migration patterns occurred in "Arab, African, and Latin American regions" as well as in the Asia-Pacific region as new states became financial, manufacturing, and technological epicenters attracting migrant workers. This phenomenon made competition over "highly skilled" workers a world-wide phenomenon. At the same time, the political situations of some states became conducive to emigration (Castles & Miller, 2003, pp. 123-138; 144-177). Now attention sometimes turns to Africa which, despite the lack of credible data, is often described as a continent with a highly mobile population (Castles & Miller, 2003, pp. 138-143).

State Responses to Migration

In the same way that migration is volatile, state policies on immigration are variable. While most states fear such a large and indiscriminant influx of foreigners that it would congest social, health and education systems, and impact employment, these fears wax and wane over time. Most states have policies on immigration, and these polices have both encouraged and

discouraged migration at various points in history; these policy shifts are reflected in the changing degree of openness to migrants, degree to which migrants are screened (for political affiliation, disease, etc.), as well as in the different rights that are granted to migrants upon entry. Some states choose to strongly restrict the number of migrants, others are selective as to who is admitted, (this is often based on labor needs, ethnic affinity, humanitarian considerations or family reunification), and others still have annual quotas to fulfill (Weiner, 1995, p. 83). Other than restrictions to entry, states also vary in their incorporation of immigrants into society, making permanent residence and citizenship, as well as certain state benefits, more or less attainable. The details of how states respond to immigration and its potential complications will be addressed in the subsequent chapters because different types of threats need different responses and a discussion of broad immigration policy over time is not a helpful endeavor − there are many books devoted to that subject.

In the post-Cold War era states feared a particular influx of migrants after the breakup of the Soviet Union and other political conflicts; this, coupled with the decreased political incentives for taking in these migrants, resulted in an increased prejudice against migrants. And while it is true that the number of emigrants has risen to about 175 million in 2000, up from 75 million in 1965 and 120 million in 1990, "the migrant stock in the world's population has remained stable" as the total world population has increased proportionally to those figures (Messina & Lahav, 2006, p. 17).

In addition to having different goals (for example, temporary farm labor vs. skilled workers), states also tend to have different capacities for managing threat and risk. What we will see is that those states that have the lowest capacity for controlling who comes in may be at the greatest risk.

ARE MIGRANTS A REAL THREAT?

While in the immediate post-WWII era refugee flows were considered a problem, the concerns that stemmed from these movements and ensuing conflicts were considered temporary and many concerns were put aside in the name of "nation building" (Weiner, 1995, p. 4). In the mid-twentieth century, "worldwide population movements were not regarded as particularly threatening" in and of themselves (Weiner, 1995, p. 4). During that time, the U.S. and Western Europe both admitted millions of guest workers from several areas of the world. Even Australia became more immigrant-friendly. As long as these countries were thriving economically, immigrants were welcome and both origin and destination states were satisfied with the outcomes. Though there were some concerns about these mass movements, in general, sending countries benefitted from decreases in unemployment at home and destination states found a solution to labor shortages.

By the 1970s there was a shift in perceptions, when the guest worker programs were deemed failures as "temporary" workers set up permanent residence in these destination states and sought family reunification. At the same time, refugee flows did not subside, but grew steadily while the geographic origin of refugees shifted. With these developments many began to lose patience with people who were no longer perceived as genuine refugees who needed help, but as economic migrants gaming the system (Weiner, 1995, pp. 5-6). This change in the origin of refugees, along with the fact that many of the conflicts causing the refugee crises were domestic, all led to a change in the perception of industrialized states as to their responsibility toward these individuals.

All of these twentieth century developments have made scholars realize that, in an era of globalization, where "some 175 million people live outside the country of their birth, including

12 million refugees and 1 million asylum seekers"[9], immigration can have implications for war and peace as well as for the well-being of state, group, and individual security (Watanabe, 2006, p. 21). In fact, migration is now often thought to be a security-sensitive issue for societies (Poku & Graham, 1998, p. 25). These implications can stem from the impact on physical security that immigration may have (like terrorism and refugee violence concerns) or from the ways in which the economic, health and societal climate may change with significant levels of immigration.

THEORETICAL FRAMEWORK

The main premise of this dissertation is that while some migrants might pose a threat to host populations, not all migrants pose a threat and the degree of threat posed is based on migrant characteritics in conjunction with state capacity. Unfortunately, while states and societies can perceive certain immigrants as a threat to their socities, they often disregard the role that their own characteritics play in determining the actual conditions under which migrants may constitute a real threat.

Migrants as a Threat

Some scholars point to immigrants as a potential threat to host societies, and much of the focus is on the sheer number of people coming in (Weiner, 1992, pp. 103-104). While this concern over the volume of migration is valid, especially in terms of classical national security concerns, other migrant characteristics also play a role in determining the degree of benefit or threat that given migrants pose to host societies and individuals. For example, in the classical national security literature, the focus is on "type" of migrant; much of the immigration and security literature focuses on refugees, who are considered a threat due to the likelihood that they will bring their problems along with them (everything from civil war to disease). In the case of

[9] 2000 estimates.

economics, factors such as education and skill levels influence the degree to which migrants pose a threat to the economic well-being of host state citizens. Immigrants who compete with those natives who are unskilled or undereducated are thought to have a negative impact on the wages of that particular subgroup of the economy (Smith & Edmonston, 1997). In contrast, those immigrants who are highly skilled are highly coveted internationally and are considered to be a boon to their host societies (Chiswick, 2005). In the case of health security, other migrant characteristics play a role in determining to what degree immigrants pose a threat to host societies. Namely, whether or not they are carriers of disease (and what diseases they carry). Ultimately, while migrant characteristics are an important component in determining the degree of threat that immigrants pose to host societies, explanations that look only at migrant characteristics are missing an important part of the puzzle.

State Capacity

Migrants characteristics are not the only characteristics that augment the degree to which an influx of immigrants poses a threat to a host society − a state's capacity to deal with an influx is equally important. For example, in the case of the classical notion of security, the ability of a state to control who and how many people enter is vital as is whether the given state is engaged in a civil war (this is relevant for both sending and host states). At the same time, it is important how that state deals with the political influence that such groups yield that matters. Is the state more likely to get involved in international conflicts/affairs, which can be costly, as a result? In the case of economics, a state's absorptive capacity determines the degree of threat that immigrants pose − whether a state has high or low unemployment, an educated/skilled workforce, a robust health and education infrastructure all impact the degree to which immigrants pose an economic threat to a host state (Farkas, 2012). Finally, in terms of health

security, the degree to which a state is willing and able to effectively screen immigrants for diseases before entry, or provide medical care after arrival, all help determine the degree of health threat that immigrants pose to host societies.

Nexus of Migrant Threat and State Capacity

The goal of this dissertation is to illuminate the circumstances under which migrants represent an actual threat in various arenas, to move beyond the hypothesized threats that migrants pose to focus on actual threats. I believe that the theoretical framework that neatly explains the degree to which migrants pose an actual threat to host societies looks at both migrant characteristics and state capacity to deal with those threats, either by effectively limiting in-migration, screening at entry, or by maintaining the resources and educational and health infrastructure to absorb the influx of people.

CONCLUSIONS

Many states regard migrants as "a threat to their political stability and national security and as a source of conflict with other states" (Weiner, 1995, p. ix). With occurences like September 11th, we see that the threat that "outsiders" pose is real. In addition, we see that there is now a consensus among security scholars and politicians that migration is a key component of security. As such, I would say that the conversation on this topic has moved beyond asking whether migrants are a threat to destinations states, to discussing to what degree migrants pose a threat to destination countries. And under what circumstances is this likely to be the case? In the chapters that follow, I look at the classical notion of state security, economic security and

health security, and, within each issue area, I evaluate to what degree and under what circumstances immigrants pose a real, or reasonably perceived, threat to security.[10]

My contribution to the study of migration is the notion that the answer lies at the nexus of state capacity and migrant characteristics. I argue that migrants are not always a threat, that it is only a particular set of migrants that are potentially a threat to particular states. In other words, I believe that it is necessary to look at the different configurations of state and migrant characteristics, and how they intersect, in order to assess the circumstances under which migrants may pose a threat to state and human security. Ultimately, what we see is that some groups of migrants can be "dangerous" or a threat, but that that threat can be mitigated by state capacity, and that it is only those states who experience both an influx of "dangerous" migrants and who lack the capacity to deal with that influx that are at the greatest risk.

This dissertation aims to look at the potential threat that immigration poses through a lens that allows me to move across issue areas. Most scholars assess immigration purely within their issue area, be it national security (terrorism, refugee violence spillover, etc.), economic security (employment and wage depression), or health security.[11] Using common criteria, which include state capacity and migrant characteristics, I move across all three issue areas. Although variation occurs in terms of the values that the variables take on, the underlying characteristics (migrant characteristics and state capacity) addressed are identical. In other words, how I operationalize threat and which state and migrant characteristics I find most pertinent vary by issue area, and I base my choices on the literature, which I address in within each issue chapter.

[10] This is to contrast with paranoid notions of threat or mass anxieties (Weiner, International Migration and Security , 1993, p. 9; Weiner, The Global Migration Crisis, 1995, p. 135)

[11] There are other issue areas as well, such as environmental security, but these other issue areas are beyond the scope of this dissertation. Nevertheless, I believe that it would be quite possible and beneficial to look at these issue areas using the migrant characteristics/state capacity framework used in this dissertation.

In chapter two of this dissertation, I look at the classical notion of classical security, and I assess to what degree immigrants are a threat to state security, looking at both migrant characteristics (flows, source countries, "types" of migrants) and host state characteristics (economic and military capacity, civil war status, etc.). In chapter three, I look at economic security and put the existing literature on immigrants and economic security into the migrant characteristics and state capacity framework of this dissertation in order to show that: 1) this framework can be applied to a very well-developed field, and 2) that the models that I am using in the quantitative chapters of this work have already been proven in a field that does strong quantitative empirical research. In chapters four and five of this dissertation, I look at the subfield of health and immigration, again using both quantitative and qualitative approaches to assess to what degree immigrants pose a (health) threat to host state populations, based on migrant characteristics and state capacity. In these chapters I also add the element of disease characteristics, since they are part of the operationalization of threat in this security issue area. Finally, I conclude this dissertation with a brief discussion of how the common thread of migrant characteristics and state capacity is able to link all of these issue areas, which have heretofore been studied independently of each other by area specialists (political scientists, economists, epidemiologists, and global health scholars and practitioners).

CHAPTER TWO: Immigration and National Security: A Quantitative Approach

INTRODUCTION

Most scholars and politicians alike agree that the core responsibilities of national governments include concerns over national security or, in other words, "the protection of national survival" (Brennan, 1961, p. 22). While historically threats to national survival have been thought to come from other states, this concept has expanded to include non-traditional security issues, such as immigration, especially in the post-Cold War world (Drifte, 2006, p. 104; Robinson, 1998, pp. 79-87).

National security "means to build the international and domestic conditions suited to preserve and promote national welfare, values, and interests and to protect them from threats of all sorts, actual or potential" (Ozaki, 1985, p. 8).

In recent years immigrants have been thought to pose a threat to three basic elements of classical national security, both in the small scale, with crime, and in the large scale with activities such as terrorism and spread of international conflict (refugees). While scholars have done a good job of explaining that immigrants tend not to be associated with higher levels of crime and terrorism, and that refugees may, in certain instances, lead to increased international conflict, this paper seeks to answer the question whether legal, voluntary immigrants are associated with higher levels of international conflict between sending and receiving states or receiving states and other states in general. I believe that the answer lies in the nexus of migrant and state characteristics.

The increase in the number of people moving across borders, paired with the expansion of what is considered state security, leads us to question whether it is possible for migration to be a threat to the classical notion of state security? Are migrants a national security risk? And, if so,

under what circumstances is this the case? This chapter aims to assess the degree to which migrants pose a national security threat to their host states and to provide a significant contribution to a literature that has traditionally focused on case studies and a specific subset of immigrants − refugees (Gashulak & MacPherson, 2006). In order to ascertain this relationship, I study the nexus of migrant and state characteristics.

My contribution lies in identifying the country and migrant characteristics that put host populations at risk as well as those that do not. In this chapter, I show that migrant characteristics matter, that immigrants in general are significantly different than refugees and that state military capacity may increase the likelihood that immigrants in general are going to influence the likelihood of international conflict.

In the following pages, I summarize the findings of previous scholars with regards to the degree of threat that immigrants pose in terms of crime and terrorism. In addition, I look at the vast research that has been done on the relationship between refugees and the spread of international conflict and question whether immigrants in general pose the same degree of threat to the spread of international conflict that refugees seem to. My focus is only on permanent migrants instead of on all persons who cross into a host state, this is deliberate because 1) reliable mobility data are virtually impossible to ascertain, while migration data are available, and 2) due to vast amounts of research on refugees, I believe that my efforts would be better suited to focus on this group of immigrants, which I believe are substantively different than refugees and which I believe does not pose the same degree of threat to host states.

My findings suggest that military capacity indicators only sometimes (when the number of immigrants is logged) impact the likelihood that a given state will engage in international conflict; that state (and dyad) characteristics, such as democratic regime type, alliance structure,

and degree of domestic conflict (civil war or no civil war), determine the likelihood that a state will engage in a militarized interstate dispute (MID) and that increases in the number of immigrants are only important if those immigrants are refugees, as legal, voluntary, permanent migrants do not influence the likelihood of a state's involvement in a MID. Ultimately, immigrants in general do not come close to posing the same degree of national security threat to host societies as refugees do. While my findings are limited to developed countries, there is no reason to believe that the same would not hold true for developing countries.

In this chapter, I will first describe how the traditional notion of security has expanded to include both human security and its subset of immigration, fitting migration inside this new security framework. Then, I will introduce my contribution, which is to discuss the threat that immigrants pose to the traditional notion of national security, pointing out the fact that migrant characteristics (refugee vs. legal, voluntary migrants) as well as state characteristics (military capacity, regime type, etc.), interact to determine the degree of threat that certain migrants can pose. At that point, I return to discussing the main argument of this dissertation − that is it is a specific set of migrant characteristics, and how they interact with state characteristics that determines the degree of threat that migrants pose to the security of a receiving state. I go on to present my research design, variables, and, ultimately, the results.

NOTIONS OF SECURITY

National Security and Immigration

National security concerns "generally extend[] to the military and politico-military support of national goals in general and foreign-policy objectives in particular" (Brennan, 1961, p. 22). As addressed more in-depth in chapter one, the concept of national security has until recent years been primarily defined by "Realists for whom the referent is the state whereas the

contents is narrowly related to military security" (Drifte, 2006, p. 103). Historically, the principal security threat that immigration was associated with, if it was thought of in the security context at all, was military threat, or, to put it in other words, the potential for physical conflict to result from the movement of peoples into a country. The potential for threat can come from a variety of scenarios, which include: an influx of freedom fighters, which would jeopardize relations with the sending state, especially if the host country was perceived to support such efforts; a large flow of immigrants which could overwhelm the economic or cultural absorptive capacity of a state as "a country faced with a large-scale influx should feel more threatened than a country experiencing a small influx of immigrants"; or, an influx of radicals who could threaten the political stability of the host state (Weiner, 1992, pp. 103-104).

However, since the end of the Cold War, the enlarged security concept has come to include the security of the individual. This shift of focus from the state to the individual makes it so that "migration lends itself easily to securitization", both in the classical sense, as refugees have often been cited as the impetus for both civil and international conflict, and in the non-traditional sense, as refugees and economic migrants have been found to move because of concern for human rights, economic deprivation, health problems, and environmental degradation. Both of these groups have also caused host states to be concerned about crime and economic instability as well as the health and environmental impacts on their host societies (Drifte, 2006, pp. 103-109).

Crime

In addition to the newly introduced concerns that states have over immigration, such as threats to national identity and economic welfare, host societies' concerns over immigration still often rest in the traditional sphere of security concerns − threats to the national interests of the state. These

concerns often focus on crime, terrorism, and large refugee flows and their potentially destabilizing impact on state governments.

In addition to potentially being a crime itself, migration can sometimes cause a surge in crime in host societies. Many studies have linked migration "to domestic as well as transnational crime… which threatens domestic security and may even destabilize relations among states" (Drifte, 2006, p. 108). For example, in Thailand and Malaysia a surge of illegal workers (breaking the law by mere virtue of immigrating without state permission), most of whom are escaping stagnant economies in their home countries, some of whom have been tied directly to drug smuggling, has led to a worsening of relations between ASEAN member states (Drifte, 2006, pp. 109-110). Similarly, with an increase in Chinese immigration to Japan, there has been an increase in crimes committed by Chinese persons in Japan, including "considerable Chinese involvement in the smuggling of firearms and drugs into Japan" (Drifte, 2006, p. 113). This activity, along with China's overall rise, has resulted in Japan's increasing perception of China as a threat to its society both in the classical sense as well as a threat to its national identity. However, concerns over immigration and criminal activity have taken a back-seat in the post-9/11 world as concerns over terrorism have peaked.

Terrorism

Despite the aforementioned expansion of the notion of security, a state's physical security is still paramount in security dialogue. Unfortunately, in the post-September 11th world, much of the West has viewed terrorism as the main threat that migrants pose to host countries and residents (Rudolph, 2006, p. 2). As such, scholarship has also shifted toward that subject and many political commentators and scholars of security alike emphasize the role of September 11th and terrorism as major threats to state security, several explicitly pointing out the role that

globalization and immigrants played in the attacks (Allison, 2004; Bigo, 2008, pp. 69-86; Kephart, 2005; Robbins, 2006). This all comes in the face of the fact that terrorist incidents and attacks occurred both in France and Britain [as well at the United States] for decades before September 11th (Schain, 2008, p. 111) as well as the fact that most terrorism is national. Certain scholars are well aware of this reality and point to the lack of connection between immigration and terrorism, emphasizing the fact that while "the nineteen suspected perpetrators of the 9/11 attacks all came from other countries and were Muslims", more than 500 of the victims of 9/11 were also foreign-born and at least fifty-nine were Muslims. At the same time, the second-most deadly terrorist attack on U.S. soil (the Oklahoma City Bombing) was carried out by a U.S.-born veteran – yet no one is singling out white, Gulf War veterans as suspected terrorists (Guskin & Wilson, 2007, p. 86).

Scholars like Miller, point to this "disturbing tendency to conflate immigration and terrorism when the record shows that only a fraction of immigrants in Western democracies become politically violent" a notion that is not overlooked by others (1998, p. 26). Watanabe, point outs that in the post-September 11th world migration is associated with terrorism and organized crime and, when coupled with the "'uncontrolled flow' from poor countries" is perceived as a threat to state security and governance, as well as the standard economic security threat. Despite this, he claims that migration, both voluntary and forced, is not considered a "crisis" (Watanabe, 2006, pp. 22-23). Similarly, while terrorism "has been around forever and will presumably continue to exist (2004, p. 199)" Mueller suggests that it does not pose a crushing blow to the stability of states in which it occurred. In the most recent instances of international terrorist violence, the response was one of courage and resistance to terror instead of panic and paralysis (Bigo, 2008, p. 69). This indicates, that despite being horrifying and

tragic, international terrorist events did not lead to the breakdown of those states affected and did not decrease state security. If this is the case, why then is scholarship so focused on the destruction of society that a terrorist attack, especially a nuclear one, would pose (Allison, 2004, p. 191; Goldstein, 2004)?

The explanation may be found in scholarship on the perception of threat in psychology. First of all, this threat clearly did not topple nations. Neither the US, England or Spain disintegrated as a result of the recent terrorist attacks. However, individuals died and people in general believed that they could potentially be the next victim of a terrorist attack. Such "personal threats − especially threats that pose a physical danger − are likely to be very affectively arousing and to elicit fear to a greater degree than more remote threats to the nation". This, along with the increases in "ethnocentrism and xenophobia" (Levine & T., 1972; Seago, 1947; Struch & Schwartz, 1989) and increased acceptance of intolerance and decreases in basic civil liberties all led to the changes in immigration policy that followed 9/11 in the US, where several policy moves signaled that "all immigrants will be viewed first as potential terrorist threats and only second, if at all, as welcome newcomers" (Doty & Peterson, 1991; Marcus, Sullivan, Theiss-Morse, & Wood, 1995; Tumlin, 2004, p. 1228). Ultimately we see that terrorists do not pose a threat to state security, at the same time triggering fears for personal/individual security among the population.

However, the notion of a security threat is by no means limited to Western states' concerns about terrorism. "International migration usually is much more of a fundamental concern in developing countries" (Miller, 1998, p. 25) as most migration in the world takes place in the developing world and as most Western states are able to, at least to a degree, control the significant inflows of aliens that they face (Miller, 1998, p. 26). Therefore, the bulk of the

section on state physical security will be about the circumstances under which refugees, a particular subcategory of migrants, pose a real threat to state security.

Refugees

While the majority of this work focuses on voluntary, legal migration, much of the concerns over immigration and security actually stem from concerns over refugees and their impact on host state security and stability. Who then, are these refugees? The definition of the term refugee has taken on different meanings during its long history, even today the scope of who is a "real" refugee is unclear, especially in common parlance. Scholars who study the impact of refugees on host societies often find it necessary to narrow down the term and specify who it is that they consider refugees (Lischer, 2005; Samaddar, 2010; Zolberg, Suhrke, & Aguayo, 1989). According to international law, and for the purposes of this work, as agreed to by the United Nations (UN) in 1967, a refugee is "any person… who is outside the country of his nationality…because he has a well-founded fear of persecution by reason of his race, religion, nationality, membership of a particular social group or political opinion and is unable or, because of such fear, unwilling to avail himself of the protection of the government of the country of his nationality" (Goodwin-Gill, 1983, pp. 5-6; Teitelbaum, 1984, p. 430).

In general, refugees tend to be the most positively considered "type" of migrant (Keogan, 2002, p. 233). Even in the 1970s, when attitudes towards labor migrants hardened, refugees were considered "a category apart" as either economic assets or as a humanitarian "'burden[]' worth bearing" (Robinson, 1998, p. 75). However, in certain areas of the world "refugees have launched terrorist attacks within their host country, illegally smuggled arms, allied with the domestic opposition against host-government policies, participated in drug traffic, and in other ways eroded governments' willingness to admit refugees" (Weiner, 1992, p. 109). This begs the

question, under which circumstances do refugees pose a threat to state security? Several scholars have sought to answer this question, primarily focusing on the characteristics of the refugees.

Many scholars focus on the characteristics of refugees in order to begin answering this question, since they claim that the link between security and forced migration is a particularly strong and direct one (Robinson, 1998, p. 67). Like the classical waves of migration for immigrants, the movement of refugees is broken down into phases (Briggs, 2003). These phases, especially for those scholars focusing on the security aspect of refugee movements, begin in the post-World War Two era and the onset of the Cold War in the 1950s.[12] Before then, refugees were predominantly European, political dissidents or exiles, and often came from well-to-do families and were not seen as a threat, economic or otherwise, to their host societies. Of those refugees who did not fit these criteria (such as the Jews who fled the Pale of Settlement), few remained in Europe, and most were taken care of by (Jewish) charitable organizations, and hence were also not seen as an economic threat in their host countries. It was not until World War One and World War Two that refugees in Europe began to be seen as the "refugee problem" as the number of refugees and their geographic scope widened (Robinson, 1998, p. 69). The following phases of refugee migration can be broken down into decades and were significantly impacted by Cold War developments (Robinson, 1998, pp. 71-87).

In the 1980s, the definition of security was expanded beyond "external military threat" (Robinson, 1998, p. 76). One of these expansions began to include the security of the individual, which Ullman (1983) claimed could be negatively impacted by a narrowing of policy choices

[12] Some scholars take a longer view of the historical record and point to 1573 as the first time the word *refugee* was used to refer to granting asylum and assistance to a foreigner who was escaping persecution. Those first refugees, fleeing political persecution were later joined by refugees who were persecuted for belonging to the political opposition of their respective countries in the late eighteenth, and throughout the nineteenth, century (Zolberg, Suhrke, & Aguayo, 1989, pp. 5-16).

available to the state, some of which could occur as a result of unplanned mass immigration from another country, among other things.[13] This change in the perception of threats to security, along with the dramatic change in the perception of refugees since the end of World War Two, from a group of persecuted, mostly white and usually European individuals to a heterogeneous group in terms of source, ethnicity, and race, led to the belief that this group is largely indistinct from immigrants in general and hence equally problematic and threatening.

"In short, within 50 years, refugees have been metamorphosed from victims into a problem, a burden, a threat, and an international pariah group" (Robinson, 1998, p. 87) mostly since they have, as a group, come to be associated with immigrants and the problem of immigration in general (Greenhill, 2010, p. 54). However, many scholars would argue that refugees, as a group, are unique in their characteristics and effects on host state security; that refugees often pose a threat to host state security, whereas other types of immigrants may not. What are the circumstances under which refugees pose a threat to host state security?

First, when it comes to the characteristics of the refugees themselves, chief among those that determines the degree of threat that they pose to host societies is the size of the refugee flow − some countries, Iran, Pakistan, and Jordan, to name a few, have hosted over one million refugees each. In the 1970s, when the fighting in Bangladesh led to the "largest-ever outpouring of refugees" which resulted in 10 million Bangladeshis fleeing into India, this influx directly resulted in a strain on the Indian government in both financial and human terms. Indians were unhappy due to the increases in taxes and unemployment that resulted in response to this influx. At the same time, public health was threatened due to a major cholera outbreak that resulted from the poor sanitation conditions in the refugee camps (Salehyan, The Externalities of Civil

[13] Such as, "threats to existing patterns of trade, and the unilateral ending by another country of cultural, intellectual, or scientific exchanges…" (Robinson, 1998, p. 77).

Strife: Refugees as a Source of International Conflict, 2007). As a result of continued strained relations with Pakistan and this large-scale refugee movement, India ultimately sent in an invasion force into Bangladesh in support of the independence movement; in short, the influx of ten million refugees precipitated a major conflict between two countries.[14]

In addition to the pure numbers of refugees having an impact on host societies, there are other factors, state characteristics (both of the sending and the receiving state) and the nexus of migrant and state characteristics, which impact the degree of threat that refugees pose. One such node is the degree of militarization of refugees (and refugee camps) and the capacity of states to deal with the militarization. One such example is the refugee situation that resulted from Rwanda's invasion of Zaire, during which Zaire and Tanzania both hosted approximately one million Rwandan refugees, many of whom were encouraged by the ex-Rwandan Armed Forces, and other groups, to establish a government-in-exile. The stage was set for the potential militarization of masses of Hutus in the region; however, these two host countries had very different capacity for dealing with this potential problem. While Tanzania was able to prevent the militarization of its refugee camps, Zaire was unable to accomplish the same feat, which resulted in the militarization of refugee camps, clashes between the Hutus and local Zairean Tutsis and thus instability in Zaire, and, ultimately, the Rwandan offensive against Mobutu's forces inside and outside of the camps (Salehyan, The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007).

Finally, state characteristics matter as well. Not only do individual state characteristics matter, but the state characteristics of the home state – host state dyad matter as well. Scholars, such as Salehyan (2007) have found that very much like Russett and Oneal (2001) suggest, dyads

[14] In many of the examples of this type of conflict the ethnic make-up of the refugee population also plays a role in determining the degree of threat that refugees pose. Often, when the host state shares ethnic ties with refugees, they are more likely to support their interests, which may lead to conflict.

in which states share certain characteristics, such as democratic regime type are much less likely to be brought to war (or a smaller level militarized interstate dispute (MID)) than other dyads, regardless of the size and scope of the refugee flow.[15] In much the same vein, joint membership in alliances seems to significantly decrease the likelihood of conflict between sending and host state. In other words, these important state characteristics (or dyad characteristics) seem to mitigate the degree of threat that refugee flows pose to host societies. Other factors, such as territorial and colonial contiguity, as well as large power disparities, however, are state characteristics that are much more likely to aggravate hostilities between sending and host state (Salehyan, The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007).

Historically, the typical pattern is that states are willing to accept refugees based on humanitarian reasons and the principle of *non-refoulement* (Teitelbaum, 1984, p. 437). These benign reasons are often coupled with the hope of maintaining a portion of the opposition to the neighboring country's regime, especially if that country is an adversary. In such circumstances, refugees may engage in cross-border guerilla activities, to which the adversarial regime may threaten to, or actually, respond, in which case the refugees service as a buffer from hostile incursions (Teitelbaum, 1984, p. 440). In any case, what we see is that this type of behavior can be the impetus for long-term territorial disputes and escalating conflict.

Many scholars point to the last two decades of the last century as a time in which refugees really became a potential weapon for source countries. During this time, governments have become cognizant of the fact that the admission of large numbers of refugees, even from countries from which it may be politically strategic to accept refugees in terms of foreign policy,

[15] In contrast to Russett and Oneal (2001), Salehyan (2007) finds that economic interdependence plays no role in influencing the likelihood of conflict between two states in a dyad as a result of refugee flows.

is an "increasingly dangerous game", which can backfire badly both in domestic and foreign-policy terms (Teitelbaum, 1984, p. 446). This notion was enforced as countries saw a shift away from "traditional coercion… through the threat and use of force to achieve political goals" to "coercive engineered migration" during which "human demographic bombs" were used to achieve political goals (Greenhill, 2010, p. 3). The way in which these source countries could manipulate refugee flows could impact host state security in two ways: 1) overwhelm "the capacity of the [host] state to absorb or manage [the] migration crises" or 2) exploit "competing political interests in the [host] state" in order to manipulate the policy stance of the host state toward either the refugees or toward the sending state (Greenhill, 2010, pp. 262-263). As such, we see many instances in which refugees are no longer the benign, asylum-seekers of the past and it is important to note the circumstances under which they are more likely to contribute to interstate conflict, so that such circumstances can be avoided.

While immigrants have been perceived as threats to state security for much longer than refugees, "immigrants do not usually present with the same dramatic backgrounds… as refugees" (Kemp & Rasbridge, 2004, p. 32). They do, however, account for much of the international movement across international borders increasing at a faster rate than the world's population (Hugo, 1998, p. 117). As such, this begs the question whether immigrants, who may have more political sway in a host country than refugees, tend to have the same impact on host country security as refugees and whether there are circumstances under which this is more likely to be the case?

STATE OF THE LITERATURE

The Nexus of Migrant and State Characteristics

Migrant Characteristics

Flows of people are not monolithic and both sending and receiving states have used mass migration movements as tools of their foreign policies (Teitelbaum, 1984, p. 437). While the majority of this dissertation focuses on the flows of voluntary, legal migrants, much of the literature on the impact of immigrants on the classical notion of security has focused on the threat that refugees pose to host societies. Some of the literature on refugees focuses first on whether there is actually a fundamental difference between refugees and immigrants (Hein, 1993, p. 43). The rest of the literature, as discussed above, focuses on whether refugees pose a threat to host societies, and if they do, under what circumstances that is likely to be the case.

While refugee flows have been a source of concern for some scholars and many countries since the 1970s, it was not until the post-Cold War period that "migration and refugee flows …[were likewise] identified as one of the most significant causes of armed conflict" (Greenhill, 2010, p. 6; Salehyan & Gleditsch, Refugees and the Spread of Civil War, 2006, pp. 335-366; Zolberg, Suhrke, & Aguayo, 1989, p. v). Throughout this period, many scholars have focused their quantitative analyses on refugee flows. In this chapter, I will draw heavily on the national security and refugee literature in an attempt to see whether immigrants, not refugees, pose a threat to national security, in the classical sense of the term.

While the movement of both migrants and refugees may be stimulated, restrained, regulated or otherwise facilitated through the instruments of foreign policy, migrant and refugee flows are very different. Most voluntary migration is governed by social and economic forces (Teitelbaum, 1984, p. 435). "By contrast, however, refugee flows are unruly in that they result

from events such as civil strife, abrupt changes of regime, arbitrary governmental decisions, or international war" as well as "coercive engineered migration" as manipulated by certain regimes (Greenhill, 2010, p. 58; Zolberg, Suhrke, & Aguayo, 1989, p. v). In any case, refugee flows tend to be "singular and unpredictable occurrences" which tend to have much more disruptive consequences for host states.

That is not to say that mass immigration cannot be manipulated by certain regimes and does not have disruptive consequences for host societies. For example, in 1975, "King Hassan II of Morocco organized and led the 'Marche Verte,'" a march of about 350,000 unarmed Moroccan civilians aimed at "conquering" disputed territories in the Spanish Sahara (Teitelbaum, 1984, pp. 437-438). In similar efforts, some states have engaged in mass expulsions that aimed to destabilize or embarrass adversaries. While, these actions are less common than legal, voluntary, "non-engineered" migration, it still follows to ask whether immigrant flows are likely to fuel conflict between states?

Because legal, voluntary immigrant flows tend to be regulated by host states, I argue, that unlike refugee flows:

Hypothesis 1: *Higher levels of immigrant flows to a host state will NOT increase the probability that the receiving state will initiate a militarized interstate dispute (MID) against the sending country.*

And because most voluntary, legal migrants tend to leave for economic reasons (Teitelbaum, 1984), often sending back remittances, I posit that, unlike refugee flows:

Hypothesis 2: *Higher levels of immigrant flows to a host state will NOT increase the probability that the sending state will initiate a militarized interstate dispute (MID) against the host state.*

State Characteristics That Mitigate Immigrant Threat

Many state characteristics can influence the degree of threat that immigrants (and refugees) pose to a host state. One of these characteristics is level of democratization. While sending states take on many forms, most states that receive large numbers of immigrants are "liberal democratic [in] nature". While this is the very reason that many people choose these states as destination countries, when they are the targets of "coercive engineered migration", they tend to be "constrained from responding in kind" (Greenhill, 2010, pp. 58, 63-65). However, these coercive migrations might influence host state security by influencing policy − passing the buck to other states, shifting domestic perceptions "assuaging one or another camp" of constituents with side-payments or by launching military action (or threatening to do so) (Greenhill, 2010, pp. 58-59). Nevertheless, while democratic societies may receive large number of immigrants, they are not likely to engage in conflict. As Russett and Oneal (2001, p. 122) hold, more democracy leads to more peace, as pairs of democracies are more peaceful than other kinds of dyads, and this is likely to hold true, despite the number of immigrants coming in; this is likely to be the case both because this phenomenon is unlikely to upset such a complex dynamic and also because there may be constraints on democracies that other types of regimes do not face. As such, dyads in which both countries are democracies are unlikely to engage in militarized interstate disputes (MIDs).

Many scholars point to the economic aspects of security concerns, and how certain state characteristics, such as high national unemployment and low economic growth, can play a role in determining the degree of threat that immigrants pose to a host society. While this tends to be true, a focus on economic security is the purview of the next chapter and will be addressed there as will state characteristics that mitigate the degree of threat that immigrants pose to host state

economies. The only measures that will be addressed in this chapter are the degree of wealth (GDP per capita) that host states have and their degree of economic dependence with other states. In general, as will be addressed more in-depth in the following chapter, states that have a more economic absorptive capacity (higher GDP per capita) are less likely to find immigrants to be a threat and hence respond in economic and military terms, even if sending states do engage in "coercive engineered migration". At the same time, much like dyads in which both countries are democracies, countries that are economically dependent on each other are also less likely to engage in conflict (Russett & Oneal, 2001, pp. 154-155).

Finally, when it comes to the likelihood that states will engage in conflict, power matters. More specifically, states' military might may have an influence on the likelihood that they will engage in conflict. Specifically, states that have the military capacity to engage in, and who believe they will win, a given conflict are more likely to do so. As such, I believe that states that spend a lot of money on their militaries are more likely to engage in militarized interstate disputes. However, I believe that that likelihood is impacted by alliances. If your allies become engulfed in a conflict, you are much more likely to become engaged as well. Conversely, if you are in an alliance, you are unlikely to go to war with your allies.

RESEARCH DESIGN

Data Concerns

The approach taken in this chapter is based primarily on works of Salehyan (2007), who uses a large-N quantitative analysis to ascertain the degree to which refugee (stocks and) flows entail negative consequences for receiving states, namely, the degree to which refugee (stocks and) flows spark interstate militarized disputes (MIDs) between host and home countries. More

specifically, like Salehyan, I conduct a time-series cross-section probit analysis of militarized interstate disputes. In this chapter, I look at immigrant flows to ascertain the degree to which immigrant flows provoke tensions between states. However, while Salehyan's analysis points to the fact that refugees significantly increase the probably of international conflict, and that this is even more likely to be the case for developing countries, data availability limits my ability to test the same hypothesis for all countries. The analysis in this chapter is limited to the data flows available from the UN, which is limited to developed countries. This dyadic immigration flow data is limited to fourteen receiving states, namely: Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Netherlands, New Zealand, Norway, Spain, Sweden, and the U.S.[16] Therefore, the biggest data concern, and the biggest weakness of this analysis is the exclusion of developing host states. As a final point, I diverge from Salehyan's work in terms of time period. While Salehyan uses the time period 1955-2000, data availability limits to me to the time span between 1990 and 2000.

VARIABLE OPERATIONALIZATION

Dependent Variables

In the same vein as Salehyan (2007), I conduct a time-series cross-section probit analysis of militarized interstate disputes, though my time frame is considerably truncated to the period 1990-2000. My dependent variable is whether a given dyad becomes involved in a militarized interstate dispute. This data comes from the MID dataset produced by Maoz (2005) and was edited by Salehyan (Replication data for: The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2008). By default, since I focus only on OECD receiving states, I look

[16] While Salehyan (2007) restricts his analysis to "politically-relevant dyads" intentionally, my analysis is limited to "politically-relevant dyads" by default, as it only includes dyads with at least one major power.

only at politically-relevant dyads. Like Salehyan, all of my regressions involve directed-dyads where "the A-B dyad is also included as B-A; this allows us to ascertain which state in the dyad initiates the MID" (Salehyan, 2007, p. 20). The dependent variable is coded one" when "the initiator" states a MID against "the target".

Independent Variables

The main independent variable is immigrant flow; namely, the number of immigrants (permanent, legal, voluntary migrants) that are coming into a host state in a given year. The data are organized as annual dyads. This data comes from the UN (United Nations Population Division: Department of Economic and Social Affairs, 2005).[17] Since Salehyan uses lagged values of independent variables in order to avoid reverse causation, namely that conflict may cause refugee flows, I follow the same trend, because I believe that conflict may be just as likely to cause permanent, legal migration as refugee flows, though host states are much more likely to curtail large migrants flows once those seem to be likely to be a burden or to cause conflict. Table 1 reports the descriptive statistics for the flow data, as well as several of the non-dummy independent variables.

Other Independent Variables Adding Some Control

Like noted above, all independent variables are lagged. In addition to looking at immigrant flow from the sending to the receiving state in a dyad, I also look at GDP per capita and military expenditure in order to assess the impact that host state capacity, both economic and military, may have on the likelihood of conflict.

In addition to assessing the impact of certain state capacity variables, I also control for civil war (in both states in the given dyad) as internal conflict may also contribute to

[17] While Salehyan (The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007) includes both stock and flow data in his analysis, I focus only on flow data. Also, while he uses an approximation of refugee flow data looking at the difference of annual stock data, I use actual flow data made available by the UN.

international conflict for reasons unrelated to forced migration (Gleditsch, Salehyan, & Schultz, Fighting at Home, Fighting Abroad: How Civil Wars Lead to International Disputes, 2008). Finally, I use all of the variables create by Salehyan (The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007) to account for the variables in the Kantian triangle. Specifically, I use dummy variables which were used to account for : 1) democracy (in each the "initiator" and the "target"; 2) joint democracy (all regime type data is sourced from the Polity IV dataset (Marshall, Jaggers, & Gurr, 2009)); 3) contiguity (sourced from (Stinnett, Tir, Schafer, Diehl, & Gochman, 2002)); 4) colonial contiguity (sourced from Correlates of War (COW) data); 5) capability share (sourced from (Singer, Bremer, & Stuckey, 1972)); 6) similarity in alliance portfolios (sourced from (Signorino & Ritter, 1999)); and 7) trade dependence[18] (sourced from (Gleditsch, Expanded Trade and GDP Data, 2002). Finally, I also account for two count variables − joint membership in intergovernmental organizations (IGOs)[19] (sourced from (Peevehouse, Nordstrom, & Warnke, 2006), which is a count of the number of IGOs in which both states in the dyad were members, and the number of years since the last MID in the dyad (sourced from (Beck, Katz, & Tucker, 1998)).

DESCRIPTIVE STATISTICS AND FINDINGS

Table 1. Descriptive Statistics

Variable	N[20]	Mean	Std. Dev.	Min	Max
Number of Migrants (from sending state in a given year)	45815	1024.113	5751.718	0	265929
GDP per Capita PPP	40593	19676.44	8113.448	12	41465
Military Expenditure (% of GDP)	25129	2.160	.847	1.1	5.8
Military Expenditure (current LCU)	25129	4.32e+10	78.27+10	1.20e+9	3.06e+11

[18] For each state, the sum of imports plus exports from the other and divided by that state's GDP.
[19] Count of IGOs of which both states in the dyad were members.
[20] N refers to the number of dyads in the sample.

Table 2. Probit Regression (Immigrant Flows and Militarized Interstate Disputes)

	Model (1)	Model (2)
Immigrant Flow TO Target	5.40e-06	4.28e-06
	(3.04e-06)	(3.86e-06)
GDP per Capita		-.000
		(0.000)
Military Expenditure (LCU)[21][22]		2.34e-12
		(1.62e-12)
Civil War in Initiator	.352**	.647***
	(0.147)	(0.184)
Civil War in Target	.014	–
	(0.492)	–
Both Democratic	-.679***	-.868**
	(0.252)	(0.386)
Contiguity	.558***	.358
	(0.143)	(0.237)
Colonial Contiguity	-.216	-.219
	(0.238)	(0.257)
Capability Share	.448*	.604
	(0.259)	(0.423)
Alliance S-Score	-1.184***	-1.505***
	(0.254)	(0.434)
Initiator's Trade Dependence	.126	.522
	(0.264)	(0.342)
Target's Trade Dependence	.208	2.413*
	(0.965)	(1.256)
Share IGO Membership	.019***	.035***
	(0.006)	(0.008)
Peace Years	-.163***	-.067
	(0.046)	(0.062)
_spline 1	-.001***	-.000
	(0.000)	(0.001)
_spline 2	.001	.000
	(0.000)	(0.000)
_spline 3	-.000	-.000
	(0.000)	(0.000)
Constant	-2.134***	-3.409***
	(0.257)	(0.607)
N	6204	4271
Wald Chi-Squared	357.48	–
Log Pseudo-Likelihood	-230.93	-118.29

*p<0.1, **p<0.05, ***p<0.01

[21] Military expenditure (current LCU) includes all current and capital expenditures on armed forced, including peacekeeping forced, defense ministries, etc.

[22] When using the logged version of the immigrant flow variable, the only change in outcomes is that military expenditure in the receiving state becomes statistically significant and positively correlated with the likelihood of conflict. The more the receiving state spends on the military, the more likely it is that conflict will ensure.

Table 3. Predicted Probabilities

	Prediction	Standard Error	% Change
Baseline	0.0028	0.0021	
10k Immigrants to Target	0.0033	0.0022	17.86
*Civil War in Initiator***	0.017	0.0086	507.14
Joint Democracy	0.0001	0.0002	-96.43
Alliance Score Max	0.0009	0.0002	-67.86

* Baseline: no immigrants, no civil wars, neither democratic, contiguous dyads, all other variables at their means.

Results

The models in Tables 2, 3, 4, and 5 reveal that immigrant flows have a very different impact on the likelihood of states to engage in conflict than refugees. While Salehyan's results clearly indicate that both refugee stocks (to and from) the initiator and refugee flows from the initiator have a statistically and substantively significant impact on the likelihood of the onset of a MID, my results clearly indicate that legal, voluntary, permanent migrants do not have the same impact on sending states or host societies. While large numbers of refugees (100 thousand for example) in a host state are responsible for increasing the likelihood of a MID (by upwards of 96.55%) and an annual flow of 20 thousand can increase the likelihood of a MID by upwards of 84.72%, as shown in Tables B and C in Appendix 1, immigrant flows are neither statistically nor substantively significant in their impact on the likelihood of a MID.

Model 1 in Table 2 evaluates the importance of Salehyan's control variables and immigrant flow to a target state. We see that civil war in the initiator state increases the likelihood of a MID. When both states are democratic, as Russett and Oneal (2001) predict, we are far less likely to see conflict between those states. However, the Kantian triangle seems not to be fully intact as trade dependence is found to have no effect on the likelihood of a MID and shared IGO membership is found to have the opposite effect, an unexpected positive effect. Conversely, a high degree of similarity in alliance membership seems to correspond to a

decrease in the likelihood of involvement in a MID. In Model 2, in Table 2, I evaluate Salehyan's variables again, with the addition of GDP per Capita and military expenditure variables to account for both state economic and military capacity. No statistically significant relationship exists with these variables. However, when a logged version of the immigrant flow variable is used instead of the non-logged version, then military expenditure in the host state becomes statistically significant and positively correlated with the likelihood of conflict. Most importantly, however, immigrant flow to the target is still statistically insignificant. This implies that hypothesis 2 is correct − higher levels of immigrant flows to a host state will not increase the likelihood that the sending state will initiate a MID against the host state. What we do see is that the same control variables that were best at predicting the likelihood of a MID for Salehyan remain more or less consistent. Namely, if there is a civil war in the initiating state (the sending state), then there is an increased and statistically significant likelihood of a conflict between the two states in the dyad. In fact, Table 3 reveals that nothing has as big an impact on the likelihood of a MID as there being a civil war in the sending state. In fact, this variable alone is responsible for a 500% increase in the likelihood of a conflict. While joint democracy and a high degree of correlation in alliance membership are both statistically significant in Table 2, leading to a decrease in the likelihood of a MID, neither of these variables is substantively significant, as we see in Table 3.

A similar pattern holds true when we look at immigrant flow to the initiator state. Regardless of the model, Model 1 or Model 2, immigrant flow to the initiator state is not a good predictor of the likelihood of a MID. In this case, what we do see is that civil war in the target state is also a good indicator of the likelihood of conflict. However, what we see in Model 2 in Table 4 is that joint democracy is no longer statistically significant in this analysis, but both

contiguity and colonial contiguity help determine the likelihood of a MID. Both contiguity and colonial contiguity between sending and receiving state are likely to increase the probability of a MID. According to Table 5, if the two states are non-contiguous then there is a 60% decrease in the likelihood of a MID, and this is the only substantively significant variable in the Model.

Table 4. Probit Regression (Immigrant Flows and Militarized Interstate Disputes)

	Model (1)	Model (2)
Immigrant Flow TO Initiator	-6.85e-06	-.000
	(6.76e-06)	(.0000)
GDP per Capita		.000
		(0.000)
Military Expenditure (LCU)[23] [24]		1.76e-12
		(1.25e-12)
Civil War in Initiator	.088	–
	(0.478)	–
Civil War in Target	.626***	.9158***
	(.185)	(0.218)
Both Democratic	-.369*	-.417
	(0.193)	(0.304)
Contiguity	.356	.896***
	(0.228)	(0.274)
Colonial Contiguity	.792***	.776***
	(0.163)	(0.247)
Capability Share	.743**	.646
	(0.298)	(0.502)
Alliance S-Score	-.981**	-1.047**
	(0.378)	(0.417)
Initiator's Trade Dependence	4.356 ***	5.946***
	(0.838)	(1.270)
Target's Trade Dependence	-.105	.077
	(0.205)	(.232)
Share IGO Membership	.009*	.004
	(0.005)	(0.008)
Peace Years	-.221***	-.147**
	(0.050)	(0.068)
_spline 1	-.001***	-.000
	(0.000)	(0.001)
_spline 2	.000**	.000
	(0.000)	(0.000)
_spline 3	-7.19e-06	.000
	(0.000)	(0.000)
Constant	-2.237***	-3.431***
	(0.427)	(0.698)
N	6199	4275
Wald Chi-Squared	365.68	–
Log Pseudo-Likelihood	-230.45	-132.96

*p<0.1, **p<0.05, ***p<0.01

[23] Military expenditure (current LCU) includes all current and capital expenditures on armed forced, including peacekeeping forced, defense ministries, etc.

[24] When using the logged version of the immigrant flow variable, the only change in outcomes is that military expenditure in the receiving state becomes statistically significant and positively correlated with the likelihood of conflict. The more the receiving state spends on the military, the more likely it is that conflict will ensure.

Table 5. Predicted Probabilities

	Prediction	Standard Error	% Change
Baseline	0.005	0.003	
10k Immigrants to Initiator	0.004	0.003	-20
Civil War in Initiator	0.006	0.009	20
(No) Contiguity	0.002	0.001	-60
Initiator's Trade Dependence (0)	0.005	0.003	0
Alliance Score	0.0007	0.0008	-86

* Baseline: no immigrants, no civil wars, neither democratic, contiguous dyads, all other variables at their means.

DESIGN-RELATED PROBLEMS

While the aim of this analysis was to be able to establish the degree of military security threat that migrants pose to a host state, based on the data available it is difficult to conclusively say that the number of immigrants in a host state does not matter because the data that are available are flow data and not stock data, so, unfortunately, we only get an incomplete picture. While some scholars have sought to compile this stock data, and to look at its importance, as evidenced in Table D in the Appendix 1, these data are not yet publically available and the outcomes of models using these data might be somewhat different, though there is nothing to suggest that.

CONCLUSIONS AND FUTURE RESEARCH

Ultimately, this chapter reveals that the explanations of MIDs, or the lack thereof, which have been the focus of the literature, are valid. Joint democracy, trade dependence, and joint membership in IGOs, as well as similarity in alliances, all are likely to decrease the likelihood of a MID between the states in a dyad. Conversely, contiguity and colonial contiguity are likely to have the opposite effect. Large refugee stocks and large refugee flows are also likely to increase the probability of conflict between the states in a dyad. However, it is clear that not all types of

migration are created equal, and while refugees can be a potential threat to host societies, legal, voluntary migrants are unlikely to pose a classical security threat to those very same host societies. So, while exceptions may occur, it would, for the most part, be irrational to place blame for international conflict on immigrant populations in a host society. Nonetheless, it should be noted that the focus of this research is voluntary, legal migration, in other words, migration that host societies have control over. What we might see, should we (be able to) pursue such an endeavor, would be that illegal migration (and states' abilities to control their own borders) may have a very different impact on the likelihood of conflict. This type of research, however, is currently not feasible.

Future Research

One of the main drawbacks of this analysis is the dearth of data that exists on current immigrant stock in host states. Future research in this area could benefit significantly from two expansions. The first would be the inclusion of immigrant stock data in host states, in addition to just looking at immigrant flow. Like Salehyan, it would be worthwhile to ascertain the relationship between immigrant stock in host country and likelihood of conflict, rather than just looking at the relationship between immigrant flows into the receiving country and likelihood of conflict (Saleyan, 2007). According to David Leblang, this data should be available to the public in the near future, once *Defying the Law of Gravity: The Political Economy of International Migration* (Leblang, Fitzgerald, & Teets, Forthcoming) is published. This would allow me to expand on my current analysis in much the same manner that Salehyan was able to do (Salehyan, The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007). The second expansion of this analysis would be to include more than just the standard OECD countries as receiving states. Clearly the relationship between immigration and conflict is not limited to the developed world and mass migration of desperate people into politically or

economically fragile countries can pose severe threats to the stability and security of these countries (Teitelbaum, 1984, p. 443). We see this clearly as many MIDS take place in the developing world. However, it does not seem that data that would allow such an endeavor are forthcoming.

CHAPTER THREE: Immigration and Economic Security: Lessons Learned

INTRODUCTION

In 1715, after decades of intermittent conflict in Europe, in what some would call the first world wars, which had left Europeans war-weary and Europe bankrupt, a dying Louis XIV of France bequeathed life lessons to his great-grandson in which he linked his love of war to the "lavish expenditures" that he had made during his lifetime, urging his heir to "try to keep the peace with your neighbors" and avoid his mistakes (Roberts 1947, 1). His heir, Louis XV is said to have kept these words of wisdom beside him all his life as the fact that war, security and economics are inherently intertwined shaped his and the French government's actions at the time and has shaped the actions of many governments and leaders since.

In the previous chapter, I focused on the classical notions of security − those aspects that have to do with war and peace and the security of a state and threats that arise from outside of a state's borders. However, as it was clear back in the eighteenth century, as has been made even more abundantly clear with the collapse of the Soviet Union and the end of the Cold War, states neglect their economic security at great peril to their national security as a whole.

Most scholars would argue that economics is the most well-developed of the social sciences, especially when it comes to complex, cross-national analyses. As such, I think that it is worthwhile to look at what scholars have been doing in the field of economics, when it comes to analyzing the relationship between economic security and immigration and to try to take away lessons from their works and apply them to other aspects of security and immigration. In the following pages, I point to the key findings of the field of economics, and its subset that focuses on immigration, by putting it in a state and migrant characteristics framework that fits within the structure of this dissertation.

NOTIONS OF SECURITY

Economic Security

The Economics of Militarism

Throughout history, national security, was defined almost exclusively in military terms – "the ability to deter or repel outside aggression (Renner 1989, 5)" and because this role of safeguarding the state and the people within it is seen as one of the primary roles, if not the primary role, of government, the actions of the government in this arena are rarely questioned. Since World War Two, this has meant an expansion of "large standing armed forces, [and] the deployment of ever-newer weapons systems" (Renner 1989, 5) as well as the growth of the costs associated with this military industrial complex (Smith and Smith 1983, 62-82). Like Louis XIV and his great-grandson, and many rulers and governments before and since, most governments today are aware of the inextricable link between military strength (and security) and a strong economy (Barnhart 1987, 18). As such, the first expansion of the notion of security, in moving just beyond survival values, political independence and territorial integrity as threatened by foreign actions, peoples or events (Knorr and Trager 1977, v, Kohl 1977, vii), focused on the economic aspects required for military power, without completely undermining the economies of the states in question (Pollard 1985, 197-221, Renner 1989, 14-24, Smith and Smith 1983, 83-101, The Research and Policy Committee of the Committee for Economic Development 1958, 7, 20-28).[25] And while some scholars may argue that the economic foundations for the postwar (post World War Two) security system have been eroded through a redistribution of power (away from the U.S.) (Borrus, Sandholtz, et al., Prologue 1992, 3), through globalized

[25] Most scholars agree that excessive military spending is detrimental to both research and development and the employment rate in the long term (The Research and Policy Committee of the Committee for Economic Development 1958, Smith and Smith 1983, 83-99). In fact, some scholars would point to Japan's low military spending (about 1% of GDP) in the post-war period as part of the explanation for its economic success and security (Ozaki 1985, 3).

industrialization and technology (Borrus and Zysman 1992, Vogel 1992), the basis of national security nonetheless is deemed to be a strong economy that can support a state's military power as embodied by its missiles, planes, tanks, ships, and other more modern military technologies (Murdock 1977, 68, Smith and Smith 1983, 34).

Individual Economic Security

While countries remain more than aware of the meaning of economic strength, and relative economic strength, more and more of that focus has shifted to the importance of the economic security of the individuals within each state. Initially, this occurred because governments realized that they must now answer more regularly to their domestic publics for the achievement of their national objectives, which often focus on domestic growth and the economic vitality and well-being of their citizens (Murdock 1977, 67, Renner 1989, 7). Security, of their person, but also of their families and in their workplaces, has become a basic requirement; it is what people expect from their governments, and lack of this physical and economic security has been shown time and again to breed intolerance, extremism and violence (International Labour Organization 2004, 3). While the International Labour Organization defines seven different types of "work security" the chief focus of individuals and this work is on labor market security, "adequate employment opportunities through …full employment" and income security, "an adequate level of income, a reasonable assurance that such income will continue, a sense that the income is fair, relative to actual and perceived 'needs' and relative to the income of others" (International Labour Organization 2004, 14, 55). When there is a lack of basic economic security, when people are on the margins of survival and fear for that survival because they lack food or income, then incentives to work decrease (wages so low that they do not provide economic security to the worker) and confidence in the government and society wanes. People without a sense of

economic security may act out against the government or "others" they blame for the circumstances (International Labour Organization 2004, 5).

Pundits often warn about the dangers that immigrants pose to a state's security, but this is rarely painted in terms of threats to a state's fiscal-military strength (Sweeney and Kuset 1996, 55-56, 61-63). Threats to a state's fiscal-military strength are often thought to arise either from 1) other states, especially in an era of economic interdependence (Borrus, Sandholtz, et al., Epilogue 1992, 204, Renner 1989, 7) or 2) internal pressures stemming from the "lack of economic self-sufficiency (Murdock 1977, 68)" and therefore not a direct concern for this dissertation. As such, in the following pages we will focus on the types of threats that pundits often warn will result from immigration (unemployment, a depressed wage, etc.) and what renowned economists have found to be fact and fiction.

STATE OF THE LITERATURE: IMMIGRANTS AS A THREAT TO THE ECONOMIC SECURITY OF A STATE AND ITS INDIVIDUALS

Despite terrorist and other physical security concerns, which have been highly perceptible in recent years, most negative attitudes towards immigrants are fiscally-based. This is the case in places like Denmark and in places like the U.S. where "more than half of the population over 50 believes that immigrants are a burden because they take housing, jobs and healthcare" (Frey 2006). Part of the reasoning behind this lies in the fact that certain people, like most Americans, understand that living standards are declining in our society, from dwindling benefits packages, to fewer raises and downsizing, it is easy to try to look for an entity to blame (Sweeney and Kuset 1996, 35-45, 55-69). However, are immigrants really the problem? Are they really a threat to state and individual economic security? A number of scholars have demonstrated that

in order to assess the degree to which migrants pose a threat to economic security, a distinction has to be make between the different types of economic threat that migrants pose, namely, a threat to the labor market and a threat to social services. Within these groups, two additional factors have to be taken into account, specifically, migrant and state characteristics (Smith and Edmonston 1997; Storesletten 2003).

Labor and Market Threats

The Nexus of Migrant and State Characteristics

Immigrant Characteristics

The most intuitive migrant characteristic that influences the degree to which migrants pose an economic threat to the labor market is the level of in-migration. According to Weiner "a country faced with a large-scale influx should feel more threatened than a country experiencing a small influx of migrants" (1992, 104) because the fewer migrants there are, the fewer jobs they are taking. However, not all migrants pose the same degree of threat to the labor market or to citizens' employment. Drawing heavily on Smith and Edmonston (1997, 4-5) and Simon (1999, 223, 265-267), we know that it is competitive migrants, who have lower levels of education and host country language skills, who are most likely to compete for jobs with unskilled natives, increasing the labor supply and decreasing wages. It is this group of migrants, they argue, that has threatened the economic security of a subset of host state citizens.

In contrast, in most societies, there is a high degree of competition for highly skilled migrants; this competition is most evident in the changes that are taking place to immigration laws around the world with the U.S., Canada, and Australia increasing their quotas for highly skilled migrants, and Europe introducing new immigration possibilities exclusively for this group (Bauer and Kunze 2004, 1-2, Chiswick 2005). Despite these changes, wages for skilled labor are

rising, indicating that the influx of skilled workers is insuffiencient for meeting existing demands (Bauer and Kunze 2004, 1). We can, thereby, posit that this subgroup is unlikely to pose a threat to its counterparts in the host population and may even, over the long term "attract more capital to the economy", which in turn jointly increases the productivity and earnings of "both the low-skilled and high skilled workers in the destination economy" (Chiswick 2005, 4).

Some scholars, like Briggs (1984, 160, 165), note that illegal immigrants are a particular subgroup of migrants who pose a threat to the labor force. In addition to often being low skilled, illegal immigrants tend to be "concentrated in unskilled occupations (farm workers, service workers, nonfarm laborers) and in semiskilled occupations, competing with certain groups, like blacks in urban labor markets" (Briggs 1984, 160). Besides, they have an additional advantage in the primary labor market over legal workers (immigrant or not) as they may be preferred by employers because "they are less likely to join unions; to complain about the denial of equal employment opportunities, safety violations, or sex discrimination; or to make other entitlement demands upon employers" (Briggs 1984, 165).

Many other scholars have more recently cast doubt on these findings (Card 2001, Ottaviano and Peri 2007, Peri and Sparber 2008). Much of the recent literature, at least on the impact of immigration on US and European labor markets has shown that there is no impact of immigration on wages or on the employment of native workers, even when you control for lower skilled workers (Ottaviono and Peri 2008, Peri and Sparber 2008, Peri 2011). In fact, doing both large-scale cross-national analyses and individual level analyses, following people over time, scholars have found that prevalent public fears are misplaced. These scholars found that immigration has a positive effect on native workers, both in terms of employment as well as in terms of average wage effect (Docquier, Özden and Peri 2010), though the effect was slightly

negative in the short run and slightly positive in the long run for even those native-workers with no high school degree (Ottaviono and Peri 2008). This increase in wage, they found, was often associated with a push of natives toward more "complex" jobs (D'Amuri and Peri 2012) or toward entrepreneurship (Cattaneo, Fiorio and Peri 2013).[26]

State Characteristics

In addition to migrant characteristics, state characteristics also matter in determining the amount of economic threat to the labor market that migrants pose. Nevertheless, the amount of research done on state characteristics has been rather limited. Immigrants are more likely to be an economic threat to states that have less capacity to control their borders or to enforce immigration and labor laws. However, scholars who have noted the importance of state capacity to control borders have focused more on the degree to which this failure and subsequent migration is seen as a threat to sovereignty (Weiner 1992, 97), rather than a threat to the labor market and greater economy.

The state characteristic that is noted, however, is the economic absorptive capacity of a state. The notion of economic absorptive capacity stems from the economics literature on firms, in which it is defined as a "firm's ability to value, assimilate and apply new knowledge" (Cohen and Levinthal 1990, Zahra and George 2002, 186). In the context of immigration, however, just like is often the case in the economics literature, scholars fail to define the term, or define it so broadly as to make it problematic (Emerson, et al. 2006, 1, Zahra and George 2002, 186). Some scholars define the economic absorptive capacity of a state, in terms of immigration, purely in terms of volume, whereby the number of new arrivals should not be so great as to "be a burden upon the people" of the host state as a whole and "should not deprive any section of the present

[26] Complex jobs are those that require abstract thinking and communication skills. Jobs for which many uneducated, low-skilled immigrants are unqualified.

[host state] population of their employment" (Troen 1989, 20). Other scholars, define the economic absorptive capacity of a state in terms of the state's ability to value, assimilate and benefit from new migration, which is not only based on the volume of flow, but also on the host country's economic situation, such as "the development of financial markets, level of human capital [levels of unemployment], trade openness, and natural resource abundance" (Farkas 2012, 2). So, while Weiner (1992, 104) suggests that the economic absorptive capacity influences how many jobs are available to migrants without negatively influencing the host population, I would more precisely suggest that states with high unemployment in the unskilled occupations (above) face the biggest labor market economic threat from immigrants, but only when they are unable to limit their amount of in-migration.

Lessons Learned

While scholars have sought to identify the migrant and state characteristics that lead to circumstances in which migrants pose the greatest economic threat, they have also sought to answer the broader question: do immigrants pose an economic threat to citizens and the labor market?

The results have been mixed. Some studies point to "net economic gains for domestic residents," which result from an increase in the labor supply, cheaper goods and services and the ability of certain individuals to specialize. This suggests that the economic security of citizens increases. On the other hand, while owners of production and high–skilled workers benefit, as well as those who buy immigrant-produced goods, less-skilled workers who compete with immigrants for jobs see decreases in their wages (Smith and Edmonston 1997, 4-5). So while society as a whole benefits, certain groups do not. It is precisely these groups that have spurred the international fear that native workers will be displaced by immigrants. This issue has stoked

the political flames in places like France, the U.S., Australia, and elsewhere. "The displacement argument is often made by anecdotes about persons who formerly held jobs now being filled by immigrants" (Simon 1999, 223). But are immigrants really a threat to the jobs of natives? As previously mentioned, immigrants may or may not decrease the wages of lesser-skilled workers. However, they may ultimately lessen native unemployment, as immigrants also make jobs, since they have higher levels than natives of opening new businesses (Simon 1999, 265-267).

In general, much insight can be gained from this vast literature. Namely, the scholars emphasize the importance of both immigrant and state characteristics. These works point to several immigrant characteristics that have to be considered when studying the impact that migrants have on the host state labor force, and hence the economic security of the state's citizens. In particular most scholars take into account: share of foreign-born workers (to account for the volume of immigrants in the work force), education level and skills set. The controls are based on state/region and year. It is important to note that many of these analyses focused on only one nation and stratified for geographical regions/metropolitan areas within that nation.

The other insight that can be taken from this research is that many of the scholars opted for a fixed effects model, controlling for state and year, and looked at the interactions of several variables (Borjas 2006). These scholars also controlled for "pre-existing conditions specific to skill-state groups and other employment determinants so that regressions isolate the direct impact of new immigrants on native employment growth" (Peri and Sparber 2008, 3-4). Most scholars agree with such controls, though the use of the fixed effects model has been criticized and standard OLS has been used, there are drawbacks to both. In doing individual level analyses, scholars invoked a longitudinal panel and an instrumental variable approach. While it is

worthwhile to know that such a feat is possible, individual level analyses are beyond the scope of this dissertation.

The study of immigration and economic effects is by no means limited to the effects that migrants have on the economies of their host countries, though this is the focus here. As a side, it is important to note that migrants, and the remittances (and other flows) that they send to their countries of origin to the members of their households and communities do significantly impact (though it varies by state) the economies of their home states (Trager 2005, 3). In assessing these impacts, scholars take into accounts the numbers of migrants, their professions, their households, and the social strata from which they hail, among other things (Koenig 2005, Perez 2005). The study of the impact of human mobility is also not limited purely to the impact of international migration, as internal, especially rural-urban, migration also impacts the economies of many states, but once again, it is important to note that the focus of this survey is solely on international migration, despite the potential drawbacks that may exist (Trager 2005, 4-5).

While some critically important headway has been made in the study of economic security and immigration, many improvements can be made to this field of scholarship. In addition to showing scholars in other areas what variables to include and what models to employ, these economists have also suggested what changes to the research could make other analyses even more worthwhile. First of all, while the size of flow and state absorptive capacity matter, these variables are only part of the explanation. While, it is obvious to economists that some migrant characteristics (like skill or education level) also matter, more attention needs to be paid to certain other state characteristics that might help explain the degree of threat to a host state's economy and labor market that migrants pose. Taken hand in hand, the inability of states to

control entry, especially in response to labor market fluctuations, as coupled with large flows of immigrants, especially of illegal immigrants, is a potential threat to a state's economy.

Next, the focus in the scholarship, and in the media, on the impact of illegal immigrants is problematic in two ways. Primarily, this scholarship is challenging because there is no established data series on illegal immigrants (Briggs 1984, 158). Not only does this make future testing of hypotheses difficult, it also makes it hard to see what jobs illegal immigrants are taking and what their real impact on the labor market is. Besides this, the assumption that illegal immigrants are sought explicitly because they can be exploited is inaccurate. In fact, some scholars suggest that as many as 76% of illegal immigrant workers, respondents to a survey, earned the federal minimum wage or better. This information calls into question the idea that illegal immigrants would take jobs of citizens because they would do them for less. Perhaps, instead it is more accurate to note that some of these jobs are in the substandard labor market, where it is unlikely that a significant portion of these jobs would otherwise be held by citizens (Briggs 1984, 161).

Ultimately, state characteristics should garner more attention. While the inability of a state to control its borders may be a threat to sovereignty, it is much more important as an indicator of the state's inability to react to economic crises. While border control may not be a top priority in times of economic boom, a state that is unable to control the amount of labor coming in during a recession is much more likely to be threatened by migrant labor than one that can shut off the flow should such a need arise.

Social Services and Health Care Systems at Economic Brink

The Nexus of Migrant and State Characteristics

Immigrant Characteristics

Reminiscent of the precious section, when it comes to the economic threat that immigrants pose to state social services, these fears increase as the number of people entering increases. In particular, if they have certain characteristics, like being poor, old or uneducated. In such instances they are thought to "create a burden by straining housing, education, and transportation facilities."

Shifting away from the micro level influence that immigrants may have on individual jobs, many scholars focus on the big picture, the degree to which migrants threaten the economic security of the state as a whole. In this case, scholars by and large agree that immigrants receive more in services than they pay in taxes (Smith and Edmonston 1997, 9). In the U.S., this is said to occur for three main reasons, immigrant-headed households: "(1)…include more school age children than native households on average, and therefore consume more educational services; (2)…are poorer [, less educated, and less skilled] than native households on average and therefore receive more state and locally funded income transfers; and (3)… have lower incomes and own less property than native households on average, and thus pay lower state and local taxes" (Borjas 1995, 18; Smith and Edmonston 1997, 9).

Because, the net fiscal impact of immigration varies with the age and education level of the migrant, the fact that "educational attainment levels [as well as skill levels] of post-1965 immigrants had steadily declined over the ensuing years" (Borjas, The Economics of Immigration 1994, 1713; Briggs 2009, 3), has increased the states' economic burden of migrants in general. The degree of education a migrant possesses is one of the two main indicators of how

costly or beneficial the migrant will be to his/her host state. Education is so influential as to change the direction of the migrant's impact. A migrant who has less than a high school education is expected to be a $13,000 burden on his host state, while a migrant who has more than a high school education is expected to benefit her host state with a net $198,000, at least in the U.S.. The aforementioned fact that migrant educational attainment levels are decreasing can have a drastic impact on the role that migrants play in a society- value added or not. These negative effects seem to have exacerbated the widening the gap between foreign-born and native workers. Age also matters, children and the elderly are the most costly, while those in between are "net payers of taxes during their working ages," so the "long-term net fiscal impact of an immigrant … varies greatly with age of arrival" (Simon 1999, 113, 131; Smith and Edmonston 1997, 11-12).

State Characteristics

However, migrant characteristics are not the only explanatory factors in the migrants as economic threat analysis. Some calculations suggest that the long-term fiscal impact is "positive under most scenarios" (Smith and Edmonston 1997, 11), a number of these studies also include state characteristics in their analysis. This net fiscal effect is not limited to the United States. Scholars have sought to replicate these analyses in other countries. Doing a multi-national case study, Simon found that the average immigrant family pays more in taxes than the average native family, while using less than their share of welfare services, the most of which, especially education services, are used up front (Simon 1999, 113). More recently, however, scholars have found that state characteristics, like whether the state is a welfare state matter. For example, in Sweden, Storesletten found that because it is a welfare state, with a much higher amount of welfare spending in certain areas than the U.S., immigrants are found to account for a "net

government loss per immigrant of … USD 20,500," posing a substantial fiscal burden. This, however, like in previous studies is contingent on age and employment rate, with young immigrants presenting a large net gain (2003, 504). Similarly, scholars have found that immigrants, in addition to being the "unequivocal economic beneficiaries of migration" (Coleman and Rowthorn 2004, 617) and a limited net economic gain, are a large demographic, social, and environmental burden, leading to a "renewed growth in population and in housing demand and risking new and intractable social divisions and corresponding weakening of social identity and cohesion" (Coleman and Rowthorn 2004, 616-617). Increased population density is often associated with the next potential threat that immigrants are often believed to pose- a health threat.

Health Care Systems in Crisis: A Closer Look

This type of economic sub-threat − threat to the health care system − goes hand in hand with the degree of health security threat (addressed in the following chapters), but most of the literature focuses on the economic aspect of the threat. Immigrants are perceived as being a burden on the health care system, and as a result are seen as taking health resources away from the citizens of a given state. In addition to migrant characteristics, like size of flow, education and age, state characteristics matter as well. Scholars note that many countries, like the U.S., face an overburdened medical system, which has low absorptive capacity and would therefore likely feel a large burden from additional migrant flows. In a similar vein, others suggest that our country's medical infrastructure is outdated and inefficient. This is coupled with a decrease in medical care as emergency rooms are overcrowded[27] and health care manpower is overtaxed and in short supply, which suggests that any additional influx of population would decrease the medical

[27] Ninety percent are said to be overcrowded and approximately 500 have closed nationally in the last decade (Katona 2009, 84).

welfare of the host population. In fact, most attention and funding in recent years has shifted away from "acute infectious diseases (the biggest killers worldwide) to chronic diseases (the biggest killers in the U.S.[and other developed countries])" (Katona 2009, 93) as the "six chronic disease categories (cancer, heart disease, hypertension, mental disorders, diabetes, and pulmonary conditions and stroke) account for $1.2 [trillion] of the $2 trillion per year spent in direct and indirect medical costs in the United States" (Katona 2009, 93; Katona 2010). Such a large portion of funding is spent on the same chronic killer diseases in most developed countries, which accounts for the attention that the cost of dealing with these diseases has garnered.

The degree to which immigrants' health costs are a security threat also varies based on the number of immigrants arriving (the "kind" of immigrants who are arriving might matter for perceptions of this threat) as well as the ability of the state to deal with the influx. Immigrants have had an impact on health in host states since people started to travel. U.S. settlers brought with them diseases that threatened the security and well-being of the Native Americans, killing many in the process (Ramenofsky 1992). Immigrants in the late nineteenth and early twentieth century flooded British factory towns; this overcrowding, along with poor working and living conditions, lead to poor health (Carballo and Mboup 2005, 7; Castles and Miller 2003, 56). Around the middle of the twentieth century, many developed nations started to recruit and import "temporary labor" and it was precisely the realization that "labour [sic] was beginning to lose its mobility," and social costs; such as those for housing, education and health care, could no longer be avoided, that governments stopped such recruitment activities (Castles & Miller, Migration to Highly Developed Countries since 1945, 2003, p. 72). In the early years, Germany even sought to avoid an immigrant drain on their welfare system by deferring responsibility to charitable

organizations (Castles & Miller, Migration to Highly Developed Countries since 1945, 2003, p. 235).

Immigrants are becoming a greater state security threat through health costs. Though immigrants are not necessarily any less healthy than citizens, the aging of society in many developed countries already places such a burden on the health care system that any additional burden might just "be the straw that breaks the camel's back". For example, in the U.S., health care costs are soaring, while quality of care is decreasing, with hospital and emergency room capacities declining and rates of medication errors and hospital infections increasing. At the same time, health care manpower needs remain unmet (Katona 2009, 83-85), many people are uninsured or under-insured, and increases in illegal migration put a greater burden on already-strapped emergency rooms.

Immigrants are an additional burden for health care systems to bear. The degree to which this is a security threat varies with a state's health care system's capacity to meet that load. The country of origin of immigrants may also matter, not only for how they are perceived by host state residents, but also for the degree to which they may tax the health care system. One study in Sweden found that male immigrants from Finland, Poland and Iran, and female immigrants from Finland, Arab Countries and Africa, had the highest incidence rates of cardio-vascular disease (Gadd, et al. 2005, 757), which happens to be the number one killer disease in the U.S. and many other developed countries. This implies that taking care of those immigrants would be costly, or at least more costly than taking care of others, to their host society. Nevertheless, the potential for heart disease is not taken into consideration when making immigration acceptances. When looking only at the health cost, this is logically difficult to understand as a 1992 Canadian study found that the "economic impact of HIV infection in immigration to Canada is similar to

that of CHD [coronary heart disease]" (Zowall, et al. 1992, 1170) and HIV carriers are prohibited from immigrating to Canada, while those who suffer from CDH are not. However, since cost is not the only concern, this may not be so difficult to understand- despite the similarity in costs between HIV and CHD, CHD is not a communicable disease, while HIV is. Therefore we see that in the case of a health threat, the migrant-state characteristic nexus is insufficient to fully explain the degree of threat that migrants pose to a host society. When it comes to a health security threat, the characteristics of the disease matter as well, and this will be addressed in subsequent chapters.

Lessons Learned

Like from the labor and market threat literature above, much insight can be gained from this vast literature on migrants as a social services threat. Like above, these scholars emphasize the importance of both immigrant and state characteristics. Putting this literature into the framework of this dissertation, we see that there are circumstances under which migrants may be a threat to the economic health of a state's social services and that these circumstances are best explained by the nexus of state and migrant characteristics. Namely, scholars such as Simon (1999, 113, 131) and Smith and Edmonston (1997, 11-12) suggests that the level of economic threat that immigrants pose to social services (health, education, etc.) can be determined by three characteristics other than just level of in-migration: age, education level, and employment rate. At the same time, while scholars suggest that a state's capacity to control its borders is also important in determining this level of threat, scholars such as Storesletten (2003) note that whether a given state is a "welfare" state or not, also determines the degree of the economic burden that immigrants pose to the social services of the state.

Despite these advances, I believe that some state characteristics have been overlooked.

In addition to just the classification of a country as a welfare state, or not, other state characteristics matter as well. The extensiveness and expansiveness of government welfare programs both matter, as well as the ease of accessibility to immigrants. Logically, we can see how the amount of welfare provided, as well as the scope (for example, the matter whether illegal immigrants are entitled to welfare services) will have an impact on how much of a threat to the social services of a state migrants will be and would impact the calculation of services received to taxes paid.

Lastly, while I briefly mentioned strained medical systems, and while scholars have highlighted the problems of outdated healthcare infrastructure and lack of sufficient staff, this has not been in the context of migration. It is important to underscore the importance of the problem, that if a state already has thinly stretched infrastructure and personnel, especially in the medical sector, but this can include education as well, that any additional individuals added to the system (migrants), without at least an average tax input will be a danger to the social services because the system is already stretched (Katona 2009).

CONCLUSIONS

In this chapter, we see that in the field of economics, scholars have already done an abundance of research on the economic impact that immigrants have on host state economies. While the language used in the literature is different, it is possible to put these findings in the framework of this dissertation. When it comes to the threat that migrants pose to host state economies (increasing unemployment, depressed wages, burden on state institutions), it is clear that these threats are mitigated by both migrant characteristics (skilled, educated, healthy) and host state characteristics, such as both state capacity to control how many immigrants come and

state capacity to accept an influx of immigrants (low unemployment rate, strong economy, well-funded social services). This leads us to conclude that immigrants only pose a threat to the economies of states that do not have the capacity to control their borders, or to those states whose institutions are stretched to capacity. Immigrants in and of themselves (even those who are unskilled or uneducated as the research suggests) are not a threat to host state economies; it is only those states who lack state capacity to deal with immigrants that may be threatened. Therefore, it may be extrapolated that it is the states that are most concerned about immigrants (OECD states) that have the least to fear, and it is those states that lack even the capacity to close their borders efficiently (Africa, the Middle East), and whose institutional resources are already limited, who have the most to fear economically from immigrants.

CHAPTER FOUR: Immigration and Health Security: A Quantitative Approach

INTRODUCTION

Historically, scholars have focused on national security in terms of military defense of sovereign territory. Since the end of the Cold War, this focus has shifted to one on "human security, which looks at a greater variety of threats to ordinary people" (Cockerham & Cockerham, 2010, pp. 34-35). Initially, this link was made by showing the threat that disease, like HIV/AIDS (human immunodeficiency virus/acquired immunodeficiency syndrome), posed to the "core traditional concerns of national security policy- such as the military, armed conflict and even peacekeeping operations," giving a traditional spin to a new dimension of security (Elbe, 2010, p. 34). This expansion of the notion of security "takes the provision of security beyond the battlefield and brings it to bear directly on the individual human body" (Elbe, 2010, p. 166).

The extension of the concept of national security to include human security has led to a greater emphasis on health as a security issue. Infectious disease, especially when combined with poverty, poses significant threats to human security. This phenomenon is not new as pandemics have been introduced into communities throughout history, the most prominent of which was the bubonic plague, which originated in China and beset Europe periodically from 1347 to 1750 − the disease is estimated to have killed between one third and 60 percent of the population of Europe during that time (Alchon, 2003, p. 21; Benedictow, 2005; Cockerham & Cockerham, 2010, p. 43). Today, the "HIV/AIDS epidemic is regarded as the greatest threat [to human security], since it is responsible for 3 million deaths annually" (Arata, 2005, p. 52; Cockerham & Cockerham, 2010, p. 35). In fact, the UN Commission on Health Security has claimed that it is perhaps the greatest health disaster in human history (Cockerham & Cockerham, 2010, p. 35).

While for centuries scholars have acknowledged the spread of disease during war as a security issue, it was not until the last half of the nineteenth century, the same time at which the world began to experience immigration on an unprecedented scale and scope, that health became an important international relations issue (MacLean, 2008, p. 478).[28] By the late twentieth century, countries and international organizations took direct notice of the threat that disease, coupled with an increased mobility of goods and people, posed. In fact, in 2008, the World Health Organization (WHO) codified these concerns in a set of 6 priorities. Three of these goals include addressing: 1) the threat posed by emerging infectious diseases; 2) the easier spread of disease in a global economy by the movement of people and tainted goods; and 3) AIDS (Cockerham & Cockerham, 2010, p. 42).

The increase in the number of people moving across borders, paired with the expansion of what is considered state security, leads us to question whether it is possible for migration to be a threat to more than just the realist notion of state security? Are migrants a health security risk? And, if so, under what circumstances is this the case? This chapter aims to assess the degree to which migrants pose a health security threat to their host states and to provide a significant contribution to a literature that has traditionally focused on case studies, leading to a glaring lack of integrated national perspectives (Gashulak & MacPherson, 2006). In order to ascertain this relationship, I study the nexus of migrant, state, and disease characteristics.

My contribution lies in identifying the country, migrant, and disease characteristics that put host populations at greatest risk. In this chapter, I show that migrant characteristics matter only when state capacity to deal with the threat that they can pose is low and when state

[28] According to Elbe (2009, p. 1), infectious diseases actually became the subject of international diplomacy as early as 1851, but even he concedes that the focus of the 20th century was on "high diplomacy," or concerns over war and peace. It has not been until the last decade that the potentially lethal impact of discounting diseases has become evident.

characteristics/safeguards, such as screening mechanisms, fail. I also posit that those things are only important in determining the degree to which migrants pose a health security threat when the disease characteristics, morbidity and communicability, are high. However, this aspect of the research is elaborated on in chapter five.

In the following pages, I assess what changes to TB incidence rates and HIV prevalence rates in developed countries occur in response to changes in socio-economic and health indicators. I find that these explanations, which have long been the focus of the literature, though valid, are not the only important factors to address when assessing whether immigrants and diseases pose a threat to a given host population. Though my focus is only on permanent migrants instead of on all persons who cross into a host state, this is deliberate because 1) reliable mobility data are virtually impossible to ascertain, while migration data are available, and 2) due to my focus on TB and HIV, two diseases that have been well-studied and for which data are available, it makes more sense to focus on people who have an established presence in a state as a certain, higher level of exposure is necessary for these diseases to spread.

My findings suggest that in addition to the socio-economic and health indicators that have an impact on the prevalence of a disease in a given state, increases in the number of migrants and increases in sending state TB and HIV prevalence rates are also important, but this is only the case when the receiving state has inadequate screening mechanisms. While my findings are limited to developed countries, there is no reason to believe that the same would not hold true for developing countries. In fact, it would seem that developing countries would be potentially more threatened by migrants since they often lack effective screening mechanisms and a well-funded state health infrastructure, should unscreened, ill migrants make their way in. At the same time, because it is clear that TB and HIV prevalence rates are higher in the

developing world, and because most current migration is between developing and developing states, that the numbers show where the real, potential threat lies.

In this chapter, I will first describe how the traditional notion of security has expanded to include both human and health security. In the subsequent section, I will fit migration inside this new security framework. Then, I will introduce my contributions, which is to discuss how the nexus of state characteristics and disease characteristics, which are unique to the health security area, interact to determine the degree of threat that certain diseases can pose. At that point, I return to discussing the main argument of this dissertation − that is it is a specific set of migrant characteristics, and how they interact with state characteristics that determines the degree of threat that migrants pose, in this case, to the health security of a receiving state. I go on to present my research design, variables, and, ultimately, the results.

NOTIONS OF SECURITY

Scholars generally agree that the post-Cold War period has seen an expansion to what is considered state security (Cockerham & Cockerham 2010, 34-35; Maclean 2008; Rudolph 2006, 23-28; Younde 2009, 196). During the Cold War, scholars mostly associated security with the realist notion of security, which considered threats "to a state's security principally to arise from outside its border" and also to be primarily military in nature (Ayoob 1994, 225; Rudolph 2006, 200). At the same time, health issues were only discussed in the context of threats to soldiers, if at all (Elbe, 2010, p. 35).

Human Security and Health Security

As addressed more in depth in chapter one, human security can be defined as the provision of security for "the fundamentals", which the UN defines as freedom from fear and

freedom from want (Poku, Renwick, & Glenn, 2000, p. 19).[29] Unfortunately, the addition of the term "human security" to the broader security framework has not been without its detractors. Concerns over the erosion of the traditional meaning of security, coupled with the ambiguity surrounding the new terminology, have sparked quite a debate among security scholars (Elbe, 2009, p. 109; Guild, 2009, p. 8).

In the same way, the more specialized term "health security" suffers from the perils that most novel concepts suffer, namely the term is both ambiguous and, at the same time, used inconsistently. In general, despite much debate about this term, scholars acknowledge that, at the moment, there is no universally accepted definition (Elbe, 2010, p. 3). In order to address what "health security" means it is necessary to dissect the term. In 1948, the WHO defined "health" as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (Lindstrand, Bergström, Rosling, Rubenson, Stenson, & Tylleskär, 2006, p. 55). This definition was problematic because it failed to set a measure that would allow for the monitoring of the effectiveness of health promotion and disease prevention programs. Therefore, in 1977, the WHO redefined health as a state of being which "permits a socially and economically productive life" (Lindstrand, et al., 2006, p. 55). In regards to security, security is generally considered to be the state of being free from danger or threat. Thus, it makes sense that health security issues address those threats that impinge on a person's ability to live a socially and economically productive life both directly and indirectly.

In short, health security is a subset of human security, a "people-centric" approach that was codified with the creation of the United Nations Development Programme and its 1994 *Human Development Report*, which repositioned security thinking to revolve around the needs and welfare of individuals, rather than the state (Elbe, 2010, p. 29). Other types of security also

[29] Other scholars have defined the fundamentals as "basic needs" (Gasper, 2009, p. 158).

fall under the human security umbrella. These include personal security (protection from the threat of premature loss of life); economic security (assurance of basic income); food security (sustainable access, both physical and economic, to safe food of sufficient quality and quantity); and national security (protection by the state of all of the above from direct and indirect threats) (Elbe, 2010, pp. 28-39:109-113; Lindstrand, et al., 2006, p. 71).

STATE OF THE LITERATURE

In addressing the degree to which migrants pose a health security threat to host populations, it is important to rely, at least initially, on existing works on global and public health. There are a few undisputed facts which serve as the proper basis for this inquiry.

First of all, throughout recent history, the major killers of humanity have been infectious diseases (Diamond, 1997, p. 196). In fact, even within the realm of security studies, until World War II, "more victims of war died of war-borne microbes than of battle wounds" (Diamond, 1997, p. 197). Though the spread of infectious disease during war has a long history of affecting the classical notion of security, in the era of globalization, there has been a significant increase in transnational transmission of infectious diseases. In fact, for the World Health Organization, the main concern for international health is controlling infectious disease (MacLean, 2008, p. 479).

Second, some politicians and health practitioners perceive immigrants to be a threat to individual citizens as potential carriers of disease. Historically, "'other people' have [often] been seen as the source [of diseases], [and] contagion has been used to blame outsiders and outcasts, especially immigrants and minorities" for health threats to host populations (Pernick, 2002, p. 861). For centuries, immigrants have been blamed for everything from leprosy to AIDS, but the precise impact that they have on the health of society has not been ascertained. Like the degree

to which immigrants are perceived as a threat to physical and economic security, some of the main instances in which immigrants are considered a health threat can be explained by the intersection of immigrant and host-society traits, though in this instance, the infectiousness and morbidity of the communicable disease also play a part in determining degree of immigrant threat.

As such, scholars who assess health security threats focus primarily on two diseases, namely tuberculosis (henceforth TB) and HIV/AIDS (Carballo & Mboup, 2005; MacLean, 2008). This spotlighting behavior suggests that it is some characteristics of these diseases that are central in deciding which diseases pose a health security threat. So, in sum, I will show that in the case of health threat, not only are migrant and state characteristics important in evaluating the degree to which migrants pose a health security threat, but that the characteristics of the diseases themselves matter as well.

The Nexus of Disease and State Characteristics

Despite the storied history of the impact of infectious disease on the battlefield, in the era of globalization, where there has been a significant increase in transnational transmission of infectious diseases, the spread of infectious disease has become a broader human security concern. In fact, for the World Health Organization, the main concerns for international health include controlling the threat posed by infectious diseases, and AIDS in particular, as well as the threat posed by the "easier spread of disease in a global economy by the movement of people…" (Cockerham & Cockerham 2010, 42; MacLean 2008, 479).

Disease Characteristics: Infectious Diseases and Morbidity

While communicable diseases account for only about thirty percent of the global disease burden, it is their very nature that makes them so threatening (Lindstrand, et al., 2006, p. 137). Infectious

diseases have evolved so that they are able to spread from one person to another or from animals to people, in a variety of ways, most of which we are unable to completely avoid (Diamond, 1997, p. 198). Another part of the explanation for why infectious diseases are deemed so threatening to populations is that historically they have been. The bubonic plague killed one quarter of Europe's population just between 1346 and 1352. During the European conquest of the Americas, the vast majority of Native Americans that fell victim to the Spanish conquistadores perished at the hand of microbes, not swords. At the end of WWI, the flu killed 21 million people (Diamond, 1997, p. 197:202). This changed somewhat with the advent of modern medicine, but the lessons remain. Perhaps that is why when the recent swine flu virus proved to be much less fatal than the seasonal flu, it lead to an easing of health security concerns. These concerns also eased because the infectiousness of the virus was limited.

In short, it appears that the level of morbidity of communicable diseases helps determine whether there is a real risk that the given disease poses, and the degree to which people see immigrants as potential microbe carriers who will be a health threat. Perhaps this is the explanation why so many developed countries with high-quality screening mechanisms test migrants for HIV and TB, the first and largest communicable disease killers in the world, with TB killing 1.8 million people in 2008 and 1.4 million people in 2011, when 8.7 million people fell ill (Steenhuysen, 2009; World Health Organization , 2013).[30]

State Characteristics

All of these concerns over infectious diseases, which have the aforementioned historical origins, are no less valid today. Currently, two million people are said to cross international borders every week and "half of these travel between developed and developing countries" (Katona,

[30] While the use of antiretroviral therapy has extended the lives of many, especially those diagnosed early on in their illness and living in countries where treatment is widely available, there is currently no known cure for HIV/AIDS.

2009, p. 89). In addition, with increases in technology, much travel is in the air, which allows travelers from all over the globe to reach their destinations, wherever they might be, within 36 hours, "a span of time that is shorter than the incubation period of many contagious diseases," making quarantine virtually impossible (Katona, 2009, p. 89). Hence, the vital importance of states to have to capacity to administer preventative measures (vaccines) as well as to have to capacity to deal with outbreaks as they arise.

The idea that immigrants could help spread disease is considerably worsened when scholars believe that an overextended medical system, such as the one in the US, should expect to lose about a third of its health care workers "during an influenza or other major pandemic or bioterrorist attack" (Katona, 2009, p. 85). Such a strained system would still need to deal with the health problems of citizens and immigrants alike, in practice decreasing the quality of care for citizens, as time and medicinal resources would have to be more widely distributed.

Ultimately, a large influx of migrants may always be a threat to state security in the health realm. In fact, the biggest threats arise when host countries are unable to deal with the increased burden to their medical infrastructure. This problem is exacerbated in circumstances when diseases are highly communicable, chronic, and/or fatal. Globalization has accelerated the capability of disease to spread worldwide; as the global interconnections between people have increased, the notion that infectious disease is a problem for the entire world has been reaffirmed time and again (Cockerham & Cockerham, 2010, p. 42; Elbe, 2010, p. 3).

The Nexus of Migrant and State Characteristics

Delving into the public health and global health literatures, several basic truths hold. The first such truth is that, when it comes to immigration, disparities often exist between a migrant's place of origin, and the migrant's destination, especially with regard to health determinants

(Gashulak & MacPherson, 2006). This often equates with the movement of populations between regions with different prevalence[31] rates. Thereby we expect that immigrants from states with a high prevalence of disease are a bigger threat to host populations. However, the prevalence of disease in a country of origin is not significant if very little or no population exchange takes place. The only instance during which foreign-born individuals can potentially pose a threat is when both large numbers of individuals from a given state migrate, and when the prevalence rate of a particular disease is high among that population. I expect that:

Hypothesis 1A: *Higher levels of disease prevalence in country of origin combined with higher numbers of migrants to a destination state are associated with a higher level of health threat[32] in the destination state.*

This idea finds credence in a 2001 World Health Assembly report which cautioned that "increased population movements…[as well as other results of globalization] have reaffirmed that infectious disease events in one country are potentially a concern for the entire world" (WHA, 2001). Similar concerns arose with the emergence of the most recent international pandemic, the H1N1 virus, also known as the "Swine Flu". This virus originated in Veracruz, Mexico (Morbidity and Mortality Weekly Report, 2009). And despite the large number of people that travel from Mexico to the United States (and vice versa) on a daily basis, the United States did not close its borders for fear of the disease spreading. In contrast, the Chinese government "quickly implemented prevention and containment policies" (Consulate General of the United States Shanghai, China, 2009), some of which were considered too harsh by travelers and other critics. Nevertheless, the World Health Organization praised China as having the "world's most active response to the virus" (Center for Strategic and International Studies, 2009).

[31] Prevalence is defined as "the proportion of a population affected by a disease at a given point in time" (Lindstrand, et al., 2006, p. 107)

[32] Level of health threat is measured by the level of disease incidence, or prevalence, in the host state.

This clearly shows that the above explanation is incomplete. Pure numbers of immigrants from countries with high levels of prevalence do not necessarily pose a high level of threat to the health security of destination states because many countries implement screening mechanisms in order to weed out infected migrants.

Since the medieval period where cities would quarantine themselves from the outside world in order to avoid falling victim to the plague, people have sought to limit who can enter their territory for fear of catching diseases (Nygren-Krug 2003, 18; Thomas 1997). While current government protocols are much different than having port authorities turn away and quarantine merchant ships with sick and dying crews, many states have protocols for dealing with most of the preventable and communicable diseases that plague the world today. In fact, the US State Department website provides information on the vaccines required for US immigrant visas; these include "Acellular pertussis, Hepatitis A, Hepatitis B, HPV, Influenza, Influenza Type B, Measles, Meningococcal, Mumps, Pneumococcal, Pertussis, Polio, Rotovirus, Tetanus and Diphtheria Toxoids as well as Varicella and Zoster" (Lawyers.com). In addition to all this, immigrants are expected to get tested for tuberculosis, and if it is found that they have it, they must undergo "a full course of TB treatment before receiving medical clearance by USCIS" (US Citizenship and Immigration Services, 2008).

The ability of a state to deal with or to prevent access for potentially dangerous migrants is theoretically one of the most important ways in which the threat that immigrants pose can be mitigated. For example, despite the morbidity and infectiousness of HIV, many developed states do not consider it, and immigrants, a security threat because countries have screening procedures that they use in order to prevent importation and spread of the disease by profiling migrants

based on health status. In fact, the US Department of State reports that 60 countries require foreigners to be tested for HIV if they intend a long-term visit (Nygren-Krug, 2003, p. 18)

A more likely scenario is that the expected outcome is such that Hypothesis 1A (higher levels of disease prevalence in country of origin combined with higher numbers of migrants to a destination state are associated with higher disease incidence in destination states) only holds true:

Hypothesis 1B: *If, and only if, screening mechanisms for the given disease are non-existent or ineffective in the given state.*

Migrant Characteristics

While ideally it would be beneficial to account for a range of socio-economic variables in regards to the migrants, in a broad, cross-national analysis of this sort, it is impossible to stratify the data about the number of immigrants from each country by age, education, or economic standing; this information is just not available. Instead, in this analysis I will only be looking at the sending countries from which individuals migrate and the rate of infection within those countries, to ascertain whether any specific migrant groups are a threat to their host populations. The idea is that while socio-economic factors influence the prevalence rate in the sending state, ultimately, it is not the capacity of the sending state to influence infection rates that is in question; it is just the prevalence rate of the people coming into a host state, but that is important only if there are no screening mechanisms in place in the host state.

State Characteristics That Mitigate Immigrant Threat

There is a consensus in the literature that poverty and the distribution of economic resources within each nation are the most important determinants of health (Lindstrand, et al., 2006, p. 56). However inadequate it may, or may not, be to look at the socio-economic status of migrants, it is

necessary to control for those same factors in the destination state in which the migrants find themselves. Scholars have measured these socio-economic determinants in many ways, the first of which is income poverty. Several other factors have been used over time, such as education, human rights, gender equality and access to health resources.

In regards to the first factor, scholars generally agree that income poverty is one of the most, if not the most, important determinant of health (Lindstrand, et al., 2006, p. 58). As such, I control for GDP per capita and assume that higher GDP per capita in the destination state is associated with lower levels of disease prevalence. This is expected to hold true even if the causal connection is reversed. While many argue that poverty leads to disease, countless scholars point towards the fact that the relationship is not clear and, at the very least, not unidirectional, as the case of malaria supports. Not only does a low GDP prohibit some individuals from taking advantage of preventative measures, such as mosquito nets, government costs associated with malaria, as well as a decrease in the population's disability-adjusted life years (DALYs), are associated with a net GDP loss of approximately $12 billion annually (Elbe, 2010, p. 110). Hence, whatever threat that migrants, who are not screened, may pose may be exacerbated when the host state has a low GDP per capita.

Socio-economic deprivation is often a good indicator of the likelihood that someone could be a disease carrier, but that deprivation is not always measured best by looking at the average distribution of wealth in a society. In fact, societies tend to vary greatly when it comes to their distributions of economic resources. In order to account for this variation, and because it is often the worst off in society that tend to be at risk for communicable disease transmission, I control for economic disparity and expect the data to show that countries with higher economic disparity are associated with higher disease incidence rates. Like above, immigrants are more

likely to be a health threat when there is high economic disparity in a country, since they are most likely to be worse off economically than citizens and, therefore, less likely to seek medical intervention when needed, increasingly the likelihood that they could spread disease.

Other measures of socio-economic deprivation may be equally enlightening. For example, in Italy, after a period of decline, incidence of TB "increased from 5.8 cases in 1990 to 9 per 100,000 in 1999" at a time when relative GDP per capita increased by over 13 percent. These rates were also not consistent throughout the country- only regions with high levels of immigration (the South) saw increases in TB rates. However, this time, immigrants were not a real health risk; the number of cases of immigrants with TB was relatively small in the study and did not account for differences in TB between neighborhoods. In this case, the most important "independent risk factors were the rate of unemployment ($p=0.02$) and population density ($p=0.002$)" (Ponticello, Sturkenboom, Simonetti, Ortolani, Malerba, & Sanduzzi, 2005, pp. 731-733). Because of this trend, I control for unemployment rate and I expect to see that higher unemployment in a destination state is associated with higher disease incidence rates. Like above, because immigrants are often at an economic disadvantage when compared to the native-born population, and because we know that people who are socio-economically disadvantaged tend to spread disease at higher rates than those who are better off, when immigrants find themselves in a host state with higher unemployment, they are more likely to be a bigger health threat than they would otherwise be.

In addition, because certain groups of immigrants are likely to be of a lower socio-economic status than the host population, which often goes hand in hand with overcrowding, and because overcrowding is often an aggravating factor for the spread of infectious diseases, we often see higher levels of TB in migrant populations than in host populations. As such, I control

for population density and assume that higher population density in a destination state is associated with higher disease incidence rates. However, since overcrowding is often part of the plight of the underprivileged, I anticipate that higher population density in a destination state is associated with higher disease incidence rates much more often when the level of inequality within a destination country is high, and the higher the incidence rate, the higher the threat posed to the host population.

After income, education tends to be the most important determinant of health (Lindstrand, et al., 2006, pp. 63-66). Therefore, I control for education and expect that higher education rates in a destination state are associated with lower levels of disease incidence. Just like income, the relationship between education and health is circular, while educated publics tend to be aware of actions that mitigate their chances of infection, healthy children are more likely to stay in school and become better educated.

With the H1N1 example above, we also see that countries that have the capacity to deal with a threat may either impose screening mechanisms, or alternatively, just allow their health infrastructure to deal with any infected individuals. For example, the US did not quarantine Mexican arrivals at the border like China quarantined suspiciously ill passengers, but this was only because the US government had a greater ability to deal with the H1N1 threat (Center for Strategic and International Studies, 2009; Morbidity and Mortality Weekly Report, 2009; United States Diplomatic Mission to Italy, 2009). As a result, immigrants were not seen as a special security threat in this regard. This leads me to control for the strength and the wealth of the health infrastructure in a given receiving state. I posit that destination states with a strong/well-funded health infrastructure will face less of a health threat (lower levels of disease incidence) than destination states with a weak/poorly-funded health infrastructure. However, this

relationship may not be straight-forward, since countries with robust health infrastructures might not do a good a job of screening contagion-carrying migrants as they believe that they can deal with the disease. Nevertheless, I believe that due to screening mechanisms, the above hypothesis holds true, as countries with strong state capacity are better able to control who enters their borders. This idea is supported by the fact that Canada, France, Israel, New Zealand and other countries, that arguably had the capacity to deal with the swine flu, quarantined (or claimed that they would quarantine) anyone with suspicious symptoms (Associated Press, 2009). This is even more likely to be the case for contagious, incurable diseases.

In summary, in the context of this analysis, state characteristics play two roles. First, in looking at state capacity, this chapter assesses the degree to which increased state involvement in education and health spending is able to mitigate the threat that infected migrants pose to a population. This part of the chapter tests the assumptions of the health literature, which currently holds that such factors influence both incidence[33] and prevalence[34] rates. Second, this chapter aims to assess the degree to which screening mechanisms can decrease the threat that migrants pose to host societies.

If the data show that this set of state characteristics hypotheses hold true, what we may see is that in the case of a health threat, it is not necessarily the traits of immigrants, but the traits of the host state that play a greater role in affecting the degree to which the health threat might harm the host states' citizens.

[33] Incidence is defined as "the number of new cases of a disease in a population during a specified period of time" (Lindstrand, et al., 2006, p. 107). In the case of this work, population is expressed as the population of a given receiving country and the specified period of time is a year.

[34] Once again, prevalence is defined as "the proportion of a population affected by a disease at a given point in time" (Lindstrand, et al., 2006, p. 107). In the case of this work, the population is limited to the population of each individual receiving state and the point in time is a year. Specifically, the numbers listed are cases per one hundred thousand for TB and percentage of the population for HIV.

Again, ideally this information would be available for both home and host populations, and would contain many more-detailed measures. In this analysis, I am only able to address the socio-economic and educational determinants of the host state, as person-specific data in a cross-national analysis is not practical in regards to the migrants.

RESEARCH DESIGN

In the public health field there is a scarcity of cross-national analyses. Most of the analyses in this field are case studies, and with good reason − because it is very difficult to compare across countries the many different facets that make up health security. While the data are imperfect, I think it is worthwhile to look at the potential threat that immigrants pose as a global phenomenon.

In order to evaluate the circumstances under which immigrants pose a health threat to a host society, I will use a cross-sectional, time series model to analyze my dyadic international migration flow data. In particular, I look at the immigration phenomenon and its impact on disease incidence and prevalence from 1990-2004.

Disease Characteristics and Data Concerns

Despite the media flurry that recently surrounded the "swine" and "bird" flus, the focus of this paper will be solely on TB and HIV/AIDS. This is the case for two reasons. First and foremost is the issue of data availability. If reliable traveler data had been available, then it might have made sense to look at mobility numbers, and to assess whether those countries that had a higher degree of international interaction were at greater health risk from "new" or "emergent" diseases such as the H1N1 virus in 2009, SARS in 2002 and 2003, and the H5N1 avian influenza virus (which has repeatedly emerged since the turn of the century). In theory,

this would have been a valuable endeavor since we live in a globalized world in which air-borne, infectious diseases can travel around the globe in hours, rather than days, and can have serious implications for militaries, governments, economies, and individuals alike. However, because mobility data are not available, and because it does not make sense to use permanent migration data as a proxy, it does not make sense to look at the potential threat that travelers pose as potential carriers of this type of diseases.

Secondly, despite the fact that we know that these "emergent" diseases could potentially be a great threat to host populations, it would be unfeasible and economically unsound to seriously limit travel. Because national, economic and health security are all connected, the threat that is posed by disease cannot be looked at in a vacuum. While countries have strong incentives to limit their permanent migration, since the middle of the last century mobility has been characterized by "unprecedented volume, speed, and geographical range" (Saker, Lee, & Cannito, 2007, p. 28). This mobility of goods and people has become "an integral part of economic and social development everywhere" and therefore it is unlikely to change in the near future, regardless of any findings of health threat, as potential economic threats to limiting trade and travel would be greater (Carballo & Mboup, 2005, p. 13).

Because this type of data is not readily available it makes more sense to look at two other diseases, TB and HIV/AIDS, which are both infectious and fatal if not treated. Unlike the diseases discussed above, TB and HIV/AIDS are not as easily communicable. In the case of TB, despite being airborne, according to the New York Department of Health, "prolonged exposure to a person with untreated TB usually is necessary for infection to occur" (Saker, Lee, & Cannito, 2007, p. 20). In contrast, AIDS is both blood-borne and spread through sexual contact (Stine, 1997, pp. 188-189; Kelly & St. Lawrence, 1989, pp. 33-35). Therefore, because a degree

of permanence is necessary in order for these contagious diseases to be transmitted, I argue that it is more theoretically sound to look at the impact that permanent migrants have on the incidence and prevalence rates, of these two diseases, of host societies.

TB

Because scholars are aware of the fact that "historically, human migration has had a major impact on the spread of tuberculosis," causing up to 25% of the deaths in Western Europe during the early nineteenth century, they note the importance of limiting the amount of damage that the disease can potentially do (Dasgupta & Menzies, 2005, p. 1107). Theoretically, in an era that is witness to unprecedented mobility, we should see the spread of these types of pathogens, but do we? More specifically, to what degree are migrants a health threat to the security of the host population?

In order to address this question, I evaluate the numbers of migrants coming in to several low incidence countries from all possible sending states. The host countries that are represented in this sample include: Belgium, Germany, Italy, the Netherlands, Norway, and Spain. Unfortunately, this sample is strictly limited to countries for which there is a good measure of the effectiveness of screening mechanisms, as provide by Klinkenberg, Manissero, Semenza, and Verver (2009). For each of these countries, I look at the number of migrants coming in based on data provided by the United Nations Population Division (International Migration Flows to and From Selected Countries, 2005).[35][36] I also analyze data from the World Health Organization on

[35] In this report I do not use the data on the UK due to the lack of disaggregated data.

[36] It is important to note that countries have different ways of calculating these numbers. While the preference of this paper would be to assess the number of foreign individuals immigrating to the host state- most of the countries provide this information- several countries include aggregate information on the number of both foreign immigrants who are coming in as well as the number of host state nationals that are returning to the host state after a prolonged absence. These states include: Australia, Finland, Italy, New Zealand, Norway, Spain, and Sweden. While this complicates the implications slightly, the findings still hold true for the most part because, after a prolonged exposure to the prevalence rates in the countries from which these individuals are returning, they are likely to have

TB prevalence rates internationally in order to ascertain the levels of TB infected migrants that may be coming into these low-incidence host states. The time period in question is 1990 to 2004.

TB is a disease that, with the advent of antibiotics, receded as a major health threat. However, due to increases in immigration and despite the World Health Organization's successes in curing 87% of patients globally, TB has resurged as a health threat, spreading mostly among the poor; it is the second largest communicable disease killer in the world, second only to HIV, killing 1.8 million people in 2008 (Steenhuysen, 2009).

HIV

The HIV/AIDS epidemic is perhaps the greatest health disaster in modern human history, thereby affecting security in a variety of ways. Some scholars point to the devastating effects of HIV/AIDS on all areas of national security, as they claim that the large disease burden that it imposes on certain societies can impact the social, economic, and even political stability of societies (Elbe, 2009, p. 5; Lindstrand, et al., 2006, pp. 143-153). Other scholars lament the impact of HIV/AIDS on the most archetypal measure of national security- military strength. In particular, scholars focus on the controversial, yet nonetheless devastating, estimates of HIV/AIDS prevalence rates among the armed forces of some African states; estimates range from 40 to 60 percent, though these prevalence rates are not a result of migration (Elbe, 2009, p. 5; Lindstrand, et al., 2006, pp. 143-153). This overarching impact on all areas of security as well as the fact that the global number of people living with HIV has been increasing since 1990, a strict contrast to what is happening with TB, suggests that it is very important to analyze HIV both because it is of growing concern and because the differing trend of this disease may reveal a different kind of impact for host states.

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an impact on their prevalence rates as well. It is unlikely that travelers abroad are immune from the dangers that their host populations harbor.

In order to assess the impact of HIV, I evaluate the numbers of migrants coming in to the following low incidence countries: Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, the Netherlands, New Zealand, Norway, Spain, Sweden and the USA, from all possible sending states. For each of these countries, I look at the number of migrants coming in based on data provided by the United Nations Population Division (International Migration Flows to and From Selected Countries, 2005).[37][38] I also analyze data from the World Health Organization on HIV prevalence rates internationally in order to ascertain the levels of HIV infected migrants that may be coming into these low-incidence host states. Like in the analysis of TB, the time period in question is 1990 to 2004.

VARIABLE OPERATIONALIZATION

Dependent Variables

TB

The dependent variable in question when assessing the impact of migrants on TB rates is how many individuals in the host state have been diagnosed with TB in a given year. This measure, known as the incidence rate, and defined as "the number of new cases of a disease occurring during a set time interval in a certain population" (Lindstrand, et al., 2006, p. 107) will allow me to assess the number of new TB cases that result from all causes in the host state in a given year. I operationalize health threat in terms of incidence rate because it shows how the disease is

[37] In this report I do not use the data on the UK due to the lack of disaggregated data.
[38] It is important to note that countries have different ways of calculating these numbers. While the preference of this paper would be to assess the number of foreign individuals immigrating to the host state- most of the countries provide this information- several countries include aggregate information on the number of both foreign immigrants who are coming in as well as the number of host state nationals that are returning to the host state after a prolonged absence. These states include: Australia, Finland, Italy, New Zealand, Norway, Spain, and Sweden. While this complicates the implications slightly, the findings still hold true for the most part because, after a prolonged exposure to the prevalence rates in the countries from which these individuals are returning, they are likely to have an impact on their prevalence rates as well. It is unlikely that travelers abroad are immune from the dangers that their host populations harbor.

spreading in the host population and is able to show the likelihood that migrants are spreading the disease, when other independent variables are held constant.

HIV

The dependent variable in question when assessing the impact of migrants on HIV/AIDS rates is how many individuals are infected with HIV/AIDS in the host population. This measure, known as prevalence, is "the proportion of a certain disease in a given population, usually at a specific date or another given point in time" (Lindstrand, et al., 2006, p. 107). In this case, the data are provided for each destination state on an annual basis and indicate the percentage of the population infected with HIV.

Independent Variables

TB

The first model of the analysis assesses what I believe to be my main contribution to the literature, namely, the degree to which screening mechanisms mitigate the degree of health security threat that migrants pose to host populations. In particular, when it comes to assessing the usefulness of screening for TB, I estimate the number of potential TB infected immigrants from a given state by looking at the total number of immigrants from a given source state in a given year, and multiplying it by the prevalence rate of the source state. These data are gathered from the UN Population Division, data on migration flows, and from the WHO health indicators, respectively (United Nations Department of Economic and Social Affairs Population Division, 2006; World Health Organization). This gives me an initial estimate of how many TB pathogen-carrying immigrants from a given source state could be expected if there were no screening mechanisms. Then, I utilize the Klinkenberg, et al. (2009) article *Migrant tuberculosis screening in the EU/EEA: yield, coverage and limitations* to estimate how many of these

immigrants actually get in to their destination states, based on their measures of screening effectiveness. This proxy for an actual measure of the number of microbe-carrying immigrants allows me to measure whether variation in these numbers affects the number of new cases, in a given year, in the host state. This proxy is represented by the variable *Expected TB Migrants*. I anticipate that a decrease in the estimated number of tuberculosis positive migrants in a given year will lead to a decrease in the incidence rate of the host country the following year. In short, I expect to see a positive relationship between *Expected TB Migrants* and *Receiving State TB Incidence Rate.*

HIV

In a similar vein, when it comes to addressing the usefulness of screening for HIV/AIDS, I estimate the number of HIV infected immigrants crossing into a host state in a given year by looking at the number of immigrants coming from a given source state and the HIV prevalence rate of the source state that given year. In addition, because there are no measures of how effective screening mechanisms for HIV/AIDS are, I propose and use a set of measures of whether a given destination state considers HIV/AIDS a disqualifier from permanent migration, as most states who have this law in place require screening for HIV in the source country before permanent visa approval. I look at two measures that try to capture the impact of HIV screening. First, I analyze *HIV Screening,* a measure that I produce based on the information that I received about screening from HIV.org (International AIDS Society; Deutsche AIDS-Hilfe e.V.; EATG), which I later confirmed with each country's respective embassy in Washington D.C. This measure ranges from 0 to 2, where zero represents no restrictions for migration for HIV/AIDs, 1 represents countries that have an HIV test requirement, but where a positive result has varying implications (such that refugees, spouses, and children under 18 or 21 may still immigrate, but

others cannot), and 2, where testing is required, and a positive result is a disqualifying factor. I believe that the more stringent a state is in regards to HIV screening, that the prevalence in that receiving state will decrease. However, because I believe that the relationship of these independent variables to the HIV prevalence rate in the host population may not be additive, I come up with another, interaction, variable. Again, I estimate the number of HIV/AIDS positive immigrants who are attempting to migrate by looking at the prevalence rate in the country of origin, and multiply it by the number of individuals who immigrated that year, to get the *Expected HIV Migrants* variable. I then multiple the newly binary variable *HIV Screening Binary,* which is just a compressed and reversed version of *HIV Screening,* where 0 means that there is a screening mechanism in place and no infected individuals are allowed to migrate and 1 means that there is no screening mechanism of any sort, by *Expected HIV Migrants* to test whether the number of migrants and the degree of screening together are not perhaps the best indicators of the prevalence rate in the host state. In short, I suspect that there is an interaction at play here and that while *HIV Screening* by itself may or may not have a negative relationship with host country prevalence, that the interaction of *Expected HIV Migrants* and *HIV Screening Binary* will have a positive relationship with host country prevalence. In other words, I suspect that when there is a potentially high number of HIV positive immigrants immigrating and when the destination state does not have HIV screening in place, that the prevalence of HIV in the host state will increase. This of course is more likely to happen when sending states with high prevalence rates have higher levels of emigration to the OECD countries represented as destination states in this sample. I will show the results of this analysis in Table 3.

Other Independent Variables Adding Some Control

Because the dependent variables in these analyses are incidence and prevalence rates, respectively, I need to control for factors that affect these measures in the host countries. Since, scholars often point to income poverty as the most important determinant of health, I assess whether this holds true, in models 1A and 2A. The most common measure of income in a given country is GDP per capita; however, one problem that often arises from cross-country comparisons of economic indicators is that there is variation in the cost of living in different countries as well as in the fluctuations of exchange rates. In order to mediate this problem, I use the *GDP per Capita* data from the World Bank using the purchasing power parity (PPP) GDP per capita in 1990 US dollars. In both the case of TB and HIV I anticipate that increases in *GDP per Capita* lead to decreases in the incidence and prevalence rates, respectively. As such, the results should show a negative relationship between *GDP per Capita* and the respective dependent variables. Another common measure of income poverty is *Unemployment Rate*. This measure, which I also took from the World Bank, is likely associated with the dependent variables as increases in *Unemployment Rate* are likely to be correlated with increases in both *TB Incidence Rate* and *HIV Prevalence Rate.* As such, the results should show a positive relationship between *Unemployment Rate* and the respective dependent variables.

In addition to looking at receiving country variation in regards to *GDP per Capita* and *Unemployment Rate*, which scholars generally agree influence both disease incidence and disease prevalence, I test the role that income inequality plays in influencing TB incidence and HIV prevalence. Scholars generally agree that income inequality is best captured quantitatively by the Gini Index (2004), which ranges from 0 to 100, where zero represents perfect equality and 100 represents perfect inequality. Since I believe that countries with higher levels of economic

disparity have higher incidence and prevalence rates than countries with higher levels of equality, I anticipate that there will be a positive relationship between *Gini* and the respective dependent variables.[39] Lastly, when it comes to poverty measures, I look at the degree of crowding that people experience and I anticipate that higher *Population Density,* population estimated mid-year divided by the area of a given receiving country (in squared kilometers), as reported by the World Bank, is associated with both higher TB incidence and higher HIV prevalence rates. As such, I expect there to be a positive relationship between *Population Density* and both dependent variables. However, because I believe that overcrowding tends to be the burden of the underprivileged, I believe that the relationship between *Population Density* and the dependent variables may be exacerbated by the *Gini* variable. Therefore, I expect to see a positive relationship between the *Gini-Population Density* interaction variable and both dependent variables.

Direct measures of wealth are not the only variables that influence the spread of pathogens. In fact, education is thought to influence both the wealth of individuals, but also the direct spread of disease, and better informed individuals are thought to be better able to protect themselves from activities that increase the likelihood of contagion. For this reason, and due to the system-wide availability of data, in order to look at the degree of education, I look at literacy rates in the host states. I anticipate that models 1B and 2B will show that there is a negative relationship between *Literacy Rate* and the respective dependent variables. However, this measure tends to be slightly problematic as there is very little variation in the variable in my data set. As such, alternative measures of education can be used, namely, the percentage of GDP spent on education or the percentages of total government expenditure spent on education. The

[39] Because the Gini coefficient is not calculated for every year in the sample for every country, I use the first Gini coefficient value during the period of interest for all of the years before the value and for half of the subsequent years until the next available value.

data for these variables were obtained from the 1995-2006 UN Development Reports. For each of these variables I anticipate a negative relationship with the dependent variables in question.

The last set of control variables that I believe influence the *TB Incidence* and *HIV Prevalence* rates are measures of the health infrastructure in the host state; these results appear in the last models, namely models 1C and 2C. Using World Health Organization (WHO) data, I test the relationship between the dependent variables in question and *Total Health Expenditure as Percentage of GDP, Total Health Expenditure per Capita,* and *Percentage of One Year Olds Immunized for MCV/Measles*. I believe that states with well-funded health infrastructure have lower levels of disease incidence and disease prevalence than states with ill-funded health infrastructure. As such, I anticipate there to be a negative relationship between each of these measures of health infrastructure and the dependent variables.

Before these variables were used in the time-series cross-section (TSCS) analyses, they were assessed with regards to distribution, as seen in Table 1, and checked for collinearity.[40] While, for the most part, collinearity levels are below .5, I avoid the simultaneous use of the following variable pairs: *Percentage of GDP Spent on Education* and *GDP per Capita* (0.79), *Percentage of GDP Spend on Education* and *Gini* (-0.71), *Percentage of GDP Spent on Education* and *Percentage of Total Government Expenditure on Education* (0.91), *Literacy Rate* and *Unemployment Rate* (-0.82), *Literacy Rate* and *Percentage of GDP Spent on Health* (0.72), *Literacy Rate* and *Total Health Expenditure (*0.77), *Total Health Expenditure* and *Unemployment Rate* (-0.70), *Total Health Expenditure* and *Percentage of GDP Spent on Education* (.71), and *Percentage of GDP Spent on Health* and *Total Health Expenditure* (.79).

[40] Basically, the collinearity chart warns of the simultaneous use of certain variables.

DESCRIPTIVE STATISTICS AND FINDINGS

Table 1. Descriptive Statistics

Variable	N[41]	Mean	Std. Dev.	Min	Max
Receiving State TB Incidence Rate	30954	10.907	5.266	4.8	30
Receiving State HIV Prevalence Rate	30954	0.204	0.142	0.05	0.5
Number of Migrants (from sending state in a given year)	29857	1155.254	6003.881	0	265929
Sending State TB Prevalence Rate[42]	30954	.0018	.00197	0	0.0124
Sending State HIV Prevalence Rate	25001	1.511	3.700	.05	26.5
Receiving State TB Screening	13496	86.653	10.933	57	95
Receiver TB Screening Ineffectiveness[43]	13496	0.133	0.109	0.05	0.43
Receiving State HIV Screening	30954	0.243	0.610	0	2
Receiving State HIV Screening Binary	30954	0.149	0.356	0	1
Expected TB Migrants[44]	29857	1.762	13.111	0	599.032
Expected TB Migrants Upon Screening	12919	0.127	0.833	0	39.59
Expected HIV Migrants	30954	4.372	29.942	0	1871.32
GDP per Capita / PPP	30805	43117.7	5837.496	30059	60391
Inequality (Gini)	30954	30.475	4.8477	23	45
Unemployment Rate	30805	8.425	3.919	1.8	23.9
Population Density	30954	111.069	135.597	2	481
Literacy Rate	30954	98.785	0.580	95.4	99
% of GDP Spent on Education	17241	5.851	1.204	3	8.5
% of Total Government Expenditure Spent on Education	26515	12.539	2.309	6	20.9
% of GDP Spent on Health	19899	9.088	1.798	7.1	14.8
Total Health Expenditure per Capita	19899	2439.118	879.254	1189	5588
% of 1 Year Olds Vaccinated for MCV	30954	88.123	11.003	43	99

[41] N refers to the number of dyads in the sample.

[42] Divided by 100,000. The prevalence rate is usually a number per 100,000 of the population, but in this case, because the value was used in the interaction term I had to determine the chance a given person from said population was infected with TB, hence TB prevalence rate divided by 100,000.

[43] *Receiver TB Screening Ineffectiveness* was constructed by taking the *Receiving State TB Screening* variable, which ranges from 57% to 95% effectiveness, transforming the percentages into decimal format (0.57 to 0.95), which represents the proportion of effectively screened migrants, and, ultimately, by subtracting the given level of screening effectiveness from 1. This transformation provides the rate of TB screening ineffectiveness in a given receiving state.

[44] The number of migrants coming into a receiving state times the TB prevalence of the sending state, without controlling for screening.

In addition, it is valuable to note that two other variable pairs have a high degree of collinearity. Most notably, the lagged dependent variable, which is statistically significant and helps deal with the serial correlation in these models, does make it difficult for some of the models theorized to converge because it is highly correlated with *Receiving State TB Incidence Rate* (.97) and *Receiving State HIV Prevalence Rate* (.99), respectively.

Similarly, when evaluating the idea that the interaction of inequality and population density is a better determinant of TB incidence rates than the additive model, the high degree of collinearity between *Population Density* and the *Population Density*Gini* interaction term (.9954) makes it difficult to include both terms in the full model, especially when assessing the between effects model.[45] Nevertheless, according to literature, all constitutive terms need to be included in proper models, with few exceptions (Brambor, Clark, & Golder, 2005; Kam & Franzeze, 2007). In fact, Brambor, Clark, and Golder hold that the biggest problem that including all of the constitutive terms in the interaction model poses is that it increases the "standard errors making it less likely that the coefficient on the interaction term will be significant" (2005, p. 8). They note, however, that this does not justify the omission of the constitutive terms and that the analyst is interested not only in the standard errors of the model, which may be correct and which may suggest that there is not enough information in the data, but also in the marginal effect of X on Y.

Each model was run several times: 1) full set of data; 2) without the highly influential cases (Germany/Poland; Germany/Yugoslavia; Spain/Ecuador; Spain/UK, for the TB models, and United States/Mexico and Germany/Nigeria for the HIV models); and, ultimately, 3) without

[45] While the interaction terms that test the hypothesis that the interaction term of disease screening and the expected number of infected migrants coming in are also highly correlated, the correlation only goes as high as .84 (*Number of Migrants*Sending TB Prevalence Rate*Screening Ineffectiveness*), which is not as big a problem for model convergence as the *Population Density*Gini* interaction term.

the outliers (no outliers for the TB models and Germany/Nigeria for the HIV models). Sensitivity checks were also run to assess the degree of the autocorrelation problem. Each model was run twice, once with the lagged dependent variable and once without it. The results suggest that the autocorrelation problem, though present, does not have a major biasing effect on the results. In general, the lagged terms had a positive, significant effect on their respective dependent variables, as expected. However, in most instances, the sign (with the exception of a few consistently insignificant variables), magnitude, and significance level of the parameter estimates of all of the other variables in the equations did not change significantly in the case of the inclusion of the lagged dependent variable in the analysis, as compared to the case without the inclusion of the lagged dependent variable[46]. Each set of variables was also assessed with regards to the appropriateness of the following models: the random effects model, the fixed effects model, and the between effects model. Theory and the Hausman Specification Test both consistently suggest that the between effects time-series cross-section model is the appropriate model for this analysis.

The most accepted method in this area of econometrics was put forth by Beck and Katz (1995). These scholars suggest avoiding OLS (ordinary least squares), GLS (generalized least squares) and FGLS (feasible generalized least squares) and instead insist on ordinary least squares with panel-corrected standard errors (PCSE). However, due to the large number of cases, since we are looking at dyadic data, the PCSE model is not feasible; instead, I use the time-series cross-section regression model with mixed effects (Beck, 2001). As aforementioned, I transform the data to eliminate serial correlation errors by lagging the dependent variable (Beck & Katz,

[46] In fact, all of the statistically significant variables had a much larger impact on the dependent variable with the exclusion of the lagged term. The screening mechanism had an impact about three times as large, as did the socio-economic variables. The exceptions were *Population Density*, the effect of which was 8 times greater, and *Vaccination Rate for Measles*, the effect of which was 2 times greater.

1995, p. 645). I do not believe that spatial autocorrelation is an issue in this analysis as there is no shock in regards to either TB or HIV in any country, during this time period, which could affect its neighboring countries. As such, by lagging the dependent variable I believe that I have dealt with the serial correlation of errors, even though, as noted above, it does not seem to have a major biasing effect on the results.

Nevertheless, because I have many cases, these data still potentially face the problem of cross-case autocorrelation, where either correlation exists at the same time across cases or at different time points across cases. Again, with this type of problem, the most prominent scholars in this field suggest using OLS with PCSE. Because OLS with PCSE is most appropriate when data have 10-40 time periods, which my data satisfy, and 10-20 cases, a requirement that my data do not satisfy as I have 2211 groups, it does not make sense for me to use the OLS with PCSE.[47] Ultimately, as previously mentioned, I use the time-series cross-section regression model with mixed effects (Beck, 2001).

Tuberculosis: Results

These models (below) reveal that standard socio-economic indicators offer only an incomplete explanation for tuberculosis incidence rates in a country of immigration. While Models 1A (economics), 1B (education) and 1C (health resources) evaluate the importance of the standard health indicators, and indeed show that these variables are statistically significant and influential in the direction expected, even when the previous year's tuberculosis incidence rate is controlled for, when these models were re-run including the *Number of Migrants* variable as a

[47] In fact, when the OLS PCSE models were run, they failed to converge even after four days, unless the lagged variable was omitted. This problem of convergence may occur due to the smaller size of T (Long, 1997, p. 125). When the lagged variable was excluded, the results for these models tended to have similar outcomes to the cross-section time-series regression models, however they cannot be solely trusted because when controlling for each of the dyads, the model does not meet the requisite ten observations per parameter rule (Long, 1997, p. 54) and because the model faces serial correlation.

potential health indicator, these same models indicated that when it comes to TB incidence rates, immigration matters as well (as indicated in Table B in Appendix 2). However, the relationship indicated in these re-run models is the opposite of what we would expect – all these models suggest that when the number of immigrants coming into a state increases, the incidence rate of a TB decreases. I argue that this is the case because these models have a specification problem, a missing variable. Namely, I believe that the *Number of Migrants* variable by itself is misleading because most of these countries have strong TB screening mechanisms, which suggests that the migrants that actually come in are well. This means that the more healthy people you have coming into your country, the less the overall proportion (incidence rate) of new cases. In short, I believe that you have to take into consideration whether a country screens its migrants for TB in order to assess the degree of health threat that immigrants pose.

This hypothesis is tested and the results are provided in Table 3. Table 3 reveals that when the effectiveness, or rather, ineffectiveness of TB screening mechanisms is taken into consideration then the number of immigrants coming into a given country is no longer the threat that many pundits would make it out to be. As I hypothesize, when a country has effective screening mechanisms, the number of immigrants coming in has no bearing on the number of new TB cases. In the quest for brevity, but not at the cost of knowledge, I present only Models 1D and 1E. Model 1G (located in Table C in Appendix 2) is valuable only in that it reveals that *GDP per Capita* is statistically significant, and in the expected direction. However, due to the high degree of collinearity that it has with a significant set of the other variables, it was necessary to omit the variable in the other models.

Model 1E is the full model used to test my hypotheses. The results of Model 1E reveal that the consensus in the literature that poverty and the distribution of economic, as well as

health, resources within each nation are the most important determinants of health. While controlling for the previous year's TB incidence rate,[48] the model reveals that inequality within a country, population density, their interaction, as well as literacy rate and rate of measles immunization for one year olds are all statistically significant at the .01 level. Of these variables, the *Gini Coefficient,* inequality seems to play the largest role as a determinant of TB incidence rates. As Table 4 reveals, a one standard deviation change around the mean of the *Gini Coefficient* is associated with a 4.44 to 5.17 increase in TB incidence rates, depending on the population density of the receiving state. This result is bolstered by Figure A, which shows that the marginal effect of the interaction term is statistically significant for the entire range of the *Gini Coefficient* in the sample. This result is very important given that the range of values of TB incidence rates for the states in this survey very from 4.8 to 30. While as expected, higher disease incidence rates occur much more often when the level of inequality within a destination country is high, these results seem to indicate that higher levels of population density are actually associated with lower levels of disease prevalence, despite *Population Density* itself having a statistically significant and positive relationship with TB incidence in the model. At the same time, the effect of inequality seems to be greater in lower density countries. As such, we see that the relationship is more complex than expected and may not be generalizable. In fact, looking at the sample of countries, this finding makes sense. First, the countries that have the highest density in this sample are the Netherlands (450[49]), Belgium (332), and Germany (231), all countries that have low TB incidence rates − which may be skewing the results in an unexpected direction. Second, the countries that have the lowest density, with the exception of Norway (14) are Spain (78) and Italy (193), both countries that have higher TB incidence rates. This subset

[48] Which is has a huge significant positive effect of an increase of 3.68 cases per 100,000 for every one standard deviation change around the mean (1/2 standard deviation in each direction).
[49] People per square kilometer.

of countries may also reveal why the data lower density countries are more impacted by inequality, we would expect inequality to impact the TB incidence rate in Spain and Italy, as suggested in the Ponticello, et al. (2005) article.

I also posit that destination states with a strong/well-funded health infrastructure will have lower levels of disease incidence than destination states with a weak/poorly-funded health infrastructure; this finding is supported by the fact that as more children are immunized for measles, the fewer new cases of TB. In fact, a one standard deviation change around the mean for measles immunizations, leads to a .61 decrease per 100,000 in new TB cases. Again, while this may not seem like much, considering the low prevalence rates of these receiving countries, the result is noteworthy. The only variable that does not fit the pattern expected is literacy rate. According to this model, increases in literacy rate seem to increase TB incidence. While this is unexpected, with the exceptions of Italy and Spain all of the countries in this sample have literacy rates of 99%, as such, the outcome might be due to lack of variation of the variable in question.

Model 1E also tests my main hypothesis, which is that increases in the number of migrants as well as increases of sending state TB prevalence rates are only important when the receiving state has ineffective screening mechanisms or lacks them altogether. While the sign and significance level of the *Screen Ineffectiveness* variable would suggest that this is in fact the case, a further analysis of the interaction variable suggests that changes in the number of migrants and changes in the sending state's prevalence rate are substantively insignificant, as indicated in Table D (located in Appendix 2). Table D does reveal that even with these variables, and all of their constitutive terms in the model, screening ineffectiveness does have an impact on the number of new TB cases in a receiving state. Table D suggests that a change of

one standard deviation around the mean[50] of screening ineffectiveness corresponds with a .411 cases per 100,000 change in TB incidence rates. Hence, the more ineffective a state's screening mechanisms, the higher the TB incidence rate. This information fits with both theory and laymen's logic. Nevertheless, as is indicated by Figures E through G in Appendix 2, the results of this interaction term are not statistically significant, which suggests that perhaps a model without my hypothesized *Screening Ineffectiveness* interaction term, which would still account for that additive variable, might be more revealing of the value of screening migrants for TB.

These results are presented in Model 1D, which only includes the *Gini-Density* interaction term. Model 1D has virtually the same results as Model 1G (located in Table C in Appendix 2). In other words, the sign, magnitude, and significance level of the parameter estimates of the other variables in the equation did not change significantly when the *Screening Ineffectiveness* interaction term was dropped, the only coefficient which drastically changes is that of the *Number of Migrants* variable, but it remains statistically insignificant. This suggests that the hypothesized interaction term surprisingly does not provide any additional information than my measures of *Screening Ineffectiveness.* As above, of these variables the measure of inequality seems to play the largest role as a determinant of TB incidence rates. As Table 5 reveals, a one standard deviation change around the mean of the *Gini Coefficient* is associated with the same 4.44 to 5.17 increase in TB incidence rates.[51] As above, these results suggest that higher disease incidence rates occur much more often when the level of inequality within a destination country is high, and as above they indicate that higher levels of population density are actually associated with lower levels of disease prevalence, despite *Population Density* again

[50] One half standard deviation below the mean to one half standard deviation above the mean.
[51] This result is bolstered by Figure A. Model 1F: Interaction 2 in Appendix 2, which shows that the marginal effect of the interaction term is statistically significant for the entire range of the *Gini Coefficient* in the sample. There is no variation when contrasted with Figure G.

having a statistically significant and positive relationship with TB incidence in the model. The results for the impact of childhood immunization or state health infrastructure is also unvaried − a one standard deviation change around the mean for measles immunizations, leads to a .61 decrease per 100,000 in new TB cases. Because there is virtually no change in the sign, magnitude, and significance in the results of Model 1D as compared to Model 1G, I believe that the same arguments, as above, hold true. The one variation is the impact of *Screening Ineffectiveness* where a one unit change around the mean is associated with a .41 cases per 100,000 change in the TB incidence rate. This variable is signed as we would expect and statistically significant. This result reveals that effective state screening mechanisms are associated with decreases in state disease incidence rates.

Table 2. Time-Series Cross-Section Regression Model with Mixed Effects (Full Data)

	Model (1A)	Model (1B)	Model (1C)
Receiving TB Incidence L1	.9271***	.9300***	.9323***
	(0.0018)	(0.0016)	(0.0009)
GDP per Capita	-.00001***		
	(1.03e-06)		
Unemployment	.0229***		
	(0.0025)		
Gini	.0064***		
	(0.0013)		
Population Density	.0054***		
	(0.0005)		
Density* Gini	-.0001***		
	(.00002)		
Literacy Rate		-.3356***	
		(0.0150)	
% Total Gov't Exp on Edu		.0456***[52]	
		(0.0025)	
% GDP Spent on Health			-.0533***
			(0.0024)
% 1 Y.O. Vac for MCV			-.0027
			(0.0005)
Constant	.4518***	32.9645***	.9863***
	(.0487)	(1.4945)	(0.0496)
Number of Observations	28,743	24,959	19,899
Number of Groups	2211	2211	2211
Within R-Squared	.7386	.7270	.5873
Between R-Squared	.9980	.9973	.9980
Overall R-Squared	.9479	.9487	.9387

*p<0.1, **p<0.05, ***p<0.01

[52] This variable is signed in the opposite way than what we would expect, however, this result changes when *GDP per Capita* is included in the model.

Table 3. Time-Series Cross-Section Regression Model with Mixed Effects (Full Data)

	Model (1D-Interaction)	Model (1E-Interaction)
Receiving TB Incidence L1	.6884***	.6884***
	(0.0049)	(0.0049)
Number of Migrants	-1.86e-09	-3.43e-09
	(1.10e-08)	(3.05e-08)
Sending TB Prevalence[53]	-.0137	-.0156
	(.0270)	(0.0447)
Screen Ineffectiveness (TB)	3.7742***	3.7741***
	(0.0452)	(0.0453)
Expected TB Migrants[54]		1.06e-06
		(0.00003)
# Migrants*Ineffectiveness		-2.66e-09
		(3.43e-07)
Send TB Prev*Ineffectiveness		.0068
		(0.2743)
Expected TB Migrants Final		.00001
		(0.0003)
Gini	1.1129***	1.1129***
	(0.0223)	(.0224)
Population Density	.0231***	.0231***
	(0.0011)	(0.0011)
Density* Gini	-.0011***	-.0011***
	(0.00004)	(0.0004)
Literacy Rate	1.2732***	1.2731***
	(00361)	(0.0361)
% 1 Y.O. Vac for MCV	-.0553***	-.0553***
	(0.0014)	(0.0014)
Constant	-147.9637***	-147.96***
	(3.9278)	(3.9365)
Number of Observations	11,955	11,955
Number of Groups	964	964
Within R-Squared	.6483	.6483
Between R-Squared	1.0	1.0
Overall R-Squared	.9392	.9392

*p<0.1, **p<0.05, ***p<0.01

[53] Divided by 100,000

[54] *Number of Migrants * Sending TB prevalence rate* (divided by 100,000)

Table 4. Predicted Receiving Country Incidence Rate: Model 1E Interaction 2[55]

	Density = 43.27[56]	Density = 111.07	Density = 178.87[57]
Gini = 25.63[58]	9.3851	9.0403	8.6965
Gini = 28.05[59]	11.9685	11.4428	10.9171
Gini = 30.475[60]	14.5518	13.8453	13.1387
Gini = 32.90[61]	17.1352	16.2478	15.3603
Gini = 35.32[62]	19.7185	18.6503	17.5821

Table 5. Predicted Receiving Country Incidence Rate: Model 1D Interaction 2

	Density = 43.27[63]	Density = 111.07	Density = 178.87[64]
Gini = 25.63[65]	9.3852	9.0403	8.6955
Gini = 28.05[66]	11.9685	11.4428	10.9171
Gini = 30.475[67]	14.5519	13.8453	13.1388
Gini = 32.90[68]	17.1352	16.2478	15.3604
Gini = 35.32[69]	19.7186	18.6503	17.5821

HIV/AIDS: Results

As in the findings above, models 2A (economics), 2B (education) and 2C (health resources) evaluate the importance of the standard health indicators, when the previous year's prevalence rate is controlled for, though in this case it is the prevalence rate for HIV/AIDS. However, these models show that not all of the statistically significant variables are signed in the

[55] All of these results were calculated using the means and standard deviations from the entire sample, not just the truncated sample. The results change only slightly because the correct coefficients and standard errors were used. The truncated sample means and standard errors are available in Appendix 2.
[56] One half standard deviation below the mean
[57] One half standard deviation above the mean
[58] One standard deviation below the mean
[59] One half standard deviation below the mean
[60] The mean
[61] One half standard deviation above the mean
[62] One standard deviation above the mean
[63] One half standard deviation below the mean
[64] One half standard deviation above the mean
[65] One standard deviation below the mean
[66] One half standard deviation below the mean
[67] The mean
[68] One half standard deviation above the mean
[69] One standard deviation above the mean

expected direction. For example, Model 2A reveals a positive and statistically significant effect of *GDP per Capita* on HIV prevalence. This would suggest that richer countries have higher rates of HIV infection than poorer countries. This finding is clearly problematic and may be a result of two data issues. First, it is possible that the data are experiencing a specification problem or omitted variable bias, but this is unlikely because models 2F and 2G (in Table E in Appendix 2) have the same result, but include most variables that would be considered noteworthy. Second, and more likely is the fact that these data are limited to only rich, industrialized countries, which means that the level of variation on the variable in question is somewhat limited and, as the data suggest, somewhat influenced by the US case[70]. Other variables have the expected sign and significance, namely, increases in unemployment rate tend to be associated with increases in HIV prevalence rate and while the *Gini* coefficient and *Population Density* variables may be incorrectly signed, the interaction term is just as we would expect. Furthermore, increases in government spending on education and vaccination rates are associated with decreases in HIV prevalence rates. Literacy rate seems to suffer from the same problems as in the TB models, expectedly for the same reasons.

The full model in Table 7, Model 2E, notably reveals that when HIV screening mechanisms, or the lack thereof, are taken into consideration, then the number of immigrants coming into a given country is no longer influential. Again, as I hypothesize, when a country utilizes screening mechanisms, the number of immigrants coming in has no bearing on the number of new HIV/AIDS cases.

In this summary of the results, I present Model 2E. Model 2E is the full model used to test my hypotheses. The results of Model 2E again suggest that in addition to the standard socio-economic variables, state characteristics, such as a strong health infrastructure and operational

[70] As in the case of *Percentage of GDP Spent on Health.*

screening mechanisms, are important determinants of health. While controlling for the previous year's HIV prevalence rate[71], the model reveals that working screening mechanisms, inequality within a country, population density, their interaction, as well as literacy rate and rate of measles immunization for one year olds are all statistically significant at the .01 level. Of these variables, the *Gini Coefficient,* inequality seems to play the largest role as a determinant of HIV/AIDS incidence rates. As Table 9 reveals, a one standard deviation change around the mean of the *Gini Coefficient* is associated with a -.000592 to .001565 change in HIV prevalence rates, depending on the population density of the receiving state. This result is bolstered by Figure 5, which shows that the marginal effect of the interaction term is statistically significant for the entire range of the *Gini Coefficient* in the sample. In general, these findings suggest that, the relationship between inequality and population density is quite complex. What Table 9 reveals is that when density is low, increases in inequality may actually result in lower levels of HIV prevalence, but as the density of a country increases, the corresponding increases in inequality are then associated with increasing rates of HIV prevalence, suggesting that people who live in the poorest, most crowded areas are most vulnerable.

While at first glance, the effect may be considered small it is valuable to note that all reputable studies of HIV/AIDS take into consider population density and consider it to a be a key explanatory variable when it comes to the spread of the disease (Gachiri, 2005; Population Action International , 2011). At the same time, and perhaps more importantly, while the marginal effect of sending country HIV prevalence rate on the receiving country's HIV prevalence rate, as the number of migrants and receiving country's HIV screening mechanisms change, may appear small, and might be considered such if we were looking at prevalence rates

[71] Which is has a significant positive effect of a huge increase of .14 percent for every one standard deviation change around the mean (1/2 standard deviation in each direction).

worldwide, because the receiving countries in this sample have prevalence rates ranging from just .05 of a percent to .5%, a change of .004 of a percent can account for almost a 10% change in that given country's prevalence rate when moving from screening to no screening mechanisms. Furthermore, we are only assessing relatively small numbers of migrants because that tends to be the norm. Nevertheless, some countries, like Germany, Spain, and the US experience much higher inflows of migrants than the 7159 represented in the table, which is one standard deviation away from the mean. For example, in 1991 more than 30 thousand Greeks immigrated to Germany, in 2003 about 18 thousand Venezuelans immigrated to Spain, in 1996 more than 10 thousand Nigerians (a country with a relatively high HIV prevalence rate of 4%) immigrated to the US and about 220 thousand Mexicans immigrated to the US in 2000. This shows that in certain instances the effect of screening mechanisms can be much greater than is evidenced by Table 8.

As above, in the case of TB, I find that destination states with strong/well-funded health infrastructures will have lower levels of disease prevalence than destination states with a weak/poorly-funded health infrastructures; this finding is supported by the fact that as more children are immunized for measles, the lower the HIV prevalence rate. In fact, a one standard deviation change around the mean for measles immunizations, leads to a .0005 decrease in the prevalence of HIV cases. Again, while this may not seem like much, considering the low prevalence rates of these receiving countries, the result is noteworthy. The only variable that, once again, does not fit the pattern expected is literacy rate. According to this model, increases in literacy rate seem to increase rates of HIV infection. While this is unexpected, all of the countries have systematically high literacy rates, as such, the outcome might be due to lack of variation of the variable in question. However, because the other measures of education are so

highly correlated with many of the other variables, the use of these measures would be problematic.

Model 1E also tests my main hypothesis, which is that increases in the number of migrants as well as increases of sending state HIV prevalence rates are only important when the receiving state has lacking screening mechanisms. In the case of HIV prevalence, the sign and significance level of the *Screening Binary* variable suggest that this is in fact the case. A further analysis of the interaction variable confirms that changes in the number of migrants and changes in the sending state's prevalence rate are substantively significant. Table 7 does reveal that with these variables, and all of their constitutive terms in the model, screening ultimately has an impact on the level of health threat experienced by receiving states, as indicated in changes in HIV prevalence rates. Table 8 suggests that a change from screening to no screening corresponds with a .00229 to a .00399 percent change in HIV prevalence rates, which is notable when some states have prevalence rates of .05. Ultimately, those states that screen for HIV have lower HIV prevalence rates.

Table 6. Time-Series Cross-Section Regression Model with Mixed Effects (Full Data) [72]			
	Model (2A)	Model (2B)	Model (2C)
Receiving HIV Prevalence L1	.9801***	.9991***	.9777***
	(0.0006)	(0.0006)	(0.0010)
GDP per Capita	5.17e-07***		
	(1.14e-08)		
Unemployment	.0004***		
	(0.00002)		
Gini	-.00008***		
	(0.00001)		
Population Density	-.0001***		
	(3.87e-06)		
Density* Gini	3.92e-06***		
	(1.25e-07)		
Literacy Rate		.0070***	
		(0.0002)	
% Total Gov't Exp on Edu		-.0005***	
		(0.00003)	
% GDP Spent on Health			.0012***
			(0.00008)
% 1 Y.O. Vac for MCV			-.0002***
			(0.00001)
Constant	-.0180***	-.6793***	.0105***
	(.0007)	(0.0171)	(0.0013)
Number of Observations	28,730	24,984	19,890
Number of Groups	2210	2210	2210
Within R-Squared	.5246	.5900	.1727
Between R-Squared	9999	.9995	.9986
Overall R-Squared	.9849	.9872	.9840
*p<0.1, **p<0.05, ***p<0.01			

[72] All models presented without the outlier and influential case Germany-Nigeria.

Table 7. Time-Series Cross-Section Regression Model with Mixed Effects (Full Data)

	Model (2D-Interaction)	Model (2E-Interaction)
Receiving HIV Prevalence L1	1.0122***	1.0122***
	(0.0008)	(0.0008)
Number of Migrants	-3.99e-08***	-2.79e-08
	(1.14e-08)	(1.75e-08)
Sending HIV Prevalence	.0011	-.0048
	(0.0016)	(0.0042)
Screening (HIV) (B)	.0040***	.0040***
	(0.0003)	(0.0003)
Expected HIV Migrants		3.97e-07
		(2.99e-06)
# Migrants*Screening (B)		-3.35e-08
		(2.54e-08)
Send HIV Prev*Screening (B)		.0068
		(0.0046)
Expected HIV Migrants w/ Screening	-8.73e-06*	-6.99e-06
	(5.09e-06)	(6.22e-06)
Gini	-.0003***	-.0003***
	(0.00003)	(0.00003)
Population Density	-.0001***	-.00009***
	(8.43e-06)	(8.45e-06)
Density* Gini	3.32e-06***	3.28e-06***
	(2.69e-07)	(2.70e-07)
Literacy Rate	.0046***	.0046***
	(0.0002)	(0.0002)
% 1 Y.O. Vac for MCV	-.00005***	-.00005***
	(8.67e-06)	(8.68e-06)
Constant	-.4453***	-.4449***
	(0.0180)	(.0181)
Number of Observations	22,421	22,421
Number of Groups	1788	1788
Within R-Squared	.5333	.5333
Between R-Squared	.9997	.9997
Overall R-Squared	.9836	.9836

*p<0.1, **p<0.05, ***p<0.01

Table 8. Predicted Receiving Country Prevalence Rate: Model 2E Interaction 1

Screening Binary = 0[73]	SS HIV Prev = 82.061[74]	SS HIV Prev = 180.481	SSHIV Prev = 278.901[75]
N Migrants = 0[76]	0.201128	0.201040	0.200952
N Migrants = 1155[77]	0.201094	0.201014	0.200935
N Migrants = 4157[78]	0.201006	0.200948	0.200890
N Migrants = 7159[79]	0.200809	0.200882	0.200846

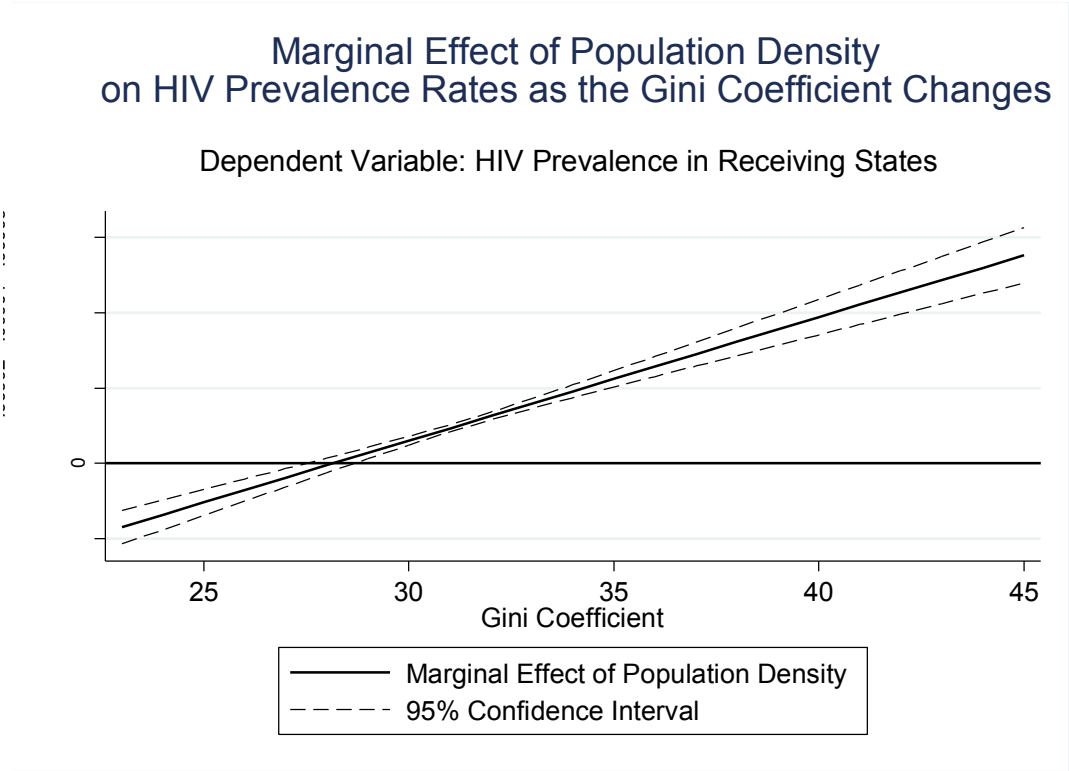
Screening Binary = 1[80]	SS HIV Prev = 82.061	SS HIV Prev = 180.481	SS HIV Prev = 278.901
N Migrants = 0	0.205086	0.205121	0.204930
N Migrants = 1155	0.205038	0.204935	0.204832
N Migrants = 4157	0.204921	0.204451	0.203982
N Migrants = 7159	0.204804	0.203968	0.203132

Table 9. Predicted Receiving Country Prevalence Rate: Model 2E Interaction 2

	Density = 43.27[81]	Density = 111.07	Density = 178.87[82]
Gini = 25.63[83]	0.204564	0.203998	0.203432
Gini = 28.05[84]	0.204269	0.204242	0.204215
Gini = 30.475[85]	0.203973	0.204485	0.204998
Gini = 32.90[86]	0.203677	0.204729	0.205780
Gini = 35.32[87]	0.203382	0.204972	0.206563

[73] A country screens for HIV/AIDS
[74] One half standard deviation below the mean
[75] One half standard deviation above the mean
[76] The minimum (less than one half standard deviation away from the mean)
[77] The mean
[78] Half a standard deviation away from the mean
[79] One standard deviation away from the mean
[80] A country does not screen for HIV/AIDS
[81] One half standard deviation below the mean
[82] One half standard deviation above the mean
[83] One standard deviation below the mean
[84] One half standard deviation below the mean
[85] The mean
[86] One half standard deviation above the mean
[87] One standard deviation above the mean

Figure 5. Model 2E Interaction 2



DESIGN-RELATED PROBLEMS

While the aim of this analysis was to be able to establish the degree of health threat that migrants pose to a host population, based on the data available it is difficult to parse out which part of the increase in either incidence or prevalence is a direct result of immigration. While it is possible to estimate, to a degree, the increase in the prevalence rate or the number of new cases of a disease that new migrants represent, when controlling for the number of migrants coming in, their likelihood of infection, and the effectiveness of screening mechanisms, it is virtually impossible to gauge what number of new cases of infection are a result of spreading of the disease among the host population by migrants (past or present). While some scholars have sought to determine whether the rate of new infections caused by immigrants are different (i.e. greater) than those caused by the population at large, in general these studies have either failed to

make strong conclusions based on data availability or been tinged by cultural (or racist) biases (Manfredi, A., Nanetti, & Chiodo, 1994; Zavis, 2009). Nevertheless, even if these endeavors had been fruitful, most such studies focus on one particular host state and would not be helpful for a cross-sectional analysis such as the one undertaken in this chapter.

CONCLUSIONS AND POLICY IMPLICATIONS

Ultimately, this chapter shows that the explanations that have been the focus of the literature are valid, but that they are not the only important factors to address when discussing the threats that diseases pose to a given host population. It is clear that socio-economic and health resources in a given state have an impact on the number of cases of infection that the host population will face, and it would therefore seem crucial that states put resources into raising people out of poverty, educating them, and providing both prevention and treatment for diseases. However, these results also indicate that it is irrational to place blame for disease on immigrants, especially when effective screening mechanisms are so worthwhile when it comes to barriers of entry to unwanted individuals.

Nevertheless, while the results of this research are valuable and persuasive, they are not definitive and can be improved in several ways. First of all, the data were limited to wealthy, industrialized countries, most of which have strong welfare states and government-sponsored health care. Most of these states also have the capacity to control their borders and to effectively screen for infections in people coming into their states, should they deem a disease a threat and choose to do so. Despite the imperfection of extrapolating to the global arena, the framework of this dissertation allows us to talk about implications for developing countries, even if we cannot test the outcomes empirically. While it is likely that the same socio-economic and health

variables will have an impact on the number of cases of infection in developing states as in developed ones, it is likely that developing states will have poorer health outcomes because they have fewer resources. At the same time, it is likely that these states have lower capacity to monitor their borders, potentially lacking the ability to keep unwanted immigrants out. While we see that developed countries have the capacity to deal with the health threat that immigrants may pose and hence immigrants may not pose a threat to those countries, the same conclusions may not apply to developing countries.

This is especially the case since reason holds that if screening mechanisms are effective at keeping out those individuals who carry infectious diseases, then in the absence of those screening mechanisms migrants do become a threat. Or, more precisely, they may become a threat, but then the characteristics of the migrants begin to play a greater role in determining their impact on host states. More specifically, if you subscribe to the school of thought that believes increases in prevalence (or incidence) rates are the real threat, (as opposed to the school of thought that believes that any additional infected migrant is a threat to the host society as a burden on the medical infrastructure (Katona, 2009)), then the answer is not as straightforward. For example, according to the WHO, South Africa, the country of immigration in the region, has a prevalence rate of about 800 per 100,000 for TB and 18% for HIV/AIDS. Its neighboring countries: Botswana, Zimbabwe, Lesotho, Swaziland, and Mozambique, have significantly lower rates of TB infection, namely, approximately 360, 290, 210, 330, and 260, respectively, and approximately 25%, 15%, 24%, 26%, and 11%, respectively, when it comes to HIV/AIDS.[88] Similarly, those countries which are the biggest sources of South African refugees and asylum

[88] Namibia also neighbors with South Africa, but the World Health Organization does n

seekers, namely, the Democratic Republic of Congo and Somalia[89] have prevalence rates of 260 and 600 (TB), and 3.5% and 0.6%, respectively. These numbers indicate that despite having a relatively weakened capability for controlling immigration, especially as contrasted with other countries of immigration, if the concern is for increased disease prevalence in South Africa, then the concern is minimal. However, if these countries would to have bordered France, whose prevalence rates are 25 (TB) and .4% (HIV), regardless of which school of thought you prescribe to, immigration would have been a great concern if France had been unable to control its borders. In general, it would seem that countries that have managed to lower disease prevalence rates within their borders should be able to control those borders in order for migrants not to be considered a health threat. The question then remains; do lower disease prevalence rates and the ability to control borders go hand in hand?

In this chapter I discussed the nexus of state, migrant, and disease characteristics, predominantly looking at state characteristics. The focus on migrant and disease characteristics was broad, and the emphasis on disease characteristics was solely on TB and HIV/AIDS because so much research has been done on these communicable diseases that data are widely available. This approach allowed to me better assess the impact of migrant and state characteristics and how they impact the degree to which diseases pose a threat to a host population. My findings make clear that while socio-economic and health resources in a given state have an impact on the number of cases of infection that the host population will face, effective screening mechanisms are worthwhile when it comes to protecting a host country's population from the threat of disease. In the following chapter, I will take a closer look at state characteristics, but the biggest

[89] Zimbabwe, in addition to being a neighboring country is also a big source of South African refugees and asylum seekers.

contribution will lie in assessing the impact of disease characteristics on the level of threat that immigrant populations pose to host societies.

CHAPTER FIVE: Immigration and Health Security: A Qualitative Approach

INTRODUCTION

On January 4, 2010, the United States government officially lifted the HIV travel and immigration ban. This was a historic reversal in a policy, which had been in place for over two decades. On May 16th 1987, the U.S. Public health service had added HIV/AIDS to its immigration exclusion list, as a "dangerous contagious disease" thereby mandating testing for all visa applicants and prohibiting the immigration of those infected (U.S. Department of Health & Human Services). While public health and human rights advocates touted the reversal as a victory for human rights, some still question the wisdom of this reversal, mostly based on the potential cost to taxpayers (Dwyer, 2010). However, HIV/AIDS is still contagious, HIV/AIDS is still fatal- there is no cure, and the health care system in the U.S. has seen neither an overhaul during this period, nor has its burden been significantly decreased, if anything, health care costs have risen in a rate above inflation since the 1980s. What then has changed? Is it the migrants? Or perhaps are there other disease or state characteristics that may have been overlooked in a large cross-national analysis that explain the policy reversal in this country? The aim of this chapter is to look at four cases to answer the question why certain states decide to screen immigrants for certain diseases. I believe that the answer to this question lies in the nexus of state, migrant, and disease characteristics.

My contribution, in the previous chapter, lies in identifying the country and migrant characteristics that put host populations at greatest risk. Namely, the cross-national, quantitative analysis shows that the standard socio-economic indicators of disease prevalence in a host state offer only an incomplete picture of the degree to which a disease might be threatening to a host population and that immigration must be included in the analysis. The results further indicate

that while the number of migrants and the prevalence of disease in the given sending state matters, this is only the case when the host state lacks effective screening mechanisms. In this chapter, I will analyze four cases: Canada, Australia, the U.S., and South Africa, which were chosen because they are all historical countries of immigration, with historic ties to the United Kingdom, with relatively reliable data on immigration and health. Using both the most similar and least similar case comparisons, I hope to gain a better understanding of what diseases states consider to be threatening (as based on their immigration laws) as well as the state characteristics that might either minimize or exacerbate the threat. Since we know that effective screening mechanisms decrease the health threat that immigrants pose, I will look at these four cases in order to analyze how states choose which diseases they perceive as threatening. Then, I will look at the diseases themselves and assess what characteristics they possess that make them threatening.

NOTIONS OF SECURITY

In the previous chapter, I discuss, at length, the expansion of the classical notion of security to include human security, which includes health security. For the sake of brevity, I will not re-present this literature.

STATE OF THE LITERATURE

Historically, immigrants have often been perceived as a threat to the health security of a society, though it was not often phrased in these terms. For example, as early as the Immigration Act of 1891, the U.S. government mandated the exclusion of individuals "suffering from 'a loathsome or dangerous contagious disease'" and promoted the disinfection of steamship

passengers and threatened to deport those who were ill (Markel & Stern, 2000, pp. 93-94). This "myth" that immigrants endanger the public health stems primarily from the idea that poor migrants from un- or under-developed nations can bring in dangerous infectious diseases. Many scholars point out that this fear is unwarranted primarily for two reasons, especially in current times. First, scholars point to the fact that the "main threats to life and health" in most "developed" countries stem from "heart disease, cancer, injuries, and diabetes" (Guskin & Wilson, 2007, p. 73), which are not communicable diseases and which it has been found are more prevalent among native born populations. Second, the diseases that cause the biggest amount of concern are equally likely to be brought into this country by tourists, immigrants, and citizens coming back from travel abroad, yet medical exams are only required (in the case of the US) for immigrants seeking resident status (Guskin & Wilson, 2007, p. 73). Nevertheless, in this chapter, I focus on the immigrants and the diseases that states are most fearful of, as evidenced by their immigration laws. Specifically, I assess the disease and immigrant characteristics that influence state screening decisions, and I also assess whether state characteristics influence which diseases are thought to pose a threat to host state populations (as evidenced by their immigration laws).

The Nexus of Migrant, State and Disease Characteristics

Like in the previous chapter, I argue that it is a combination of disease and state characteristics that determines not only the degree of threat that immigrants pose, but also whether there is a threat in the first place.

IMMIGRANT AND STATE CHARACTERISTICS

In the first half of this chapter, I will focus primarily on two cases: Canada and Australia. These cases are often looked at in the health and immigration literature, especially Canada, since the government does a good job of collecting health data on its population (Gee, Kobayashi, & Prus, 2004; Kennedy, McDonald, & Biddle, 2006; McDonald & Kennedy, 2004). Other than having reliable data, these two cases are very similar when it comes to their state characteristics. As such, we would anticipate that these states would choose to adopt similar, if not identical, immigration policy when it comes to screening for diseases. However, this is ultimately not the case, and I argue that the similarities that exist in immigration policy can be explained by state characteristics to a degree, but that state characteristics are not solely determinant of state screening policies. Disease characteristics, as coupled with immigrant characteristics, help influence each state's policy in this regard.

Canada

Canada is a historical country of immigration. According to the 2001 census, 18.4-19 percent of the Canadian population was foreign born, up from 17.4 percent just 15 years earlier (Gee, Kobayashi, & Prus, 2004, p. S56), though the makeup of the newly immigrated foreign-born population has shifted from being primarily European to primarily Asian. About 41 percent of all Canadian immigrants are from Europe, while about a third are from Asia. It may be significant that, when compared with Australia (and the U.S.), Canada has the highest percentage of immigrants from Africa (about 5%).

Canada is also a developed country where GDP per capita and education levels are high, and where unemployment is relatively low. Specifically, all socio-economic indicators point to a country where people are, on average, relatively well off. For the period between 1990 and

2004, GDP per capita in Canada ranged from $39,697 to $48,100, in 1990 dollars controlled for purchasing power parity. Inequality was quite low as the GINI hovered around 32 and unemployment ranged from a low of 6.8 percent in 2000 to a high of 11.4 percent in 1993. The population is also well-educated, with a literacy rate around 99 percent. In general, based on all socio-economic indicators, Canada is a developed country.

At the same time Canadians enjoy a national health care system and the country scores high on most indicators of health. Health expenditure is about $2,000 per capita, there are about 2.1 physicians per thousand people and 96% of children are immunized for measles. By all accounts, Canadians should be a healthy population and fear of a public health threat caused by immigrants should be relatively low.

Australia

Like Canada, Australia is a historical country of immigration, and has been since colonization in 1788 (Vasta, 2006, pp. 13, 18). According to the 2001 census, about 22 percent of the population was foreign-born. While over half of Australia's immigrants are from Europe, just like in Canada, one-third of all immigrants are from Asia. Logically, when compared to its counterpart Canada (and the U.S. as well), Australia has the highest percentage of immigrants from Oceania (about 11%, whereas immigrants from Oceania represent about 1% of the immigrants to Canada and the U.S.). Ultimately, other than the slight variation (4% versus 5%) when it comes to immigration from Africa and the higher levels of immigration from Oceania that Australia faces, these countries seem virtually identical when it comes to their source regions of immigration.

The similarities do not end there, Australia is also a developed country where GDP per capita and education levels are high, and where unemployment is relatively low. Like in

Canada, all socio-economic indicators point to a country where people are, on average, relatively well off. For the period between 1990 and 2004, GDP per capita in Canada ranged from $36,734 to $48,670, in 1990 dollars controlled for purchasing power parity. Inequality was quite low, though slightly higher initially, and slightly more variable than in Canada, as the GINI hovered between 35.2 in 1990 and 30.5 by 2004 and unemployment ranged from a low of 5.4 percent in 2004 to a high of 10.9 percent in 1993. The population is also well-educated, with a literacy rate around 99 percent. In general, based on all socio-economic indicators, Australia is a developed country. In fact, there is very little variation between Canada and Australia when it comes to socio-economic indicators.

Finally, like Canadians, Australians enjoy a national health care system. The country also scores high on most indicators of health. Health expenditure is about $1,700 per capita, there are about 2.5 physicians per thousand people and 91% of children are immunized for measles. By all accounts, Australians should be a healthy population and, just like in Canada, fear of a public health threat caused by immigrants should be relatively low. When it comes to health indicators, Australians spent slightly less per capita on health care, while they have slightly more doctors for the population. Ultimately, you could say that it is a wash.

Overall, when it comes to all socio-economic and health indicators, you would be hard pressed to find two, more-similar cases in a lab setting. As such, I expect that there should be little to no variation when it comes to the health screening policies that these countries put in place on their prospective immigrants, but this is ultimately not the case. This implies that immigrant and disease characteristics may play a role in influencing which diseases and immigrants each host state believes pose the greatest level of threat to its population.

STATE CHARACERTISTICS

Table 1. Descriptive Statistics

State Characteristics	Canada	Australia	United States	South Africa
Country of Immigration	Yes	Yes	Yes	Yes
National Public Health Care System	Yes	Yes	No	Yes[90]
Health Expenditure per Capita[91]	2,089	1,713	4,703	246
Physicians (per 1,000 people)[92]	2.1	2.5	2.4	0.7
Immunization for Measles[93]	96%	91%	91%	72%
Screens Immigrants for HIV	Yes, not disqualifying factor	Yes, not disqualifying factor	Until 2010, disqualifying factor	No
HIV Prevalence Rate[94]	0.2%	0.1%	0.5%	16.1%
Screens Immigrants for TB	Yes	Yes	Yes	No
TB Prevalence Rate[95]	7.5	570	7.6	535

(The World Bank)

DISEASE CHARACTERISTICS

Due to their similarities, we could assume that Canada and Australia would implement similar disease screening policies in their immigration processes; however, there is only a small degree of overlap. While both Canada and Australia screen potential immigrants for HIV, in neither case is a positive test result a disqualifying factor, and though both screen for active TB, the similarities in their screening policies end there (Zencovich, Kennedy, MacPherson, & Gushulak, 2006; Bisaillon, 2011). Whereas Canada screens for TB, this is mostly for the purpose of health promotion and disease prevention. In contrast, for Australia, TB is the only

[90] Serves the majority of the population, but is chronically underfunded and understaffed. The wealthiest 20% of the population uses a private system.
[91] 2000. Current U.S. dollars.
[92] 2000-2001.
[93] Percentage of children ages 12-23 months. 2000.
[94] 2000.
[95] Per 100,000 people. 2000.

disease which is a disqualifying factor for immigration (Bashford, 2010; Zencovich, Kennedy, MacPherson, & Gushulak, 2006). Canada screens immigrants for syphilis, while Australia screens a select few (pregnant women, adoptive children, unaccompanied refugee minor children, and those intending to work in the medical field) for hepatitis (CIC News, 1997; Harris, 2011; Department of Immigration and Citizenship, 2013). Though again, neither of these diseases is a factor disqualifying immigrants from coming to the host state and screening is done primarily as a way to identify who needs treatment.[96] This variation in screening policy must, therefore, be based on something other than state characteristics. I believe that the explanation lies primarily in the nexus of disease and migrant characteristics.

[96] Especially in the case of syphilis, where a cure is readily available.

Table 2. Descriptive Statistics

Disease Characteristics	HIV	TB	Hepatitis [97]	Syphilis	Yellow Fever	Cholera	Plague
Fatality	Highly (100%)	Variable (4-66%)[98]	Variable (0.3- 20%)	Variable (8-58%)[99]	Highly (20-50%)	Medium 1.5%	Highly (8-11%)
Communicability	Medium	Medium	Medium	High[100]	High	Variable [101]	High
Communicability	Blood-borne	Airborne	Variable	Sexual contact [102]	Mosquito-borne	Fecal-oral Route	Variable [103] Airborne
Vaccine Available	No	No	Variable	No[104]	Yes	Yes[105]	Yes[106]
Source	Virus	Bacteria	Virus	Bacteria	Virus	Bacteria	Bacteria
Cure Available	No	Yes	Variable	Yes[107]	No	Yes	Variable [108]

(Armitage & Salata, 1998; World Health Organization)

HIV/AIDS

A Brief History of HIV/AIDS

While scholars have recently found that primate lentiviruses are millions of years older than was previously thought, the mere presence of such viruses in the world was not a threat to human

[97]

[98] The chance of death from a case of TB is about 4% (as of 2008), though if effective treatment is not given, the death rate is up to 66% (World Health Organization). There is a certain percentage of Extra Drug Resistant TB (XDRTB), which is rare, but for which antibiotics do not work. Unfortunately, XDRTB is increasing globally.
[99] (Kent & Romanelli, 2008)
[100] 50% at exposure. (Ficarra & Carlos, 2009)
[101] There are more than a million cases of cholera a year worldwide, but this is most likely to occur in refugee camps or in natural disaster zones where conditions preclude proper sanitation and personal hygiene. It takes a "significant contamination" of food or water to transmit the disease, and person-to-person transmission is thought to be uncommon as it takes about 100 million bacteria to infect a healthy adult. People with compromised immune systems and young children are at greater risk (Davis).
[102] Also mother to child and, rarely, through blood transfusions.
[103] Plague is spread from one rodent to another and then via flea-vector to humans. Once in the lungs, it is them transmittable from person to person through infected droplets by coughing.
[104] (Cullen & Cameron, 2006)
[105] Limited efficacy and provide short-lived immunity (Armitage & Salata, 1998, p. 369).
[106] Efficacy uncertain; not used in developed countries.
[107] (Stamm, 2010)
[108] If diagnosed early, can be treated with antibiotics. However, can still be fatal despite effective antibiotics.

populations until the late 20th century during which the transmission of a lentivirus from chimpanzees to humans lead to widespread consequences to human health in the form of HIV and later the emergence of AIDS (Compton & Emerman, 2013).

As early as June 1981, the U.S. Centers for Disease Control and Prevention (CDC) reported a rare lung infection (*Pneumocystis carinii pneumonia* (PCP)), in five, previously healthy, gay men in Los Angeles. The CDC also established a task force to try to identify the risk factors and symptoms in order to establish a national surveillance program. By year's end, however, the national total of PCP and other "opportunistic infections" cases causing severe immune deficiency among gay men numbered 270, and 121 of those men had died (U.S. Department of Health & Human Services).

By April 1982, the U.S. Congress began hearings on HIV/AIDS and the CDC estimated that tens of thousands of people may be infected. By December of that year, it became clear that this disease was blood-borne as AIDS was diagnosed in an infant who had received a blood transfusion. At this point, another 22 infants were thought to be infected. By early 1983, the first cases of AIDS in female sexual partners of males with AIDS were reported and by March it was clear to the CDC that AIDS is "transmitted sexually or through exposure to blood or blood products" (U.S. Department of Health & Human Services). Soon thereafter, the U.S. Congress passed the first bill that would fund AIDS research and treatment.

By the end of 1985, at least one case of HIV had been reported from each region of the world, and by May 1987, "the U.S. Public Health Service add[ed] HIV as a "dangerous contagious disease" to its immigration exclusion list and mandate[d] testing for all visa applicants" (U.S. Department of Health & Human Services).

Great strides were made over the next two decades in the battle against HIV/AIDS, equally in terms of awareness, research, and therapies. Nevertheless, while in 1997, an estimated 5.8 million people were infected with HIV worldwide (Hogg, Weber, Craib, Anis, O'Shaughnessy, & Schechter, 1998), today, it is estimated that HIV infects about 34 million people worldwide (Compton & Emerman, 2013) and that it is having a detrimental impact on state structures and economic development, especially in sub-Saharan Africa, the rest of the African continent, and the Caribbean (Gentilini & Chieze, 1990; Hogg, Weber, Craib, Anis, O'Shaughnessy, & Schechter, 1998).

Characteristics of the HIV/AIDS

This disease is a virus that is blood-borne; the virus is spread by "sexual, parenteral and perinatal routes". Thereby, I would classify it as being having "medium" communicability. There is no vaccine available and no cure, thus ultimately it is fatal in all cases, though life expectancy has increased significantly and is variable, especially based on whether early diagnosis and treatment is available. The virus kills by producing "immune dysfunction and immunosuppression leading to opportunistic infections, increased risk for other pathogens, malignancies, and other noninfectious complications" (Armitage & Salata, 1998, p. 367).

Canadian and Australian Policy on Screening Immigrants for HIV

When it comes to Canada, the "unique feature of Canada's immigration HIV screening programme [sic] is that [is] not primarily for determining inadmissibility of HIV-positive applicants, but for health promotion and disease prevention purposes" (Zencovich, Kennedy, MacPherson, & Gushulak, 2006, p. 813). This is similar to Australia's policy on HIV and screening. "While there was a flurry of bureaucratic concern about HIV and migration [in Australia] in the mid-1980s, positive status does not automatically mean visa rejection"

(Bashford, 2010, p. 116). In other words, "HIV/AIDS is *not* regarded as a public health risk and it is *not* on the basis of fears of transmission to members of the public" that would disqualify someone based on health criteria, that is not to say that someone diagnosed with HIV/AIDS might not satisfy the economic burden on society health criteria, though refugees and family reunification candidates are exempt (Bashford, 2010, p. 116; Department of Immigration and Citizenship, 2013). Like in Australia, those infected with HIV are not disqualified from immigrating to Canada, though they may have difficulty in immigrating if their "admission [is thought to] cause excessive demand on the existing social or health services provided by the government". Also, like in Australia, this obstacle is removed for immediate family reunification candidates and refugees (Cambell Cohen). While the HIV/AIDS epidemic is considered by some to be the greatest health disaster in human history (Cockerham & Cockerham, 2010, p. 35), neither Australia nor Canada have opted to exclude immigrants based solely on HIV infection. Though screening takes place in both of these states, and though both consider the implications that an HIV infected individual will have on their medical infrastructure, both of these states have the absorptive capacity in their medical infrastructure and national health care systems to deal with a certain influx of HIV positive individuals (Zencovich, Kennedy, MacPherson, & Gushulak, 2006; Coyte & Kednapa, 2010).

Tuberculosis

A Brief History of TB

It is important to note that with the efforts of the WHO and many other organizations and governments, the mortality rate, morbidity rate, and rate of infection of TB has greatly decreased (Okada, 1967); the first beneficiaries of this trend were developed countries where by the 1980s TB incidence was rare. Nonetheless, at the same time it was estimated that approximately 2

billion people (about half of the world's population) were infected and that there were about 20 million active clinical cases annually, resulting in 3 million deaths. Most of these infections were occurring in Southern Asia, Africa and Latin America, and left much room for improvement (Armitage & Salata, 1998, p. 371).

Since the 1980s and 1990s the disease, which had been thought to be a disease of the past, made a comeback in developed countries, with the number of deaths increasing. Since the 2000s, tuberculosis incidence rates have decreased worldwide, with the strongest gains made in Africa. Nevertheless, globally anywhere between 1.6 million and 2 million deaths per year are still attributed to TB (Curley, 2006).

Characteristics of TB

This disease is caused by a bacterium that is airborne; the infection is spread, most often, when a person with pulmonary tuberculosis coughs and these particles, which may remain airborne, are inhaled by a susceptible host (U.S. Department of Health, Education, and Welfare, 1978). TB often requires long, systematic exposure to an infected individual (Vanderbilt Occupational Health Clinic, 2005; New York State Department of Health, 2007); that is why I would classify it as having "medium" communicability. There is no vaccine available directly for TB, but there is a vaccine for *Baillus Calmette-Guerin* (BCG) and anergy, which is "somewhat effective at preventing clinical pulmonary and extrapulmonary TB and is widely used in many of the countries with high incidence of TB" (Armitage & Salata, 1998, p. 371). Unfortunately, this often leads to confusion upon screening as persons vaccinated for BCG then test positive when screened using PPD skin testing. Both infection rates and mortality rates have gone down drastically, and in developed countries TB is no longer considered life threatening (though

antibiotic resistant strains of the disease do exist) (Curley, 2006; New York State Department of Health, 2007).

Canadian and Australian Policy on Screening Immigrants for TB

"In 2001, tuberculosis was the one and only disease for which people were [always] denied a visa or entry into Australia" (Bashford, 2010, p. 100). While HIV is not considered a public health risk, TB is a public health risk and the manual that MOCs receive emphatically states that " ' TB is the only health condition prescribed in migration law as *precluding the grant of a visa … There are no exceptions*" (Bashford, 2010, p. 117). In contrast, Canada screens immigrants for TB, but for the purpose of providing treatment if the disease is detected, which can be costly, since a positive test result requires a nine month course with isoniazid (Menzies, 2003). What can account for this difference? First, it is important to note that there is variation between Canada and Australia when it comes to screening policies for TB, when if such policies were to be based purely on country characteristics, we would expect to see similar policies in effect in these two countries. Second, it may be important to note that since both countries allow for immigration for HIV positive individuals, cost of treatment is not the chief concern that will impact policy. Treatment for TB is short term and inexpensive when compared to the life-long and expensive treatment for HIV/AIDS.

In the case of TB, it is likely that immigrant characteristics play a chief role in explaining the divergence in policy. While Europe is the greatest source of immigrants for both Canada and Australia, a region with low TB prevalence rates, the second biggest source region for both Canada and Australia is Asia (Migration Policy Institute, n.d.). However, Asians are not a monolithic group. There is a high degree of variation both when it comes to disease prevalence rates in Asian countries, but also when it comes to which Asian countries are the largest source

countries for our host countries in question. I believe that this nexus of migrant and disease characteristics accounts to a large degree for the variation in immigrant TB screening policy between Canada and Australia. Namely, while China, India and Hong Kong are the chief source countries for Asian immigration into Canada (in that order), Australia's Asian immigrants hail mainly from Vietnam, China, and the Philippines (in that order) (Migration Policy Institute, n.d.). The reasoning behind Australia's stricter TB screening policy becomes clear when the TB prevalence rates of those source countries are taken into consideration. Specifically, between 1990 and 2000, China's TB prevalence rate decreased from 280 to 214 per 100,000, India's has decreased from 337 to 247 per 100,000 and the prevalence rate in Hong Kong decreased almost by 50% from 200 to 131 per 100,000 during that time period. While these rates may seem large, and are large compared to the rates of the host states, Canada's Asian immigrants have much lower rates of TB prevalence than those coming into Australia. Vietnam's TB prevalence rate decreased from 398 per 100,000 in 1990 to 343 per 100,000 in 2000. China, as seen above, saw similar improvements, while the Philippines, the third largest source state for Asian migration into Australia was burdened with a TB prevalence rate of 1003 per 100,000 in 1990, and only saw modest improvement by 2000, when it had a prevalence rate of 775 per 100,000 (World Health Organization). I argue that this difference in both the source and prevalence rate of immigrants coming in to these virtually identical host states, accounts for the difference in host state policy on TB. Finally, it is important to note that Australia does not permanently ban immigrants with TB; immigrants are potentially eligible after the 9-month treatment and a clean screening result. The main departure in policy lies in where treatment takes place. In Canada immigrants are treated in the host state, while Australia prohibits immigrants with active TB from coming in. This choice in policy is bolstered by these source states' own TB prevalence

rates. While Canada's prevalence rate decreased from 12 per 100,000 in 1990 to 6.4 per 100,000 in 2000, Australia, who initially had a much lower prevalence rate than Canada (and even than the U.S.), saw only a modest decrease from 10 per 100,000 to 7.1 per 100,000 (which was higher than the prevalence rate of both Canada and the U.S. by 2000) (World Health Organization).

IMMIGRANT AND STATE CHARACTERISTICS

South Africa

South Africa is and has historically been a country of immigration. In fact, "long-distance migration for employment pre-dates the drawing of international borders by colonial powers in the latter half of the nineteenth century" and has only increased since "South Africa reconnected with the rest of the world" in 1994 (Adepoju, 1995, pp. 87-93; Rogerson, 1995, pp. 110-12; Crush, 2000, pp. 12-13). Regional migration is especially popular, with residents of neighboring countries (Lesotho, Mozambique, and Zimbabwe) reporting having visited South Africa in large numbers: 81%, 29%, and 23% of the adults, respectively. What is more surprising is that generations of their parents and grandparents worked in South Africa at even higher rates than these adults visited (Crush, 2000, p. 13). Permanent migration is much rarer and the stereotypes of rootless and desperate criminals flooding South Africa do not bear themselves out (McDonald D. A., 2000, pp. 2-3).

International migration to South Africa remained low until the end of apartheid, and was controlled primarily by mining companies, as much of their labor force was made up of black mineworkers, who were dependent on the whims of these companies and their contracts. The miners made up 86% of the 378,000 foreign workers in South Africa and the make-up of this group varied greatly over time in terms of numbers and country of origin. At this time in history,

South African immigration policy was based on a permanent rotation system, with residence limited to 24 consecutive months- the idea being that this would decrease the social costs of labor and discourage permanent migration. By the end of the 1970s, the mining companies, with the advent of new technologies, no longer had such an interest in unskilled labor and persuaded the government to change immigration policy in favor of a more stable, national workforce (Ricca, 1989, pp. 155-59). After apartheid ended, at a time when much of the rest of the sub-Saharan part of the African continent was undergoing serious economic and political turmoil, many countries changed their laws, allowing their citizens to visit and work in South Africa; however, much of this migration is "irregular" and, hence, difficult to account for. Changes in immigration law in 2000 and 2003, which made it more difficult for people, such as Zimbabweans and Mozambicans, to enter South African territory, are thought to have only increased the number of "border jumpers" (Campbell, 2010, pp. 177-79).

This belief may be faulty. Even if migration was to occur, when the intentions of those living in neighboring countries suggest otherwise[109], then the people most likely to immigrate to South Africa would be young, single, *educated*, male migrants, not exactly a group that threatens the health, nor the economic well-being, of a society (Taylor & Barlow, 2000, p. 156). Nonetheless, most South Africans believe that immigration has negative consequences for their country, both socially and economically, as well as for the public health. While the plurality of the population is concerned about crime (48%), significant parts of the population fear that immigrants pose a threat to their jobs (37%), and their health (29%)[110] (Mattes, Taylor,

[109] According to the Taylor and Barlow, the majority of respondents in all countries in question have no intention of immigrating to South Africa. About 31% of Lesotho residents, 40% of Mozambique residents, and 23% of Zimbabweans might be inclined towards long-term migration (2000, p. 152).

[110] White South Africans are much more likely to perceive immigrants as a threat to jobs and the economy than their black African counterparts (56% to 37%, respectively), while black South Africans are much more likely to perceive immigrants as a health threat than their white African counterparts (30% to 16%, respectively).

McDonald, Poore, & Richmond, 2000, pp. 208-9). The major concern lies in concerns about HIV and other STDs. In general, South Africa seems to be facing a situation where xenophobia and dislike of immigrants is abound, an indication of this is the amount of crimes that are being committed against aliens (Mattes, Taylor, McDonald, Poore, & Richmond, 2000, p. 216).

This xenophobia leads to significant immigration data problems, both when it comes to availability, but also when it comes to the quality of data when it is available (Adepoju, 1995, p. 87). According to the 2011 census, about 4.4 percent of the population was foreign-born, though by and large these figures are thought to be grossly underestimated due to xenophobia. At the same time source countries for these immigrants are difficult to determine, though most immigrants are thought to be from Zimbabwe or Nigeria (BBC News, 2005). Historical trends seem to lend credence to this assumption, as do xenophobic attacks in the country in which mostly immigrants from Mozambique, Malawi, and Zimbabwe have been targeted (BBC News, 2008).

South Africa is a developing country with middling GDP per capita, relatively reasonable education levels, and a middling unemployment rate. However, when contrasted with Australia and Canada, the people of South Africa are much worse off. For the period between 1990 and 2004, GDP per capita in South Africa ranged from $3,182 to $4,695, in 1990 dollars controlled for purchasing power parity (The World Bank). What is more, the people of South Africa faced one of the highest rates of inequality in the world, with a GINI coefficient ranging from 59.3 to 63.1, during the period of interest. Unemployment hovered about 12-14 percent in the early 2000s; earlier data is not readily available or reliable. The population is relatively well-educated, with a literacy rate around 94 percent. In general, based on all socio-economic indicators, South

Africa is a developing country. At the same time, the extremely high rate of inequality has to be noted.

Finally, while like Canadians and Australians, South Africans enjoy a national health care system, the system is chronically underfunded and understaffed. There really is no comparison. Health expenditure is about $250 per capita, there are about 0.7 physicians per thousand people and 72% of children are immunized for measles. By all accounts, South Africa has a substandard medical infrastructure and fear of a public health threat caused by immigrants could be high.

South African Policy on Screening Immigrants for HIV and TB

While South Africa suffers from an overburdened medical infrastructure, as evidenced by its abysmal health spending per capita and by its threadbare rate of physicians, South Africa does not screen its immigrants for HIV or TB. Unlike Canada and Australia, who screen, but choose not to limit HIV infected immigrants and who screen for TB, though they deal with active tuberculosis differently, South Africa, who faces a greater threat from each additional infected immigrants, does not screen for these diseases. Here, the explanation is rather straightforward. South Africa does not have the capacity to screen its immigrants for these diseases, and therefore it does not, despite the degree of threat that they may pose to the host society, public health, and medical infrastructure.

South African Policy on Screening Immigrants for Infectious Diseases

Despite the fact that South Africa lacks state capacity to screen immigrants for HIV and TB, South Africa still considers some immigrants to be prohibited persons based on health. Specifically, South Africa considers immigrants infected with infectious diseases that can "spread easily" to be prohibited persons. Diseases that make immigrants undesirable persons

include cholera, pestilence [plague], and yellow fever (Department of Home Affairs). For the most part what distinguishes these diseases from others, which may be costly, such as HIV/AIDS, and which renders them especially threatening to the host population is their degree of communicability. All three of these diseases are highly communicable, as indicated in Table 2 and pose a high degree of threat to host societies. Therefore, immigrants who are infected with these diseases are prohibited from South Africa.

While it may seem difficult to understand how a state that lacks the state capacity to deal with infectious diseases is able to limit immigration based on health, I argue that in this case, a weak health infrastructure and low state capacity is precisely the reason that South Africa has such a law in place. In fact, the states in our analysis that have strong health infrastructures, and would have the ability to screen for these diseases easily, do not do so. This is for several reasons. First, despite their high communicability, these diseases are not commonplace in developed countries. For example, while cholera can be highly communicable, the prerequisites tend to be poor sanitation and poor hygiene, as are often found in refugee camps and natural disaster zones, in poor regions of the world. Second, and perhaps more importantly, a vaccine is available − countries with a strong health infrastructure should not have a problem immunizing their populations should such a need arise. Yellow fever and pestilence (plague) are rare in the developed world are and just like in the case of cholera, a vaccine is available, which explains why Canada and Australia do not actively screen for these diseases. Nevertheless, it is precisely South Africa's lack of state capacity to deal with a potential health crisis that explains its classifying immigrants infected with these diseases as prohibited persons.

The United States

Like both Canada and Australia, the United States is a historical country of immigration. According to the 2000 census, about 11 percent of the population was foreign-born. While a significant portion of the population, this is much less than either of its two counterparts. The source countries to the U.S. differ significantly, with approximately half of U.S. immigrants originating from the Americas and just over one-fourth originating from Asia. Europeans account for approximately 16% of the U.S. foreign-born population (while they account for 41% of the Canadian foreign-born and 51% of the Australian foreign-born). Like in Canada, immigrants from Oceania account for only about 1% of the total foreign-born in the U.S.

Like its counterparts, the U.S. is also a developed country where GDP per capita and education levels are high, and where unemployment is relatively low. Like in both Canada and Australia, all socio-economic indicators point to a country where people are, on average, relatively well off. For the period between 1990 and 2004, GDP per capita in the U.S. ranged from $47,907 to $62,655, in 1990 dollars controlled for purchasing power parity. Inequality was slightly higher than in Canada and Australia, as the GINI hovered between 40.5 in 1990 and 45 in 2003 and unemployment ranged from a low of 4 percent in 2000 to a high of 7.5 percent in 1992. Just like its counterparts, the U.S. has a literacy rate at around 99 percent. In general, based on all socio-economic indicators, the United States is a developed country. In fact, there is very little variation between the United States and Canada and Australia when it comes to socio-economic indicators, though it is slightly richer and more unequal.

The biggest difference lies in the fact that Americans, unlike Canadians and Australians, do not enjoy a national health care system. Despite this, the country also scores high on most indicators of health. Health expenditure is about $4,700 per capita (more than double that of its

counterparts), there are about 2.4 physicians per thousand people and 91% of children are immunized for measles. By all accounts, Americans should be a healthy population and fear of a public health threat caused by immigrants should be relatively low. In short, the biggest difference between the U.S. and its counterparts is that despite spending more than double, per capita, on health expenditures, the U.S. does not have a national health care system.

U.S. Policy on Screening Immigrants for HIV and TB

Having the capacity to deal with any health threat that immigrants could pose, based on its state characteristics, which differ from those of Canada or Australia only insomuch that the U.S. does not have a national healthcare system, it would be logical to assume that the U.S. instituted a similar immigrant screening policy to its counterparts. However, this is not the case.[111] While Canada and Australia screen for TB, HIV, and syphilis and hepatitis, respectively, the U.S. screens immigrants for an entire battery of diseases, including: TB, syphilis, chancroid, gonorrhea, granuloma inguinale, lymphogranuloma venereum, and leprosy (Centers for Disease Control and Prevention (CDC), 2012). Infection with any of these communicable diseases causes an immigrant to fail the medical exam and be inadmissible into the United States on health-related grounds (Wasem, 2010). Until 2010, HIV was also included as a "communicable disease with public health significance" (Wasem, 2011). In addition to screening for this series of diseases, the U.S. also requires immigrants to get vaccinated against a host of "vaccine-preventable diseases" and retains the right to keep people out if they happen to contract any

[111] "The basis for screening and referral or treatment is to (a) identify communicable diseases that are public health risks and (b) eliminate health-related barriers to successful adaptation. Most countries require that all (documented) refugees and immigrants have a medical examination." Those applying for refugee or immigrant visas to the U.S.A., for example, are screened before entry to communicable diseases of public health significance, documentation of immunizations, physical or mental disorders that may result in harm to self or others, and for drug addiction (American Public Health Association (APHA), 2002). One important point to note is that "a person may be granted entry, denied entry, or obtain a waiver for entry despite having a significant health condition" (Centers for Disease Control (CDC), 2002). (Kemp & Rasbridge, 2004, pp. 26-27)

disease deemed "quarantinable[112]" by Presidential Executive Order or any disease deemed to be a "public health emergency of international concern[113]" (Centers for Disease Control and Prevention (CDC), 2013). What accounts for this significant divergence in state policy when it comes to screening immigrants for health?

In this case, I argue that it is a mixture of state, migrant and disease characteristics that best explains the divergence. First, it is crucial to note that the U.S. does not have a universal health care system. The implications of this are clear, while Canada and Australia may screen its immigrants for diseases with the intention of providing treatment, the U.S. most likely does not screen with this purpose in mind. Due to the lack of a strong *public* health infrastructure, infected immigrants would be unlikely to get the treatment and prevention education they would need in order to limit the degree of threat that they might pose to the host population. Second, and perhaps the most important thing to note is that while HIV is not considered a public health risk in Canada and Australia, until 2010 it was listed on the United States' "communicable diseases of public health significance" list, which denied access to the U.S. for those infected. I argue that despite having the same state capacity to deal with an individual sick migrant, the U.S. faced, and still faces, very different migrant stock. In fact, while an astounding 51% of immigration to Australia is from Europe, and 41% of immigration to Canada is from Europe, only 16% of immigration to the U.S. is from Europe, the only continent (other than Australia) to have as low disease prevalence rates as the host countries in question. While having similar percentages of immigration from Asia and Africa as its two counterparts, immigrants from "the

[112] Vaccination for these diseases is required prior to entry or by the time of adjustment to permanent residence. Vaccine-preventable diseases: mumps, measles, rubella, polio, tetanus and diphtheria toxoids, pertussis, influenza type B, and hepatitis B

[113] Currently polio, smallpox, SARS, and influenza are all considered by the WHO to be public health emergencies of international concern.

Americas" account for an impressive 54% of immigration to the U.S.[114] The biggest source countries for U.S. immigration include Mexico, Cuba, Canada, and El Salvador, with Mexican migration being the most substantial. This departure in migrant characteristics, along with the fact that disease prevalence rates in all regions of the world, apart from Europe, tend to be significantly higher than in the U.S. (and Canada and Australia), explains the difference in U.S. policy on immigrant health screening. Recent changes in HIV policy can be most readily explained based on humanitarian grounds.

DISEASE CHARACTERISTICS

Much like state and immigrant characteristics, disease characteristics also play a role in determining the degree of threat that immigrants pose to host populations, though most of this threat is mitigated by either screening mechanisms, such as South Africa limiting in-migration of those with yellow fever, cholera and plague, or by having a strong health infrastructure in the host state, such as Canada screening for syphilis for the purpose of providing treatment.

Characteristics of Syphilis

Syphilis is caused by a spirochete bacterium. Though due to the fact that it is most commonly spread through sexual contact (and rarely from mother to child or, even more rarely, though blood transfusions), I would tend to classify it as having a "medium" degree of communicability, I defer to minds more informed about disease transmission than my own. Ficarra and Carlos (2009) classify syphilis as being highly communicable because exposure results in infection in 50% of the cases. While there is no vaccine available, syphilis is easy to cure, especially in its early stages (Centers for Disease Control (CDC), 2013). The fatality rate is variable, ranging from 8 to 58 percent, but the fatality rate is only this high if the disease is left untreated (Kent &

[114] This contrasts with the immigration to Canada, of which only 16% is from "the Americas".

Romanelli, 2008). If left untreated, the virus could cause paralysis, numbness, blindness, and damage the heart, brain, eyes, and other organs, and can ultimately be fatal.

Characteristics of Hepatitis

Hepatitis A is fatal in less than 0.3% of cases and is spread via the fecal-oral route. While a vaccine is available, it is endemic throughout the world (Armitage & Salata, 1998, p. 366). Hepatitis B is variably fatal. Adults who became chronically infected during childhood, 15-25% die as a result of hepatitis B-related liver cancer or cirrhosis. Otherwise healthy adults who become infected face a fatality rate of less than 5%. Hepatitis B is endemic worldwide, though it is hyper-endemic in the Far East, Africa, and South America. While it is spread by blood products, shared needles, sexual contact, in highly endemic areas, it is most commonly spread from mother to child at birth. There is a vaccine available, though there is no specific treatment for acute hepatitis B (World Health Organization). Hepatitis C is fatal in 1-5% of cases and is spread by blood products, shared needles, sexual contact, or by being born to a hepatitis C-infected mother. It is the major cause of transfusion-associated hepatitis worldwide (20-40% of sporadic cases). There is currently no vaccine available (World Health Organization). Hepatitis D is fatal in 5-20% of cases and is spread through blood products, shared needles, sexual contact, or by being born to a hepatitis D-infected mother, however, hepatitis D only manifests in people already infected with hepatitis B. There is currently no vaccine, but since hepatitis B is a prerequisite for infection, people who take the hepatitis B vaccine are protected from hepatitis D as well (Hepatitis B Foundation, 2013). Death is caused by fulminant hepatic failure. Areas of highest prevalence include Italy, the Middle East, Central Africa, and the Amazon Basin (Armitage & Salata, 1998, pp. 366-7). Finally, hepatitis E is rarely fatal, except for pregnant women among whom the fatality rate can be as high as 10-20% in the third trimester. Hepatitis

E is spread via the fecal-oral route. Most acute outbreaks occur in the developing world as a result of fecal contamination of drinking water. There is currently no vaccine available.

Characteristics of Yellow Fever

Yellow Fever is caused by a mosquito-borne virus. Whether the sylvan type, which is predominant in South America where monkeys are hosts, or the urban form, common to Africa where humans are the hosts, mosquito vectors spread the viral infection easily. Thereby, I classify it as being having "high" communicability. While there is a vaccine available, which provides 10 years of protection[115], there is no cure, with fatality rates in the 20-50% range. The virus may kill by leading to "oliguric renal failure and bleeding diathesis…including disseminated intravascular coagulation" (Armitage & Salata, 1998, pp. 362-3).

Characteristics of Cholera

Cholera is caused by the bacterium *Vibrio cholera.* Cholera is spread via the fecal-oral route and has a variable degree of communicability, but can be especially threatening in situations such as refugee camps where proper sanitation, with the lack of proper human waste disposal and access to safe drinking water, are unavailable. While there is a vaccine available, it has limited efficacy and immunity is short-lived. Antibiotics shorten diarrhea, but the core of the therapy consists of rehydration with fluids and electrolytes (either intravenously or orally). Death is caused by dehydration. As of 1998, approximately one million cases of cholera occurred annually, primarily in Asia and Africa, though the disease had resurfaced in South America as well (Armitage & Salata, 1998, pp. 368-9).

[115] Because the vaccine contains a live virus it should not be given to young children, pregnant women, and immuno-compromised adults.

Characteristics of Plague

Yersinia pestis is the bacterium that causes this disease. This disease is highly fatal and highly communicable, at least in its pneumonic form, which is now unusual, but can occur during epidemics. More often, the disease is primarily zoonotic (transmission occurs when humans are bitten by infected fleas, and hosts are most often rate, but include all rodents. While there is a vaccine available (formalin-killed plague), for the most part it is administered only to individuals with "unavoidable exposure to infected rodents" and while certain antibiotics are effective at treating the plague, early treatment is important as, left untreated, "bubonic plague has a mortality rate of greater than 50%". This disease is a virus that is blood-borne; the virus is spread by "sexual, parenteral and perinatal routes". The disease ultimately kills by "sepsis and disseminated intravascular coagulation" or pneumonia, depending on the form of the disease. "*Yesinia pestis* is endemic in central and southern Africa, the Far East, and the Americas" (Armitage & Salata, 1998, p. 373).

DISEASE CHARACTERISTICS

Looking at the characteristics of the diseases above, it is almost difficult to believe that not every country on the planet is screening its immigrants for infection. However, this is not the case, and while certain disease characteristics might influence the degree to which a host country screens, it is evident from the case studies above that state characteristics, such as state capacity to deal with health threats, as shown by the strength of a state's medical infrastructure, determine, to a large degree whether a state will screen its immigrants for a given disease. This is clear from the Canadian and Australian cases, with similar screening policies in place, or, more precisely, their lack thereof since they have the capacity to deal with a potential threat.

This is also clear from the South African case, where lack of state capacity to deal with an emergent infectious disease is the impetus for state screening (for highly infectious diseases). In addition, the U.S. case illustrates the importance of migrant (and disease) characteristics. Namely, because the immigrants who are coming into the U.S. come from countries with significantly higher prevalence rates, of virtually all of diseases in question, despite its strong health infrastructure, the U.S. screens immigrants very thoroughly.

THERE IS NO BUBBLE

Health and Economics

From the analysis in this chapter, one thing is quite clear. There is significant overlap between the classical notions of security (military, etc.), economic security, and health security. None of the threats that are posed to these different areas of national security are completely unaffected by the others. This is especially the case in sub-Saharan Africa where such a high percentage of both the military and the working class is affected by diseases like HIV and whose neighboring states are dealing with this same burden, and often other conflicts as well. This is the case in countries like Canada and Australia who explicitly make the economic burden a disease will pose on their states part of their immigration policy, despite exceptions for a vast majority of their immigrants (refugees, family reunification applicants). Overall, health security matters, and the same framework that has been used throughout this dissertation does a good job of explaining the variation in policy among host societies. Namely, it is the nexus of state, migrants (and, in this case, disease) characteristics that influences the degree of threat that migrants pose, and the way in which states choose to deal with that threat.

CONCLUSIONS

In 1911, Hermann M. Biggs, the general medical examiner of the New York City Health Department and the commissioner of the health the state of New York stated that " no duty of society, acting through its governable agencies, is paramount to this obligation to attach the removable cause of disease" (Biggs, 1911, p. 226). Though his stance may have been self-serving, to a degree, the idea that countries should protect their populations against disease, especially when the cause can be removed, such as infected immigrants, makes sense. Systematically, we see countries act in ways that mitigate the degree of threats that migrants pose to their societies by putting screening mechanisms in place at their borders and in the sending states themselves. However, there is no consistency among states and it is the nexus of migrant, state and disease characteristics that determines which immigrants are halted at the gates.

CHAPTER SIX: Conclusion

For the last several decades, there has been an expansion of the term national security and what it encompasses. The classical notion of national security, with its focus on the state itself and other states as potential threats, has shifted to one in which the individual plays a central role. Some scholars have dubbed this new concept, with its focus on the individual, "human security". This new concept incorporates economic, societal, and ecological security into the traditional security perspective. The most widely accepted definition of this new conception of security is Mahbub ul-Haq's definition of security as "the safety of the individual against starvation, loss of property, violations of bodily integrity, torture and other forms of aggression," in addition to the classical definition which focuses on the protection of the sovereignty of states (Kleinschmidt, 2006, p. 96).

The expansion of security beyond the nation-state has brought immigration concerns to the forefront of security issues. As the traditional security concept focuses primarily on the main concern of states − political survival − which can be affected by a myriad of factors, including "threats to national identity, political legitimacy, political stability, autonomy, territorial integrity" and economic growth and development, among other factors, the issue of migration "lends itself easily to securitization" (Drifte, 2006, p. 107). Refugee movements have recurrently been cited as the impetus behind both civil and international conflicts, surges of illegal workers have become a concern for both issues of territorial integrity and economic stability (Drifte, 2006, pp. 107-109) and people crossing borders, especially immigrants and minorities have been seen as the source of disease and contagion again and again with similar implications for political stability (Pernick, 2002, p. 861).

Other scholars, such as Rudolph, also agree that it is critical that immigration be addressed in discussions of security concerns. The logic behind the necessity of this inclusion is somewhat different. Like the scholars above, Rudolph and his contemporaries concede that prior to and during the Cold War "security was primarily defined in terms of military defense", but because one of the key components of security as military defense is economic, the economic dimension of "statecraft" should not be separated from the military definitions of power or security (Rudolph, 2006, pp. 23-30). Hence the focus is no longer uni-dimensional. Finally, like the scholars above, in the post-Cold War period, these scholars introduced a new dimension of security concerns − identity. These scholars point to societal threats to domestic stability, which can be exacerbated when identities and cultures clash. Rudolph argues that this new, multi-dimensional approach to security is more accurate than a focus solely on military aspects of security and that one phenomenon is found at the nexus of these three dimensions of security − migration (2006, p. 29).

Regardless of when immigration moved into the sphere of high politics, no one today would argue that immigration does not have consequences for the security of states. Because I believe that immigration is a concern for both national security and human security alike, the goal of this dissertation has been to address the circumstances under which immigrants are actually a security concern to states, across several issue areas. The contribution of this work is to provide a single theoretical framework for scholars, across issue areas, to be able to compare the circumstances under which immigrants pose a threat to state security. Specifically, I believe that the answer to this question lies at the nexus of immigrant and state characteristics. I argue that migrants are not always a threat, but that it is only a particular set of migrants that are potentially a threat to particular states. In order to reveal the different combinations of state and

migrant characteristics under which migrants may pose a threat to state and human security, it is important to look at the different aspects of security on which immigrants can have a significant impact. What we see in this work is that certain groups of migrants can be a threat to certain states, but that this threat can be either mitigated or exacerbated by states' capacities to deal with an influx of migrants.

While most scholars deal primarily within their issue area, military security, economic security, environmental security, etc., using common criteria, such as state capacity and migrant characteristics, I move across three issue areas, classical security, economic security, and health security, in order to ascertain the specific nexus of state and migrant characteristics that may pose a threat to host state societies. In addressing these three issue areas, some variation occurs in terms of the values that the variables take on; however, the underlying characteristics (migrant characteristics and state capacity) are the same. The way in which I operationalize threat and which state and migrants characteristics are deemed to be most critical are based on the issue-specific literature and vary by issue area. However, keeping the same theoretical framework throughout, that it is the nexus of state capacity and migrants characteristics that determines the degree of threat that immigrants pose, allows me to link all of these issue areas, which have, to this point, been studied independently of each other.

CLASSICAL NATIONAL SECURITY

Chapter two of this dissertation deals with the classical notion of national security. Classical national security concerns more generally focus on security policies, military capabilities and the interests of nation-states and the threats to those policies, capabilities, and interests that arise from outside of a state's borders (Brown, 1983). There is generally a

consensus that the protection of national survival and everything else that the classical notion of national security entails is the chief responsibility of a state (Brennan, 1961, p. 22). In recent decades, the classical national security literature has expanded to include the "means to build the international and domestic conditions suited to preserve and promote national welfare, values, and interests and to protect them from threats of all sorts, actual or potential" (Ozaki, 1985, p. 8). More specifically, in recent decades, the classical notion of security has expanded to include immigration. This non-traditional security concern has recently been the focus of both practitioners and academics, but while the links between security and migration have now become more evident, it is also clear that both immigrant and state characteristics impact the degree to which immigrants pose (or do not pose) a security threat to host societies (Drifte, 2006, pp. 107-119).

First, an examination of the current literature indicates that while the size of immigrant stock and flow, regardless of other characteristics, has implications for host state security, this information gives us an incomplete picture of the given situation. What we see is that there are many immigrant types (as addressed to a degree in chapter one) and that these different types of migrants can pose both a different type and a different degree of threat to host societies. Scholars like Salehyan (and others) have found that when it comes to the classical notion of security, i.e. military concerns, large numbers of refugees (both stocks and flows) into a host state are likely to pose a threat. In other words, large numbers of refugees are likely to increase the likelihood a militarized interstate dispute (MID) in a dyad. In fact, these findings are both statistically and significant (Salehyan & Gleditsch, Refugees and the Spread of Civil War, 2006; Saleyan, 2007; Gleditsch, Salehyan, & Schultz, Fighting at Home, Fighting Abroad: How Civil Wars Lead to International Disputes, 2008).

My findings, which stem from a large-N, time-series cross-section probit analysis of militarized interstate disputes, and which focus on legal, voluntary, permanent migration, suggest that not all migrants should be considered a threat. In fact, analyses reveal that legal, voluntary, permanent migrants are unlikely to increase the likelihood of a MID between the sending and receiving state. In fact, neither the sending state nor the host state is likely to initiate a MID, even with a large number of immigrants flowing into the host state.

Ultimately, state characteristics matter as well, and findings from previous scholars' analyses hold true. For example, states that are engaged in civil war or share territorial borders are more likely to become involved in MIDs and dyads in which the states are both democratic, have high economic interdependence, or joint membership in intergovernmental organizations, are less likely to become involved in MIDs. Economic factors, such as GDP per capita seem not to increase the likelihood of conflict in my analyses, while a high degree of state expenditure on the military does have an impact, but only when the number of immigrants in the analysis is logged.

Very much like we would expect, both immigrant characteristics, such as the size of the stock and flow and the "type" of immigrant, and state characteristics, especially dyad characteristics, determine the degree of threat that immigrants pose. As such, blanket statements that "immigrants threaten our national security" are misleading at best and incorrectly place blame on an entire subgroup of society.

ECONOMIC SECURITY

Chapter three of this dissertation deals with the economic aspects of security and, specifically, the degree of threat that immigration poses to the economic security of host states.

Since there is a strong link between a state's ability to protect its national security and the strength of its economy, it is not surprising that the first expansion of the notion of security, beyond concerns for survival values, political independence, and territorial integrity, was to a focus on the economic requirements for maintaining military power. This expansion, along with the one that followed, which focused on the economic security of individuals within each state, led to concerns about the degree of economic threat that immigrants pose to a host state's economic security.

Like in other issue areas, research has shown that it is a combination of immigrant and state characteristics that determines the degree of economic threat that immigrants pose to a host society and while most negative attitudes towards immigrants are fiscally-based, many of these concerns prove to be unfounded, especially in those states where pundits pronounce them the loudest.

While there are certain immigrant characteristics that tend to pose a threat to states across all issue areas, such as the number of immigrants entering a host state, when it comes to determining more specifically the degree of threat that immigrants pose to host economies other migrant characteristics have to be addressed.

Regardless of whether you are assessing the threat to the labor market that a group of immigrants poses, or whether you are assessing the burden that a group of immigrants will pose to the social services and health infrastructure of a state, a couple migrant characteristics need to be taken into consideration as they often go hand in hand. Chief among these influential characteristics are education level, skill level, age, and language skills. In general, despite subsequent research that has shown that even low-skilled and undereducated workers have a positive outcome for host societies, most of the scholarship has pointed to this particular subset

of immigrants as being the most threatening to host societies as they tend to compete for jobs with the most vulnerable natives (Simon, 1999; Smith & Edmonston, 1997). This means that not all immigrants pose an equal amount of threat to the economies of host societies. In fact, highly skilled workers are in high demand in most of the developed world, with several countries adopting more friendly immigration policies toward this group (Bauer & Kunze, 2004; Chiswick, 2005). At the same time, research suggests that most immigrants have a positive net impact on social services and health care systems, contributing more fiscally than they take out, with the exception of school –age children and the elderly, who tend to be a fiscal drain on education and health infrastructures. So, once again, not all immigrants pose the same degree of threat to a given host state's economic well-being and security (Borjas, 1995; Smith & Edmonston, 1997).

Migrant characteristics are not the only explanatory factors in the migrants-as-economic-threat analysis. State characteristics, or in the case of economic security threat, a state's economic absorptive capacity also plays a key role in determining the degree of threat that immigrants pose to a state's economic security. More precisely, states with high unemployment in unskilled occupations tend to face the biggest labor economic threat from immigrants, but only in instances in which they lack the capacity to limit their amount of in-migration.

HEALTH SECURITY

Chapters three and four of this dissertation deal with the health aspects of security, and specifically with the degree of threat that immigration poses to the health of host state societies. Since throughout recent history the major killers of humanity have been infectious diseases, and since they have often played a major role in war, the link between disease and the classical notion of security is a rather direct one (Diamond, 1997, pp. 196-197). This link, exacerbated in

an era of globalization, in which there has been a significant increase in the transnational transmission of infectious diseases, justifies the focus on the health aspect of security studies.

Like in other issue areas, research has shown that it is a combination of immigrant and state characteristics that determines the degree of health threat that immigrants pose to a host society. What is more, in this issue area, a new category is introduced, as the characteristics of the diseases in question also have a direct impact on the degree of threat that infected persons pose to a host society.

In chapter four, I focus on assessing the impact of two diseases, tuberculosis (TB) and HIV, and their impact on the health security of host populations. The focus on these two diseases, which the World Health Organization (WHO) regards as the greatest threats to human security, allows for a cross-national analysis. Specifically, I use a cross-sectional, time series model to analyze dyadic international migration flow data in an effort to examine disease outcomes in host societies. My findings suggest that in addition to the standard socio-economic and health indicators, host state health outcomes are influenced by both increases in the number of migrants and increases in sending state TB and HIV prevalence rates, but that these factors are only important if host states lack the capacity to effectively screen for these diseases.

In chapter five, I follow up on the quantitative analysis of health indicators with a qualitative one, focusing primarily on Canada, Australia, the United States, and South Africa. This approach allows for a more in-depth study of state, immigrant, and disease characteristics than the approach used in the previous chapter. The first part of the chapter focuses on a comparison between two nearly identical cases, in terms of state characteristics. The similarities between Canada and Australia would suggest that these states would implement similar disease screening policies in their immigration process, however, while both states have a similar

attitude towards testing immigrants for HIV and screening for HIV, their policies towards immigrants with TB are quite divergent. While Canada uses test results to provide those immigrants who test positive with treatment and education, TB is the only disease which is a disqualifying factor for immigration to Australia. Because host state characteristics are so similar in both of these cases, the likely explanation for this divergence in policy, I argue, lies in the nexus of immigrant and state characteristics. A closer look at the chief source countries for both Canada and Australia reveals that despite Europe being the largest source region of immigrants for both of these countries, and despite the fact that Asia is the second largest source region of immigrants for both of these countries, the similarities end there. While Canada's Asian immigrants hail primarily from China, India, and Hong Kong (in that order), Australia's Asian immigrants hail primarily from Vietnam, China, and the Philippines (in that order), and the TB prevalence rates of those two sets of countries vary significantly. Australia's chief Asian source countries have both significantly higher TB prevalence rates than Canada's chief Asian source countries and only modest improvements in those rates between 1990 and 2000, which may both account for the differences in these countries policies, as well as in the difference in TB health outcomes in these two states. During this same decade, Australia's own prevalence rate saw only a modest decrease and its TB health outcomes shifted, from Australia having a lower TB prevalence rate than its counterpart, to having a higher TB prevalence rate than its counterpart.

In the second part of chapter five, I introduce South Africa into the analysis in an effort to expand the analysis beyond the standard OECD countries. This expansion allows me to explore whether the relationship between state capacity, immigrant characteristics, and disease characteristics is different in the case of developing countries. This study reveals that South

Africa, which suffers from an overburdened medical infrastructure, does not screen immigrants for TB or HIV. However, while its counterparts are able to make a choice about whether to screen or not, and then how to deal with infected migrants, South Africa lacks the capacity to screen its immigrants for these diseases, despite the increased degree of threat that they actually pose to its society, public health, and medical infrastructure. That is not to say that South Africa completely disregards the health status of its immigrants, or potential immigrants. South Africa's immigration policy prohibits entry to immigrants infected with certain "undesirable" diseases, including cholera, pestilence, and yellow fever. These diseases, in contrast to HIV and TB, are highly communicable and pose a high degree of threat to host societies, which is why South Africa takes special precautions for dealing with them and the potential health threat that they pose to their society.

Finally, in chapter five, I include the United States as the only case that does not have a universal health care system, despite its similarities to Canada and Australia on other indicators of health. In a closer examination, I conclude that this divergence, as well as the difference in immigration source countries (54% of immigration to the U.S. is from "the Americas", whereas American immigration accounts for only 16% of Canada's immigration) and their respective disease prevalence rates, explains the difference in U.S. immigrant health screening policies.

CONCLUSIONS

The main premise of this dissertation is that while some migrants might pose a threat to host populations, not all migrants pose a threat and the degree of threat posed is based on migrant characteristics in conjunction with state capacity. Throughout this work, we have found evidence to suggest that this stance is true. While the migrant and state characteristics that influence the

degree of threat that migrants pose vary based on issue area, this dissertation proves that states that focus purely on immigrants as a threat to their societies and disregard the role that their own characteristics play in either mitigating or exacerbating that threat are missing a significant piece of the puzzle.

Migrants as a Threat

Many scholars focus on immigrants as a threat to host societies, regardless of issue area. One of the simplest explanations for the degree of threat that immigrants pose to a host society is thought to stem from the sheer number of people coming in (Weiner, 1992, pp. 103-104). Each substantive chapter of this dissertation shows that this concern over volume is a valid one. Whether you look at the classical notion of security and see that the number of immigrants and refugees plays a significant role in determining the degree of threat, the likelihood of involvement in a militarized interstate dispute, or whether you look at the level of health threat to the host society that a large number of immigrants may pose, as evidenced by future disease prevalence and incidence rates, flow matters.

However, for many issue areas focusing only on the level of immigrants that are coming into the host state is too simplistic. Other migrant characteristics have to be accounted for. In the case of national security threat, whether immigrants are legal, voluntary, mostly economic migrants, or whether they are refugees escaping political violence and civil war plays a substantial role in determining the degree of threat that they pose to a host society. For a myriad of reasons an influx of refugees is much more likely to lead to a host state's involvement in a militarized interstate dispute than an influx of economic migrants. In much the same vein, in the area of economic security, not all immigrants are alike when it comes to the degree of threat that they pose to the economic well-being of a host society. Migrants with lower levels of education

and host country language skills will be a bigger threat to unskilled natives as they compete for jobs, and the very youngest and very oldest immigrants will put the biggest strain on the education and health systems of host societies. Conversely, young, healthy adults, who are highly skilled and educated will not pose an economic threat to host societies and are in fact a boon for those societies as even the most developed countries compete for these migrants. Finally, while numbers matter, in the area of health, the health status of immigrants matters much more − as immigrants who are carriers of diseases, such as tuberculosis and HIV, may have a detrimental impact on the health of the host society, healthy immigrants do not.

So, while the number of immigrants coming into a host society may be a good indicator of the degree of threat that immigrants pose to a society, that is only a partial determinant of the threat as other migrant characteristics, which vary with issue area, also have an impact. At the same time, the impact of these migrant characteristics may be mitigated or exacerbated by a host society's characteristics.

State Capacity

Migrant characteristics are not and should not be the only focus of researchers asking the question − under which circumstances do immigrants pose a security threat? An equally important piece of the puzzle is a state's characteristics, or specifically, a state's capacity to deal with the threat. In the case of classical national security concerns, the ability of a state to control who enters its territory, especially across land borders, helps to determine the degree of threat that immigrants pose, especially in the case of refugees, who may serve as catalysts for interstate conflict by provoking military hostilities between states, purely by their cross-border movement, increasing the likelihood that receiving states will react to such incursions, or by overt actions such as joining rebel groups in their countries of sanctuary, increasing the likelihood that the

sending state will violate the sovereignty of the host state thereby initiating disputes (Saleyan, 2007). States that share "liberal peace triad" characteristics are less likely to engage in disputes regardless of the circumstance or number of refugees crossing their borders (Russett & Oneal, Triangulating Peace: Democracy, Interdependence, and International Organizations, 2001; Saleyan, 2007). At the same time, when we look at immigration in general, when states have strong military capabilities, or more specifically when one state has disproportionately strong military capabilities to the other, this has an impact on the likelihood of a militarized interstate dispute as well.

Findings from the economic security and health security chapters similarly indicate the importance of state capacity in determining the degree of threat that immigrants pose. While it is clear that states that have less capacity to control their borders are disproportionately impacted by immigration, regardless of issue area, when it comes to the degree of threat that immigrants pose to host states economies, the answer lies, to a large degree in the economic absorptive capacity of a state. Scholars tend to define this as a state's ability to value, assimilate and benefit from new migration, which is based not only on the volume of the flow of immigrants, but also on the host state's economic situation, such as "the development of financial markets, level of human capital [levels of unemployment], trade openness, and natural resource abundance" (Farkas, 2012, p. 2). States that have strong economic infrastructures tend to benefit from migration, while states whose economic infrastructures are flailing and weak lack the ability to take advantage of an influx into their workforce.

In the same vein, state capacity plays a substantial role in determining the degree of health threat that immigrants pose to host societies. This happens in two ways. First, states that have the ability to monitor and limit who is allowed into their territory tend to use screening

mechanisms to weed out those individuals who are carriers of disease and will pose a direct risk to their populations. Second, states that have a strong health infrastructure are both better able to prevent anyone from posing a health threat by providing adequate preventative care and education and better able to provide care to both their populations and to immigrants should an outbreak arise. In summary, regardless of issue area, a host state's characteristics matter in determining the degree of threat that an influx of immigrants will pose to the host population.

Nexus of Migrant Characteristics and State Capacity

In general, while migrant characteristics and state characteristics reveal a great deal about the degree of threat that immigrants pose to host state societies, it is the nexus of migrant characteristics and state characteristics that sheds the greatest deal of light on the conditions under which immigrants pose a threat, though the specifics vary based on issue area.

In the case of classical national security it is clear that both large refugees stocks and refugee flows influence the likelihood that a state will become engaged in a militarized interstate dispute, but the likelihood of such a conflict tends to be mitigated by both migrant characteristics, as immigrant flows do not have the same effect as refugee flows, and state characteristics, which can either mitigate the likelihood of conflict, such as democratic leanings and alliances, or exacerbate the problem, such as unequal military capability share and territorial or colonial contiguity (Saleyan, 2007). Therefore we see that it is it certain combinations of state and immigrant characteristics that determine the degree of threat the immigrants pose to a host state.

This trend continues regardless of issue area. While an influx of unskilled and uneducated immigrants may be a threat to a host society that is already dealing with high unemployment and other aspects of low economic absorptive capacity, those same immigrants

may not pose a threat to a host society that has strong economic absorptive capacity where such workers may be recruited, as we have seen historically during the initiation of temporary workers programs. Similarly, in such a society, these workers, though still competing with the same sector of native workers, may actually have a positive effect on native workers both in terms of wages and by pushing these natives toward more "complex", higher paying jobs, or towards entrepreneurship, if society allows for such economic mobility and the economic infrastructure fosters such positive changes. In general, regardless of a state's economic absorptive capacity, most states willingly accept highly-skilled workers in internationally competitive sectors (Cattaneo, Fiorio, & Peri, 2013; D'Amuri & Peri, 2012; Docquier, Özden, & Peri, 2010; Ottaviono & Peri, 2008).

Perhaps nowhere is the nexus of state and migrant characteristics as important as in the area of health security. While it is evident that immigrants from countries with high disease prevalence and incidence rates are more likely to be a health threat than those immigrants from countries with low disease prevalence and incidence rates, all immigrants from those states are not the same. It is precisely state characteristics, such as state capacity to effectively screen for disease that determines the degree of threat that immigrants pose, regardless of source country. In instances where a host society lacks the capacity to screen for, or fails to screen for, diseases among immigrants, the higher the number of immigrants, and the higher the prevalence and incidence rates of disease in the sending states, the greater the threat those immigrants pose to the host society. However, if a state has the capacity to effectively screen immigrants for disease, it is able to weed out those immigrants who are a threat as carriers of infectious disease, thereby mitigating the degree of threat that a large number of immigrants can pose to the health of the host population. The second potential health threat that immigrants pose is that of a

burden on health infrastructure. Again, in this instance, state capacity matters because states that have a high absorptive capacity and strong health infrastructure are unlikely to be as burdened by an influx of immigrants as states whose infrastructure is already burdened by the native population itself. What we ultimately see is that regardless of issue area, it is the nexus of state and immigrant characteristics that best reveals the degree of threat that immigrants pose to host societies.

IMPLICATIONS AND FUTURE RESEARCH

Immigration is often seen as a threat to host societies, a wave that is difficult to contain and one that has security implications for everything from the military to the economy to health. Scholars, politicians, and pundits often play up the threat that immigrants pose for their own purposes, but while the number of immigrants crossing borders is significant in determining the degree of threat that immigrants pose, state capacity to deal with that threat is at least equally important. While it is often those historical countries of immigration that set off the alarm about the threat that immigrants are posing to their societies, it is also these rich, industrialized countries that tend to have the strongest state capacity to deal with immigration, across all issue areas. What is, unfortunately, often the case is that it is those countries that lack the capacity to deal with a large inflow of people that are the ones that must bear the burden. In the case of the classical notion of security, this dissertation shows that refugees are a specific subset of immigrants, as contrasted with economic, voluntary migrants, who tend to be the most "dangerous" for host states. Yet, what we see is that this burden is not evenly distributed, that refugee populations tend to be located in developing countries, which are often unable to sufficiently control their own borders and which often lack the state infrastructure to deal with

large influxes. "Iran, Pakistan, and Jordan host[] over 1 million refugees each" and some of the least developed countries in the world − Tanzania, Zaire, and Malawi also host especially large refugee populations (Saleyan, 2007).

In the case of health and security, developed, historical countries of immigration may fear the impact of an influx of immigrants carrying infectious diseases precisely because their own infection rates are so low, but it is these same states that have the ability to effectively screen immigrants either in their countries of origin, at arrival, or subsequently in their national health programs.[116] Some of these states opt not to screen precisely because of their state's abilities to handle a health threat to their populations. At the same time, it is often those countries, such as South Africa, which already suffer from an overburden medical infrastructure, that also lack the capacity to screen immigrants for infectious disease. While South Africa finds itself in a region where HIV, TB and many other infectious diseases are highly prevalent, it lacks the capacity to screen immigrants for these diseases. This, coupled with the high rates of these diseases among South Africans themselves, it seems that the countries where health threats are rampant are precisely those that are least able to protect themselves from the health threats that immigrants pose to host societies.

Ultimately, what we see is that not all immigrants pose a threat to host societies, that it is the nexus of migrant and state characteristics that best reveals which immigrants pose a threat to which societies. Unfortunately, it is often those societies that lack the capacity to deal with immigrant threats that find themselves to be disproportionately burdened by those threats.

While this dissertation does a great job of providing a singular theoretical framework across issue areas and quantitatively testing some previously untested notions, room for improvement remains. First, due to data availability, the focus of this dissertation, at least in the

[116] Only the United States lacks a national health care system among the rich, industrialized countries.

quantitative chapters, was solely on OECD countries as host states. While this reveals a great deal about the degree of threat that immigrants pose to those states, or rather the degree of threat that they do not pose, much information could be gained with the expansion of the data to include the flow between all country dyads. However, at this point, these data are just not available. Second, part of the expansion of security issues has been to include environmental security, both by looking at the implications of environmental degradation on the likelihood of conflict as well as on the well-being of individuals. Using this same theoretical framework to look at what immigrant and state characteristics, other than flows, determine the degree of environmental threat that immigrants pose would be a nice expansion of that literature.

Finally, this research, has, or should have, real world implications. While it is often historical countries of immigration, such as the U.S., Canada, Australia, and countries in Europe, who decry the threat that immigrants pose to their societies, what this work implies is that because those states have the capacity to deal with an influx of immigrants perhaps these concerns are unwarranted or, at least, exaggerated. What this research indicates is that it is those countries that are unable to control their borders, whose economic infrastructures are weak and lack absorptive capacity, that are unable to screen for disease or deal with epidemics if they arise, that also tend to be the ones that have high inflows of immigrants (or refugees) and can do very little about it. It is precisely these countries that should decry the threat that immigrants pose to their populations − because they actually do. Whereas, those countries that tend to be most vocal in this regard actually face the lowest degree of threat from immigrants, regardless of issue area.

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APPENDIX 1

Table A. Descriptive Statistics (Refugee Stocks and Flows)[117]

Variable	Mean	Std. Dev.	Min	Max
Refugee Stock	93,824	285,757	100	3,272,290
Refugee Flow	21,114	80,072	1	1,200,000

[117] Table 1. (Salehyan, The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007)

Table B. Probit Regression Model (Refugees and Militarized Interstate Disputes)[118]

	Model (1)	Model (2)
Refugee Stock IN Initiator	.057***	
	(0.019)	
Refugee Stock FROM Initiator	.056***	
	(0.013)	
Refugee Flow TO Initiator		.032
		(0.034)
Refugee Flow FROM Initiator		.079***
		(0.024)
Civil War in Initiator	.228***	.231***
	(0.040)	(0.039)
Civil War in Target	.135***	.151***
	(0.045)	(0.043)
Democratic Initiator	-.024	-.027
	(0.049)	(0.049)
Democratic Target	.157***	.155***
	(0.055)	(0.055)
Both Democratic	-.417***	-.399***
	(0.079)	(0.078)
Contiguity	.764***	.753***
	(0.064)	(0.063)
Colonial Contiguity	.309***	.303***
	(0.076)	(0.075)
Capability Share	.275***	.277***
	(0.052)	(0.051)
Alliance S-Score	-.406***	-.364***
	(0.092)	(0.090)
Share IGO Membership	.006***	.005**
	(0.002)	(0.002)
Peace Years	-.205***	-.215***
	(0.014)	(0.015)
_spline 1	-.001***	-.001***
	(0.000)	(0.000)
_spline 2	.000***	.001***
	(0.000)	(0.000)
_spline 3	.000***	.000***
	(0.000)	(0.000)
Constant	-1.846***	-1.771***
	(0.102)	(0.104)
N	86,497	85,318
Wald Chi-Squared	1409.4	1376.39
Log Pseudo-Likelihood	-4410.54	-4669.26

*p<0.1, **p<0.05, ***p<0.01[119] [120]

[118] Table 2. (Salehyan, The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007)
[119] This table does not include states that are undergoing transition, despite the variables "Transitional Initiator", "Transitional Target", and "Both Transitional" being included in the model in the original analysis. None of these

Table C. Predicted Probabilities[121][122]

	Prediction	Standard Error	% Change
Baseline	0.012	0.002	
100k Refugees in Initiator	0.023	0.006	96.55
100k Refugees from Target	0.023	0.004	90.34
Civil War in Initiator	0.021	0.003	77.46
Civil War in Target	0.017	0.002	40.46
Joint Democracy	0.006	0.001	-53.16
Baseline (Flow)	0.012	0.002	
20k Flow from Target	0.022	0.005	85.72

control variables were statistically significant at the 0.05 level in any of the models. (Though "Transitional Initiator" was negative and statistically significant at the 0.1 level in Model 1).

[120] This table does not include the Trade Dependence variables − "Initiator's Trade Dependence" and "Target's Trade Dependence" though they were included in the original analysis. None of these variables is statistically significant at the 0.05 level in any of the models. (Though "Target's Trade Dependence" is negatively signed and statistically significant at the 0.1 level in both models 1 and 2.

[121] Table 2. (Salehyan, The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007)

[122] "Baseline: no refugees, no civil wars, neither democratic, neither transitional, contiguous dyad" all other variables at mean (Salehyan, The Externalities of Civil Strife: Refugees as a Source of International Conflict, 2007).

Table D. Tobit Regression Model with Fixed Donor Effects (Impact of Immigration on Aid Flows) [123]

	Model (2)	Model (4)
Migrant Population	.772***	.340***
	(0.00)	(0.00)
Income	-3.116***	-.284
	(0.00)	(0.33)
Population	.842***	.009
	(0.00)	(0.97)
Exports	.356***	.059***
	(0.00)	(0.00)
Distance	-1.160***	
	(0.00)	
Colony	3.808***	
	(0.00)	
U.S. Military	.093***	.041***
	(0.00)	(0.00)
Democracy	.165**	.248***
	(0.02)	(0.00)
Civil War	-.552**	.112
	(0.01)	(0.40)
Disaster	.114***	.023***
	(0.00)	(0.00)
Year	.247***	.105***
	(0.00)	(0.00)
Constant	-479.899***	-204.506***
	(0.00)	(0.00)
Lagged DV		.261***
		(0.00)
Sigma	7.252***	
	(0.00)	
N	31,949	31,686
Dyads	3,129	
Donors	22	22
Recipients	157	157
Model	Tobit	Arelleno-Bover/ Blundell-Bond
Fixed Effects	Donor	

*p<0.1, **p<0.05, ***p<0.01[124]

[123] Table 1. (Bermeo & Leblang, Forthcoming)

[124] "**Impact of Immigration on Aid Flows, 1993-2007.** The dependent variable is the log of (one plus) aid commitments from the donor to the recipient: the unit of analysis is a dyad-year and p-values are shown in parentheses. [Model 2 uses] a Tobit estimation with standard errors clustered in dyad. Model 4 employs the Arelleno-Bover/Blundell-Bond estimator."

APPENDIX 2

Table A. Descriptive Statistics for TB Data
(Countries Belgium, Germany, Italy, Netherlands, Norway, and Spain)

Variable	N[125]	Mean	Std. Dev.	Min	Max
Receiving State TB Incidence Rate	13496	12.899	6.455	5.3	30
Receiving State TB Incidence L1	12532	13.135	6.581	5.3	30
Number of Migrants (from sending state in a given year)	12919	1201.776	6633.22	0	265929
Sending State TB Prevalence Rate[126]	13496	.0018	.00197	0	0.0124
Receiver TB Screening Ineffectiveness	13496	0.133	0.109	0.05	0.43
Expected TB Migrants	12919	1.306	7.805	0	272.344
Expected TB Migrants Final	12919	.1266	.8326	0	39.59
GDP per Capita	13347	42639.76	4113.08	34481	52842
Inequality/Gini2004	13496	29.355	2.689	25	32.6
Unemployment Rate	13347	8.89	4.95	2.1	23.9
Population Density	13496	204.846	155.410	14	481
Literacy Rate	13496	98.507	0.796	95.4	99
Percentage of 1 Y.O. Vaccinated for MCV	13496	84.514	14.454	43	99

[125] N refers to the number of dyads in the sample.
[126] Divided by 100,000. The prevalence rate is usually a number per 100,000 of the population, but in this case, because the value was used in the interaction term I had to determine the chance a given person from said population was infected with TB, hence TB prevalence rate divided by 100,000.

Table B. Time-Series Cross-Section Regression Model with Mixed Effects (Full Data)

	Model 1A w/ # Migrants	Model 1B w/ # Migrants	Model 1C w/ # Migrants
Receiving TB Incidence L1	.9251***	.9304***	.9324***
	(0.0018)	(0.0015)	(0.0009)
Number of Migrants	-6.65e-06***	-8.78e-06***	-2.07e-06**
	(9.13e-07)	(9.62e-07)	(8.04e-07)
GDP per Capita	-.00002***		
	(1.06e-06)		
Unemployment	.0197***		
	(0.0025)		
Gini	.0120***		
	(0.0014)		
Population Density	.0086***		
	(0.0005)		
Density* Gini	-.0002***		
	(.00002)		
Literacy Rate		-.3324***	
		(0.0143)	
% Total Gov't Exp on Edu		.0415***	
		(0.0024)	
% GDP Spent on Health			-.0511***
			(0.0025)
% 1 Y.O. Vac for MCV			-.0007
			(0.0004)
Constant	.5677***	32.7229***	.7910***
	(.0499)	(1.4235)	(0.0428)
Number of Observations	27,776	24,252	19,324
Number of Groups	2211	2211	2211
Within R-Squared	.7265	.7166	.5868
Between R-Squared	.9978	.9974	.9980
Overall R-Squared	.9481	.9483	.9389

*p<0.1, **p<0.05, ***p<0.01

Table C. Time-Series Cross-Section Regression Model with Mixed Effects (Full Data)

	Model (1F)	Model (1G-Interaction)[127]
Receiving TB Incidence L1	.8770***	.8770***
	(0.0029)	(0.0029)
Number of Migrants	5.78e-09	2.09e-09
	(2.78e-08)	(6.05e-08)
Sending TB Prevalence[128]	-.0506	-.0756
	(.0545)	(0.0885)
Screen Ineffectiveness (TB)	1.8057***	1.8056***
	(0.1196)	(0.1198)
Expected TB Migrants[129]		8.78e-06
		(0.00005)
# Migrants*Ineffectiveness		-1.54e-08
		(6.79e-07)
Send TB Prev*Ineffectiveness		.1765
		(.5434)
Expected TB Migrants w/ Screening	.00002	-.00002
	(0.0002)	(0.0005)
GDP per Capita	-.00001***	-.00001***
	(4.13e-06)	(4.13e-06)
Density* Gini	.00004***	.00004***
	(6.5e-08)	(6.51e-08)
Literacy Rate	-.6274***	-.6274***
	(0.0068)	(0.0068)
% 1 Y.O. Vac for MCV	.0069***	.0069***
	(.00002)	(0.00002)
Constant	62.6429***	62.6434***
	(.8679)	(0.8693)
Number of Observations	11,955	11,955
Number of Groups	964	964
Within R-Squared	.7335	.7335
Between R-Squared	1.0	1.0
Overall R-Squared	.9540	.9540

*p<0.1, **p<0.05, ***p<0.01

[127] Because of the parameters of this model, the constitutive terms of *Gini* and *Population Density* could not be included with the interactive term in order for the model to be able to converge. However, if the constitutive terms are included, at the expense of the interactive term, the coefficients of the other variables in this model change only insignificantly- none of the coefficients change signs and all of the same variables remain statistically significant at the same level, except instead of the interactive term, both of the constitutive terms are statistically significant at the .001 level. Population density has a negative coefficient, while the *Gini* coefficient is positively signed. This information is included in Table B in Appendix 2.

[128] Divided by 100,000

[129] *Number of Migrants * Sending TB prevalence rate* (divided by 100,000)

Figure A. Model 1E Interaction 2[130]

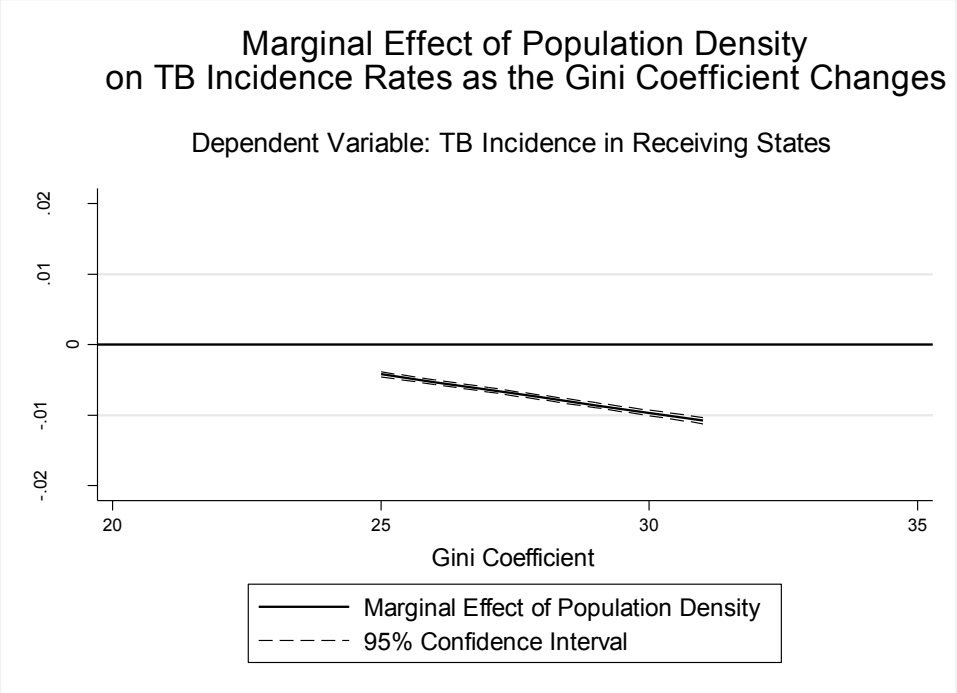
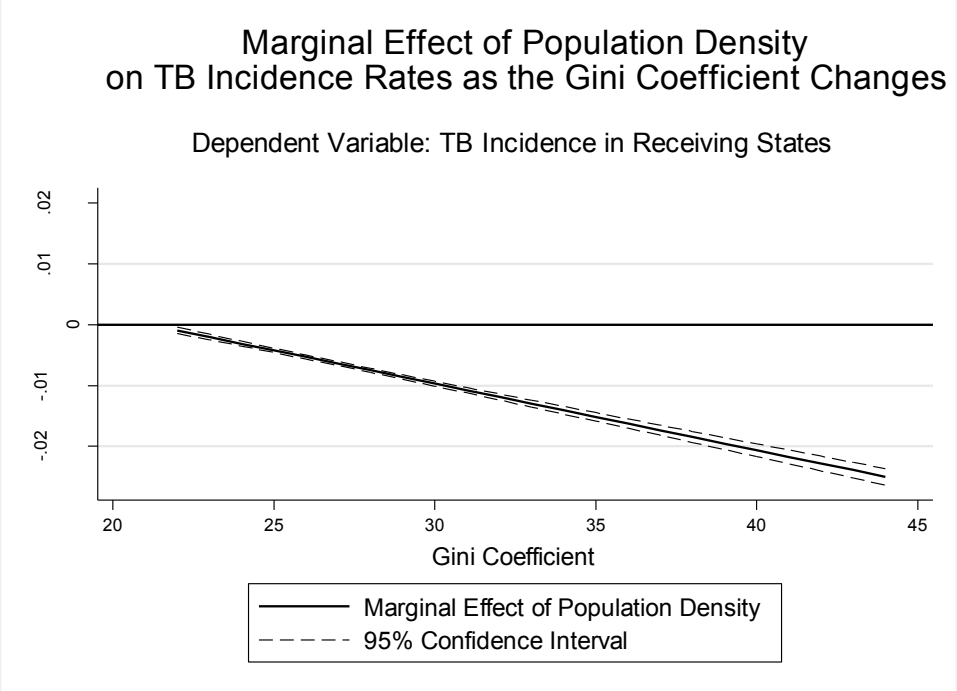


Figure B. Model 1D Interaction 2



[130] The graph shows the results for the real values of the *Gini Coefficient* for the TB data.

Table D. Predicted Receiving Country Incidence Rate: Model 1G Interaction 1[131]

Screening Ineffectiveness = 0.0785[132]	SS TB Prev = 82.061[133]	SS TB Prev = 180.481	SS TB Prev = 278.901[134]
N Migrants = 0[135]	13.65461	13.65459	13.65458
N Migrants = 1155[136]	13.65461	13.65459	13.65458
N Migrants = 4157[137]	13.65460	13.65459	13.65458
N Migrants = 7159[138]	13.65460	13.65458	13.65457

Screening Ineffectiveness = 0.133	SS TB Prev = 82.061	SS TB Prev = 180.481	SS TB Prev = 278.901
N Migrants = 0	13.860298	13.860284	13.860269
N Migrants = 1155	13.860295	13.860283	13.860270
N Migrants = 4157	13.860288	13.860280	13.860272
N Migrants = 7159	13.860281	13.860277	13.860274

Screening Ineffectiveness = 0.1875[139]	SS TB Prev = 82.061	SS TB Prev = 180.481	SS TB Prev = 278.901
N Migrants = 0	14.06599	14.065973	14.065959
N Migrants = 1155	14.06598	14.065973	14.065962
N Migrants = 4157	14.06598	14.065973	14.065969
N Migrants = 7159	14.06597	14.065974	14.065976

[131] All of these results were calculated using the means and standard deviations from the entire sample, not just the truncated sample. The results change only slightly because the correct coefficients and standard errors were used. The truncated sample means and standard errors are available in Appendix 2.
[132] One half standard deviation below the mean
[133] One half standard deviation below the mean
[134] One half standard deviation above the mean
[135] The minimum (less than one half standard deviation away from the mean)
[136] The mean
[137] Half a standard deviation away from the mean
[138] One standard deviation away from the mean
[139] One half standard deviation above the mean

Figure D. Model 1E: Screening Ineffectiveness .079

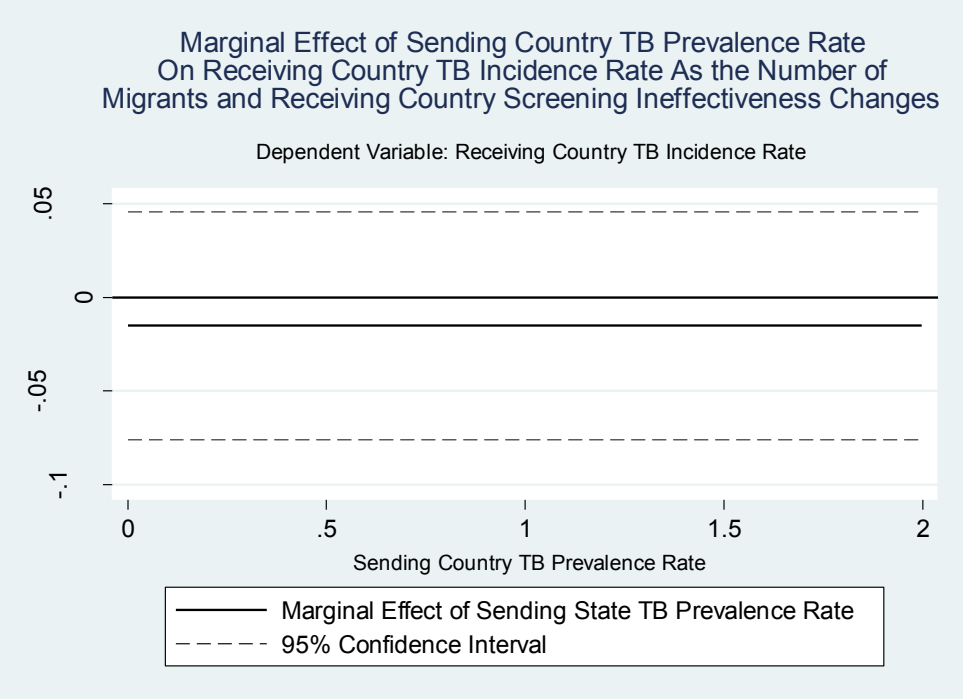


Figure E. Model 1E: Screening Ineffectiveness .133

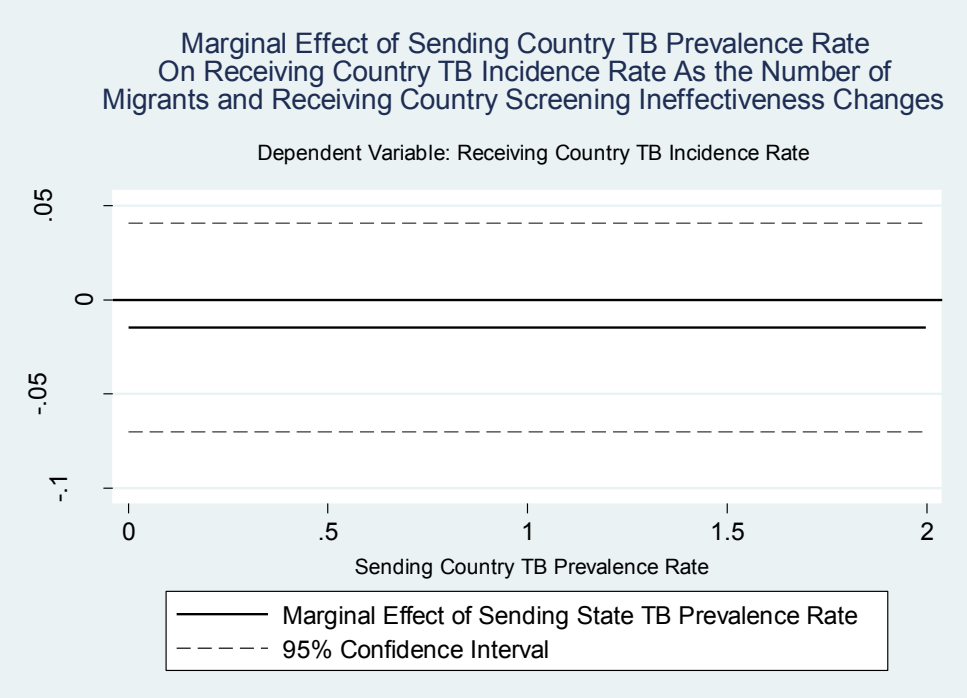


Figure F. Model 1E: Screening Ineffectiveness .188

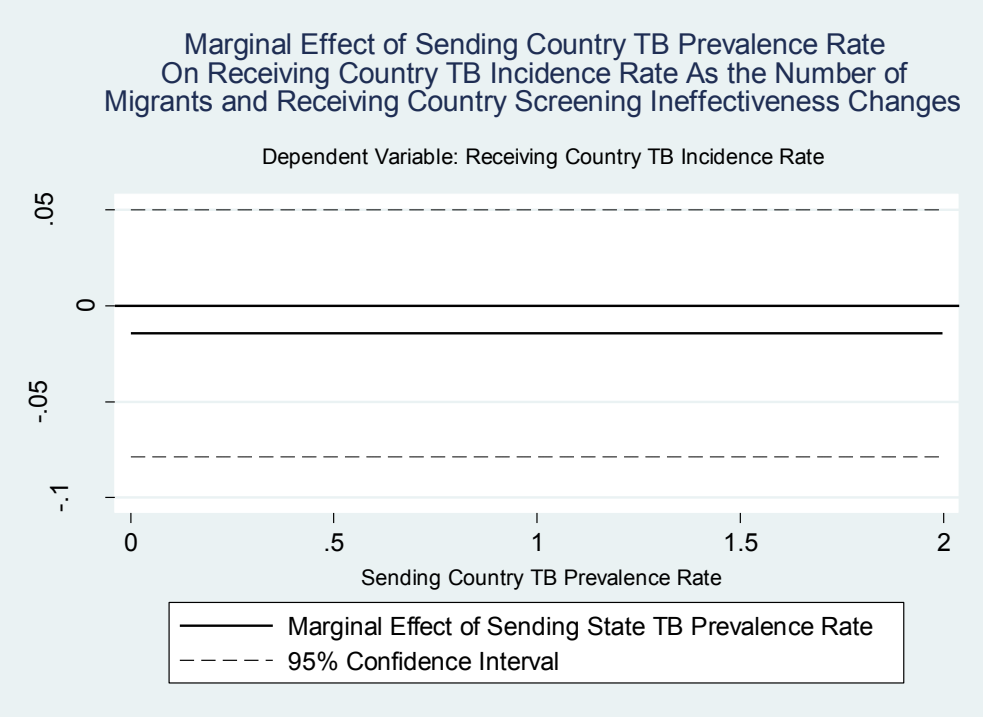


Figure G. Model 1E: Screening Ineffectiveness .43

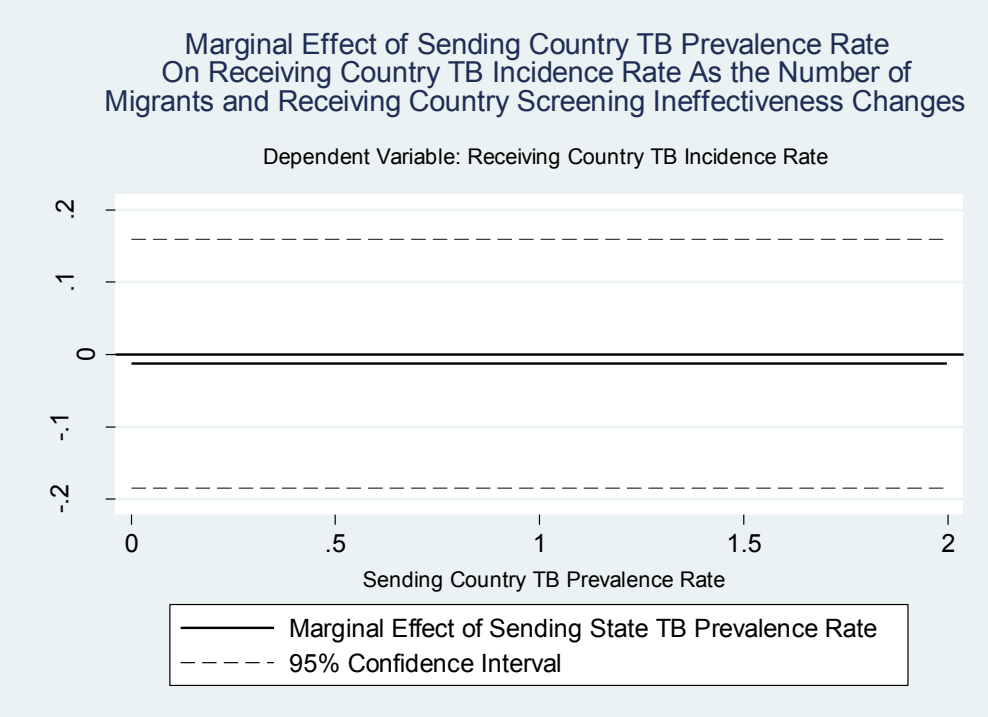


Table E. Time-Series Cross-Section Regression Model with Mixed Effects (Full Data)

	Model (2F)	Model (2G-Interaction)[140]
Receiving HIV Prevalence L1	.9944***	.9944***
	(0.0008)	(0.0008)
Number of Migrants	-3.51e-08***	-2.18e-08
	(9.95e-09)	(1.53e-08)
Sending HIV Prevalence	.0024*	-.0011
	(0.0014)	(0.0037)
Screening (HIV) (B)	.0054***	.0054***
	(0.0002)	(0.0002)
Expected HIV Migrants		7.13e-08
		(2.62e-06)
# Migrants*Screening (B)		-3.46e-08
		(2.22e-08)
Send HIV Prev*Screening (B)		.0039
		(0.0040)
Expected HIV Migrants Final	-4.63e-06	-2.32e-06
	(4.44e-06)	(5.44e-06)
GDP per Capita	4.95e-07***	4.93e-07***
	(1.82e-08)	(1.82e-08)
Density* Gini	3.42e-07***	3.43e-07***
	(1.29e-08)	(1.29e-08)
Literacy Rate	.0006***	.0006***
	(0.0002)	(0.0002)
% 1 Y.O. Vac for MCV	.00008***	.00007***
	(5.90e-06)	(5.90e-06)
Constant	-.0913***	-.0919***
	(.0199)	(0.0199)
Number of Observations	22,421	22,421
Number of Groups	1788	1788
Within R-Squared	.5302	.5302
Between R-Squared	.9998	.9998
Overall R-Squared	.9834	.9834

*p<0.1, **p<0.05, ***p<0.01

[140] Because of the parameters of this model, the constitutive terms of *Gini* and *Population Density* could not be included with the interactive term in order for the model to be able to converge. However, if the constitutive terms are included, at the expense of the interactive term, the coefficients of the other variables in this model change only insignificantly- none of the coefficients change signs and all of the same variables remain statistically significant at the same level, except instead of the interactive term, both of the constitutive terms are statistically significant at the .001 level. Population density has a negative coefficient, while the *Gini* coefficient is positively signed.

Table F. Predicted Receiving Country Incidence Rate: Model 2F Interaction 2

	Density = 43.27[141]	Density = 111.07	Density = 178.87[142]
Gini = 25.63[143]	0.205974	0.205381	0.204787
Gini = 28.05[144]	0.205664	0.205621	0.205578
Gini = 30.475[145]	0.205354	0.205861	0.206370
Gini = 32.90[146]	0.205044	0.206102	0.207160
Gini = 35.32[147]	0.204734	0.206343	0.207952

[141] One half standard deviation below the mean
[142] One half standard deviation above the mean
[143] One standard deviation below the mean
[144] One half standard deviation below the mean
[145] The mean
[146] One half standard deviation above the mean
[147] One standard deviation above the mean