

INTERNATIONAL MIGRATION FLOWS: THE ROLE OF DESTINATION COUNTRIES' MIGRATION POLICIES

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CRR WP 2005-##

December 2005

Working paper prepared for the
Center for Strategic and International Studies
Project on Long-Term Immigration Projections

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The research reported herein was supported (in part) by the Center for Retirement Research at Boston College pursuant to a grant from the U.S. Social Security Administration funded as part of the Retirement Research Consortium. The opinions and conclusions are solely those of the authors and should not be construed as representing the opinions or policy of the Social Security Administration or any agency of the Federal Government, or the Center for Retirement Research at Boston College.

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ABSTRACT

The goal of this paper is to provide a discussion of the relative importance of migration policy compared with other long-term determinants of international migration flows. We analyze the economic, social, political, and cultural variables that affect destination countries' demand for migrants—that is, migration policy—and characterize the nature and likely strength of the relationship. We conclude that the most important variables affecting the demand for migrants are likely to be the “human-capital gap” between natives and immigrants (that is, the ratio between the average skill composition of natives and the average skill composition of immigrants) and interest-group politics.

1. INTRODUCTION

The goal of this paper is to analyze the role of destination countries' migration policies in shaping international migration flows. In this introduction, we first provide a framework to think about how migration policy affects international labor movements and how it is itself, in turn, endogenously determined by a number of economic, social, political, and cultural factors. We next discuss the relative importance of migration policy compared with other long-term determinants of migration. Finally, we explain our reasons for using *political-economy models* to analyze migration policy by looking at another field of economics—international trade—which has widely used them.

International Migration Model

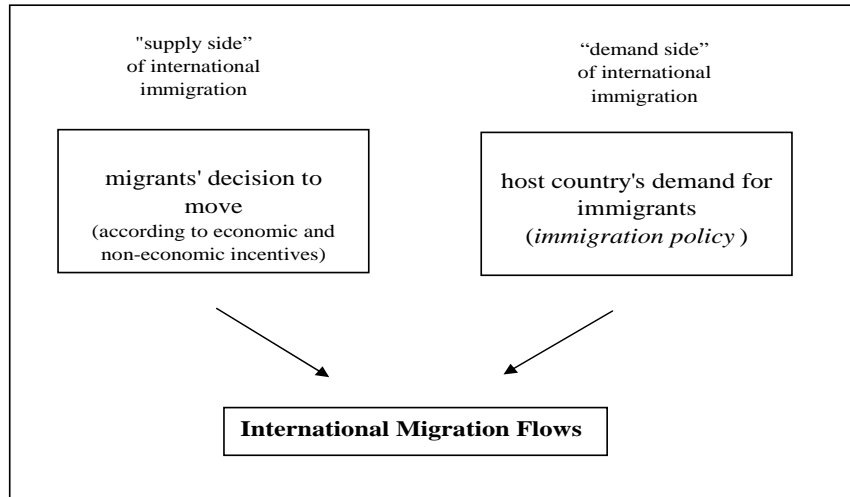
The size and composition of international migration flows are affected by both supply and demand factors (see Figure 1). The supply side is characterized by migrants' decisions to move, according to economic and non-economic incentives (see, for example, Sjaastad 1962; Borjas 1987; Borjas 1999a; Chiswick 1999). On the demand side stands the host countries' demand for immigrants, represented by migration policies. The migration literature in economics has mostly focused on supply factors, while the demand side of international migration has not received much attention. In his 1994 paper, Borjas notes: “The literature does not yet provide a systematic analysis of the factors that generate the host country’s demand function” (1693).¹ This is surprising, as immigration policies have likely played a central role in shaping recent international labor movements. While migration flows have increased in the last decades, they have been relatively small in scale compared to other dimensions of globalization—such as trade and capital flows—and relative to the past (Faini 2003; Findlay and O'Rourke 2003; Obstfeld and Taylor 2003).² Yet incentives on the supply side of international migration flows are particularly strong at this point in time: High wage differentials across countries as well as reduced transport and communication costs have increased the incentive of migrants to move. Restrictive migration policies, then, are most likely the answer to the surprisingly small size of international migration (Mayda 2005b).³

¹ As discussed below, more recent papers have considered the demand side of international migration flows.

² Policy stances towards trade in goods and labor flows have historically moved in the opposite direction. Immigration policies experienced a tightening in the twentieth century relative to the nineteenth, starting after WWI. Trade policies have been increasingly liberalized across the two centuries (except in the interwar period), especially after WWII (Faini 2003).

³ There is debate in the literature about whether the size of recent international migration flows is high or low. As Faini notes in commenting on a recent conference paper (Boeri, Hanson, and McCormick 2002): “The basic premise of the paper is that migration is large and on the rise. However, this is not true, at least by any historical standards (Aghion and Williamson, 1998). The truth is that in many respects migration is the grand absentee of the globalization process ... In both episodes [the beginning of the twentieth century and during the 1950s and the 1960s], absolute and relative numbers were significantly larger than those seen in the present globalization phase” (Faini 2003, 158).

Figure 1: International Migration Flows: Supply and Demand Determinants



In other words, currently, given that migration pressures on the supply side are considerable while the number of immigrants is contained, it is very likely that immigration policy's constraints are binding. This is confirmed by anecdotal evidence from newspaper articles and migration data on the increasing importance of illegal immigration, which rises as the disequilibrium between supply and demand grows.

An indication of the importance of immigration policy, relative to other long-term determinants of migration flows, is based on the comparison of two different historical times: the last few decades and the period of the first mass migration wave (Hatton and Williamson 2003). Results in three empirical studies (Clark, Hatton and Williamson 2002; Hatton and Williamson 1998; Mayda 2005b) shed light on differences between the two periods. Both Clark, Hatton and Williamson (2002) and Mayda (2005b) analyze the determinants of international migration flows in recent decades (the former paper focuses on a single destination country, the United States, while the latter paper considers a number of host countries). Hatton and Williamson (1998) focus on the causes and economic impact of mass migration at the end of the nineteenth century and the beginning of the twentieth century, which is before international migration became policy-constrained. The comparison of the findings in these papers reveals that the impact of variables on the supply side (such as wage differentials) is stronger at the time of the first migration wave. This provides evidence for the constraining role of destination countries' migration policies, which reduce the magnitude of supply-side effects.

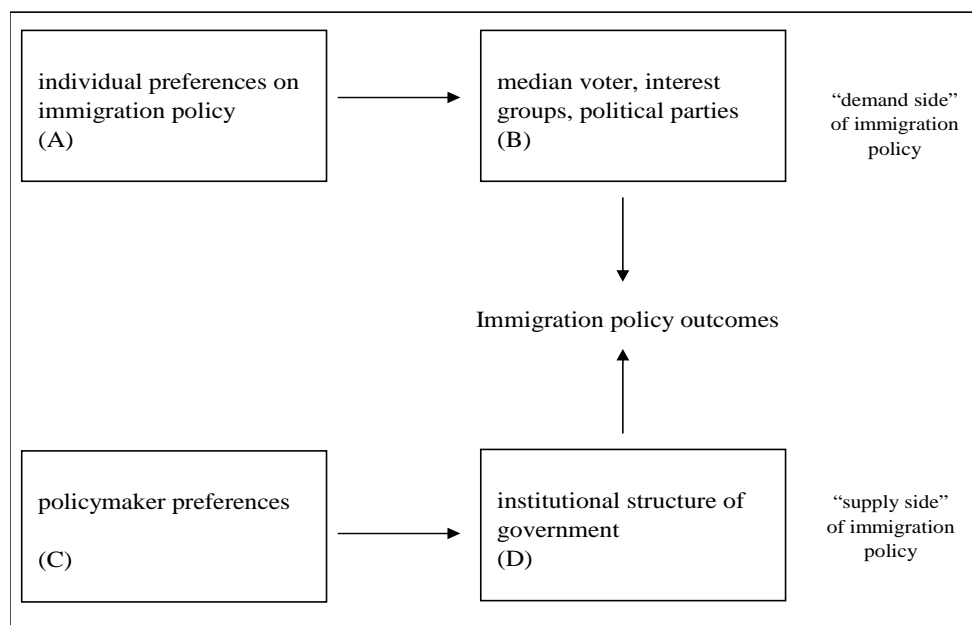
Additional results in Mayda (2005b), reviewed below in Section 2.1.1, offer empirical support for the hypothesis that migration policy is indeed a key determinant of international migration flows.

Migration Political-Economy Model

As Figure 1 shows, immigration policy affects the demand side of international migration flows. However, immigration policy is not exogenous. It can be thought of as the outcome of a

political-economy model where, again, demand and supply factors interact with each other giving rise to an immigration-policy outcome. Figure 2 below represents the main components of this framework. It draws from a very similar figure in the Handbook of International Economics (Figure 2.1, p.1459), which represents a political-economy model of trade policy (Rodrik 1995). As illustrated in Figure 2 below, one of the main elements on the demand side of immigration policy are individual preferences—that is, voters' opinions about immigrants. In particular, what is relevant is whether an individual thinks that the number of immigrants should increase or decrease and what composition of immigrants he or she prefers, in terms of economic and non-economic variables (such as skill or capital composition, and cultural background). Next, what is important is how individual preferences about immigration policy are aggregated into political demands. We can distinguish various alternatives. If voting on immigration policy is based on majority rule, then what matters is the median voter's preference in terms of immigration policy (Benhabib 1996; Ortega 2005). Alternatively, the impact of individual preferences could work through interest-groups politics (Facchini and Willman 2005) or the interaction of political parties and/or grass-roots movements. Finally, on the supply side of the political-economy model, we find policymakers' preferences—in particular, whether policymakers maximize a social welfare function or, alternatively, give weight to political considerations (see discussion below)—and the institutional structure of government.

Figure 2: Determination of immigration policy



Motivation for Focusing on Political-Economy Models

The literature on the political economy of immigration policy is very much inspired by a parallel body of works on political-economy explanations of trade-policy outcomes (for a review of this literature, see Rodrik 1995; Helpman 2002; Gawande and Krishna 2003). This is not surprising, given that trade and immigration are closely related to each other. In the standard Heckscher-Ohlin model, trade and immigration are substitutes. Both trade and immigration allow

countries to exchange services of factors of production—indirectly through trade and directly through immigration—and thus become integrated with each other. In turn, international economic integration in the form of both trade and immigration produces gains, but also implies strong distributional effects. While the gains-from-globalization result would suggest an open-door policy to both trade and immigration (at least from an economic point of view), this is not what we observe in terms of policies because of distributional effects, which affect the politics of both trade and immigration.⁴ Hence, in analyzing policy outcomes in these two dimensions of globalization, we need to move out of a framework in which policy is chosen to maximize social welfare and instead take political considerations into account, which is the goal of political-economy models. (This point is related to box (C)—policymakers' preferences—in Figure 2.)

Differences between Trade and Immigration from an Economic Point of View

From a purely economic point of view, some qualifications are needed in comparing trade and immigration. Both trade and immigration produce world-wide gains. Both at the global level and for each trading country (under fairly general assumptions), the gains-from-trade result is well established in the literature. In the standard model with perfect competition and constant returns to scale in every sector, for example, there exist gains from trade in goods that are based on comparative advantage. Concerning immigration, a recent wave of literature has pointed out that the global gains from free labor migration are substantial and might be much larger than the gains from removing existing trade barriers (Rodrik 2001; Walmsley and Winters 2002; Pritchett 2003; Martin 2004; Rosenzweig 2004). However, compared with trade, there is less consensus in the literature regarding the impact of immigration on each country (destination and origin) separately. In some models (for example, in Borjas's (1999a) model and in Trefler's (1997) sector-specific model) immigration raises the destination country's welfare. In some other works immigration does not have any effect on natives' welfare (for example, in the multi-cone HO model with factor-price-insensitivity). Finally, in another set of models, labor flows hurt the destination country (for example, in Davis and Weinstein's (2002) and in Trefler's (1997) Ricardian models).⁵ Therefore, to the extent that immigration is believed to reduce a destination country's welfare, we do not need political-economy explanations to justify restrictive immigration policies.

Differences between Trade and Immigration from a Non-Economic Point of View

From a non-economic point of view, the differences between trade and immigration are clear. Both trade and immigration affect countries from a non-economic point of view. As Rodrik (1997) points out, trade induces arbitrage in national norms and institutions, as competition in international markets of goods and services creates pressure towards institutional harmonization across countries. However, the non-economic impact of immigration is much more direct than it is for trade, as international labor movements imply the meeting, which often becomes a clash, of individuals of different cultures and traditions. To the extent that immigration is believed, arguably, to reduce a destination country's welfare from a non-

⁴ From a purely economic point of view, distributional effects cannot explain restrictive trade and immigration policies, as long as there are gains on average from trade and immigration (that is, winners' gains are larger than losers' losses). The reason is that other policies are better suited to implement income redistribution.

⁵ In these models the impact of immigration mostly works through the labor-market channel. Besides the labor market, immigration has a more pronounced impact than trade on other aspects of the destination country's economy, for example on its welfare state.

economic point of view, again, we don't need political-economy models to explain constraints on immigration.

An Overview of the Previous Literature

Numerous papers have analyzed different aspects of the supply side of the international migration model outlined in Figure 1. Within this literature, we focus our attention on two papers—Mayda (2005b), Clark and Hatton and Williamson (2002)—which are the first to emphasize the role of migration policy and introduce it in the empirical analysis, together with supply-side factors. A recent strand of the immigration literature focuses more directly on the demand side of international migration and, in particular, on political-economy explanations of immigration-policy outcomes. The main papers in this literature are Benhabib (1996), Ortega (2005), Facchini and Willman (2005), and Bianchi (2005). Bertocchi and Strozzi (2005) concentrate on the determinants of a specific aspect of migration policy: citizenship laws, which affect voting rights of second-generation immigrants. Goldin (1994) and Timmer and Williamson (1996) offer historical accounts of the political economy of immigration restrictions at the beginning of last century. Finally, the literature on individual attitudes towards immigrants in a single country (Citrin et al. 1997; Espenshade and Hempstead 1996; Kessler 2001; Scheve and Slaughter 2001; Dustmann and Preston 2001a, 2001b) and across countries (Bauer et al. 2000; Brücker et al. 2001; Chiswick and Hatton 2003; Gang et al. 2002; Mayda 2005b; O'Rourke and Sinnott 2005) is also relevant for the demand side of international migration since, as pointed out above, voters' preferences are a key input of immigration-policy outcomes.

An Outline of the Rest of the Paper

The goal of this paper is to survey these works and identify the economic, social, political, and cultural variables that affect a destination country's immigration policy through the channels illustrated in Figure 2 (Section 2). Based on this survey, we will describe how one might design a research project that would empirically test the relationship between these determinants and immigration policy (Section 3). Finally, we give our preliminary judgment on what such a research project might find (Section 4).

An Overview of the Paper's Conclusions

This paper will describe a number of variables that affect the demand side of international migration. In light of the final goal of the Center for Strategic and International Studies (CSIS) Project on Long-Term Immigration Projections—a "driver-based" projection model—it is useful to restrict the attention to those drivers that are likely to explain most of the variation in the data. According to our analysis, these variables are the "human-capital gap" between natives and immigrants and the political pressure of lobbying groups. The human-capital gap between natives and immigrants represents the ratio (or difference) between the average skill composition of natives and the average skill composition of immigrants. The human-capital gap determines how immigration affects the relative supply of skilled to unskilled labor in the destination country and, therefore, incomes of individuals in the host economy. Each individual will vote on migration policy according to such economic effect of migration. If voting occurs according to majority rule, the human-capital-gap information needs to be combined with information about the skill level of the median voter.

Another key driver of destination countries' migration policies is interest-group politics: Through political pressure and financial contributions, lobbying groups are able to affect migration-policy decisions and make them different from what voters would have selected. Our conclusion at the end of the paper is that both variables need to be taken into account in a quantitative model. Both voters' preferences—which are affected by the human-capital gap—and interest-groups politics help explain why migration policies are restrictive but still allow positive inflows of immigrants.

2. SURVEY OF THE LITERATURE ON IMMIGRATION POLICY

An extended body of works analyzes immigration policy in the United States and in other countries and their changes over time. For example, differences in immigration-policy outcomes across countries and over time are discussed in Joppke (1998), Money (1997), Freeman (1992), and Freeman (1995). While aware of this literature beyond the field of economics, in this paper we will mostly focus on theoretical and empirical *economic* models of migration policy.

2.1 Literature on Supply Determinants of International Migration Flows

As pointed out in the introduction, we focus on two papers within the literature on supply determinants of international migration flows, Mayda 2005b and Clark, Hatton, and Williamson 2002, since these are the first to emphasize the role of migration policy and introduce it into the empirical analysis, together with supply-side factors.

2.1.1 International Migration: A Panel Data Analysis of Economic and Non-Economic Determinants, by Anna Maria Mayda (2005b)

Using data on immigrant inflows into 14 OECD countries by country of origin between 1980 and 1995, Mayda (2005b) discusses and empirically investigates the economic and non-economic determinants of international migration. This paper incorporates both the supply side and the demand side of immigration, which is captured by immigration policies. The study does not attempt to model policy formation from a theoretical point of view, but rather empirically shows that policy matters. Some of the results of the analysis are consistent with the predictions of a standard international migration model, while others represent empirical puzzles. In particular, pull effects—that is, the positive impact on immigrant inflows of improved economic opportunities in the destination country—are positive and significant. This result is robust across different econometric specifications. On the other hand, the impact of push factors—that is, worsening economic conditions in the origin country—is usually not significant and seldom consistent in sign with the theoretical predictions. In a very basic model with only supply-side factors, the asymmetry in the two effects—pull and push—is surprising, given that in theory they should be similar in size (and opposite in sign). One potential explanation is related to immigration policy, which, at the same time, might be neutralizing push factors (if quotas are binding) and driving positive and significant pull factors through the political-economy channel (for example, an increase in wages in the destination country might relax the political constraints on policy-makers when they set the level of migration). The empirical analysis also shows that, when migration policy becomes less restrictive in a given country in a given year, the impact of pull factors becomes more positive and the impact of push factors becomes negative and significant. Next, changes in relative income inequality in the source country relative to the destination one have a non-monotonic effect on the size of migration flows: positive if there is

positive selection of immigrants to the host country, negative otherwise, as predicted by Borjas' (1987) selection model. Finally, one important feature of this paper is that it incorporates non-economic determinants of migration inflows. Among them, the most important from an empirical point of view are related to geography, demographics, and network effects: the physical distance between the destination and origin countries (which negatively affects migration flows); the share of the population which is young in the origin country (which positively affects migration flows); and the size of past migration inflows to the destination country from the same origin country (which positively affects migration flows).

2.1.2 Where Do U.S. Immigrants Come From, and Why? by Ximena Clark, Timothy J. Hatton, and Jeffrey G. Williamson (2002).

Clark, Hatton and Williamson (2002) identify and explain trends in U.S. immigration flows over the past several decades. The starting point of the paper is a discussion of the main changes in U.S. immigration policy in recent decades and how these changes, especially the 1965 Amendments to the Immigration Act, unexpectedly increased immigration from low-income countries. The goal of the empirical analysis in the paper is to explain this transformation in U.S. immigrant composition. The authors point out that, while immigration to the United States has been widely researched empirically, several shortcomings characterize the previous literature. For example, some studies use country cross-sections, or cover a limited number of years, or only explore a subset of all migration inflows to the United States. Other papers omit a number of key variables such as the age structure of the population and the existing immigrant stock from the same origin country. Clark, Hatton and Williamson (2002) specify their econometric model trying to address such limitations. A number of variables are considered as determinants of bilateral U.S. migration inflows from all over the world, including the wage gap between destination and source countries, which represents migrants' gain from moving to the host country, the associated costs of moving such as the cost of travel, an individual-specific cost, and indirect costs associated with quantitative policy restrictions on migration and skill-selective immigration policies. Another important variable considered in the migration decision is the age of the potential migrant: A young migrant has a higher discounted value from migration, in expected terms, than an older migrant of similar skills. Finally, one particularly important aspect of the analysis is the use of the number of quotas or visas for different immigrant categories to capture U.S. immigration policies.

The migration model is estimated using panel data on immigration to the United States by place of birth from 81 source countries across the 28 years between 1971 and 1998. The estimates have, in general, the expected signs and are statistically significant. For example, a 10 percent increase in a source country's income per capita reduces immigration to the United States by around 6 percent; raising the share of a source country's population aged 15-29 by 10 per thousand increases immigration to the United States by 4.5 percent or by 0.3 per thousand individuals of the source country's population; a country's migration rate to the United States is reduced by about 21 percent for every additional thousand miles between the country and the United States; finally, the immigration stock of a typical country increases by 1.1 percent per year due to the impact of the existing immigration stock.

The authors also run counterfactual simulations to assess the effect of changes to immigration policy in 1977, 1986, and 1990 on immigration levels and shares. Next, they run

counterfactual simulations to assess the impact of economic and demographic variables by source country. The authors conclude that the changing composition of immigration over the last three decades has been driven by a combination of economic, demographic, and policy forces. In Europe, relatively high income, small youth cohorts, and relatively equal income distributions have restrained immigration to the United States. In South and Central America, the opposite has generally occurred. Finally, based on the simulations, it appears that the “friends and neighbors effect”—related to the existing immigrant stock from the same origin country—has only played a minor role in influencing immigrant composition across the decades analyzed.

2.2 Literature on the Political Economy of Migration Policy

In this section, we review some of the most important political-economy papers on migration policy: Benhabib (1996), Ortega (2005), Facchini and Willman (2005), Bianchi (2005), and Bertocchi and Strozzi (2005).

2.2.1 *On the Political Economy of Immigration*, by Jess Benhabib (1996)

Benhabib (1996) investigates the type of migration policy that is chosen by a destination country where natives vote using majority rule. In this paper, the purpose of migration policy is to regulate the capital-labor ratio⁶ (*capital composition*) of the flow of immigrants,⁷ rather than the size of the immigration flow. The assumption in the model is that natives, who are characterized by different capital-labor ratios,⁸ vote based only on the economic effect of immigration on their individual utility (which is equal to their total income). Therefore the non-economic impact of immigration is ignored in this paper. Under the majority voting setting, policy is determined by the preference of the median voter in the capital-labor ratio distribution. By definition, ranking individuals in order of increasing capital/labor ratio, the median voter is the individual such that half of the individuals in the population each owns less capital relative to labor than the median voter, while the other half owns more.

The paper proceeds in three steps. It first shows each individual's preference in terms of a *given* migration policy. That is, it determines whether each individual would vote in favor or against a migration policy characterized by a given capital composition of immigrants. Next, the author examines the median voter's preference for any given policy. Finally, the paper investigates which policy would win against any other policy in a pair-wise contest under majority voting.

The first result can be explained as follows. Consider an immigration policy that admits immigrants with a given capital composition. If the post-immigration capital-labor ratio is higher than the pre-immigration capital-labor ratio, then voters at the top (bottom) of the capital-labor distribution will vote against (in favor of) such immigration, since their total individual income is reduced (increased) by such immigration. On the other hand, if the post-immigration capital-labor ratio is lower than the pre-immigration capital-labor ratio, then voters at the top (bottom) of

⁶ Capital can be interpreted to mean or to include skill, that is, human capital. Therefore the results in this paper can be read in terms of the *skill composition* as opposed to the capital composition of immigrants.

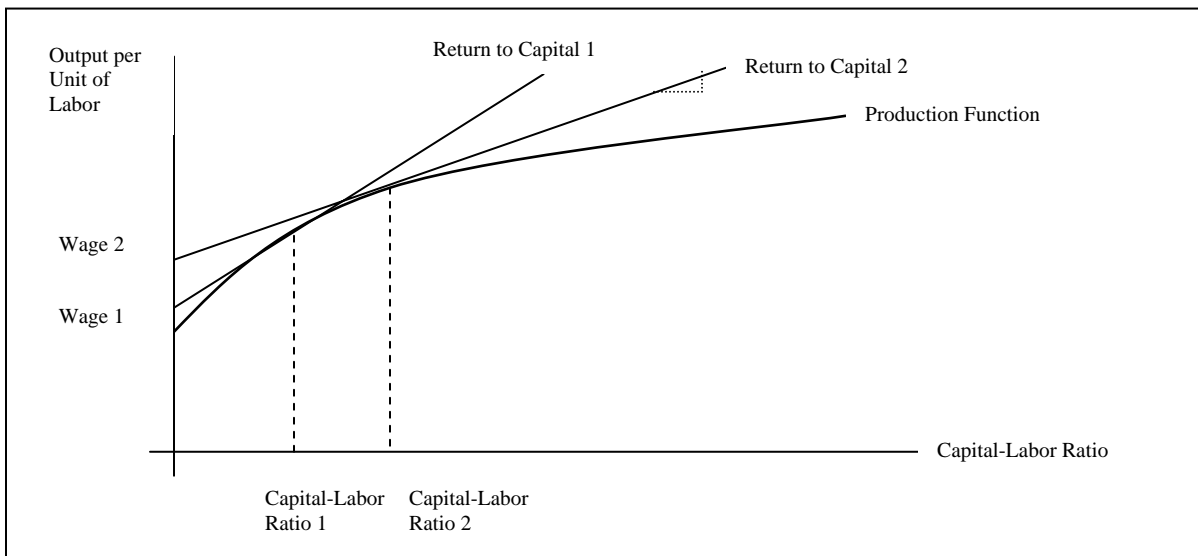
⁷ The ultimate goal of migration policy in this paper is to achieve—through the inflow of immigrants—a target average capital-labor ratio of the population.

⁸ If we assume that each agent only supplies one unit of labor, then his or her capital-labor ratio equals his or her capital holding (that is, the units of capital he or she owns).

the capital-labor distribution will vote in favor of (against) such immigration, since their total individual income is increased (reduced) by such immigration. The intuition for these predictions is straightforward. In this model, the impact of immigration on total individual income (on the wage and the rate of return to capital, in particular) is only a function of how immigration affects the (average) capital-labor ratio in the economy. The reason is that, in a model with one good produced, two factors (labor and capital) and constant returns to scale, both the wage and the rate of return to capital are fully determined by the capital-labor ratio in the economy (assuming a fixed level of technology). If the capital-labor ratio decreases (that is, the post-immigration capital-labor ratio is lower than the pre-immigration capital-labor ratio), then the rate of return to capital increases and the wage decreases. The opposite occurs if the average capital-labor ratio increases.⁹

Let's consider, for example, an immigration policy that increases the (average) capital-labor ratio (see Figure 3). The higher the capital-labor ratio of an individual, the larger is the weight of capital income in total income, and the more he or she will be concerned about reductions in the rate of return to capital.¹⁰ On the other hand, the lower the capital-labor

Figure 3: Factor Returns as a Function of the Capital-Labor Ratio¹¹



ratio of an individual, the larger is the weight of labor income in total income, and the happier he or she will be about the wage increase. Between the two sets of individuals, there will be one who is *indifferent* to the given immigration policy since his or her total income is not affected as the capital-labor ratio in the economy changes due to immigration. The *indifferent* individual

⁹ Notice that, in this model, immigration does not affect the distribution of the capital-labor ratio among natives. That is, the amount of capital owned by each native individual is constant.

¹⁰ Assuming that each individual owns one unit of labor, his total income equals the wage plus capital income, which is equal to the rate of return to capital times the amount of capital owned by the individual.

¹¹ In Figure 3, the slope of each tangent line to the production function represents the rate of return to capital corresponding to the given capital-labor ratio, while the y-axis intercept of the tangent line represents the wage.

represents the threshold individual between those who are in favor of and those who are against immigration. His or her capital-income loss is exactly offset by his or her labor-income gain.

Next the author investigates which policy would win against any other policy in a pair-wise contest under majority voting. When voting, each individual chooses the policy that maximizes total individual income. Since total individual income is a convex function of immigration policy (in particular, of the capital composition of immigrants), total income is maximized at either the policy that produces the highest or the lowest post-immigration capital-labor ratio. As is intuitive based on the above discussion, for individuals at the bottom of the capital-labor ratio distribution, total individual income is maximized by the policy that produces the highest post-immigration capital-labor ratio. For individuals at the top of the income distribution, just the opposite is true. The policy chosen under majority voting is the one that defeats any other policy in a pair-wise contest from the point of view of the median voter. Interpret capital as human capital (skill). If the median voter has a high capital-labor ratio, the policy chosen under majority voting is the one that only admits unskilled immigration (or, alternatively, free migration, given that in practice it is hard to put an upper limit on the skill composition of immigrants). A migration policy only admitting skilled migrants will be chosen if the median voter has a low capital-labor ratio.

To conclude, this paper presents a basic model that explains how immigration policy—defined in terms of the capital composition of the flow of immigrants—is formed. Immigration policy is determined by the distribution of the capital-labor ratio in the existing population, which votes according to majority rule. As pointed out by the author, future extensions of the model should include a multisector economy (multiple goods) with a heterogeneous labor force (in this model each person is equally productive) or a mechanism that determines the size of immigration flows as the outcome variable, as opposed to the capital composition of immigration flows (the present model has no restrictions on the size of immigration flows).

2.2.2 *Immigration Quotas and Skill Upgrading*, by Francesc Ortega (2005)

Ortega (2005) uses a *dynamic* setting to explore the evolution over time of immigration policy in an economy comprised of both high-skilled and low-skilled workers. The main contribution of this paper is to analyze the trade-off that arises in a dynamic version of Benhabib's (1996) model in which immigrants' children have the right to vote and, therefore, affect the political balance of the destination country. The arrival in the destination country of immigrants, whose skill composition depends on the existing immigration policy, alters the skilled-to-unskilled labor ratio of the workforce in the destination country. This, in turn, affects the current-period skill premium as well as the skill composition of next period's electorate, and thus the political balance and migration policies in the future. In this model voters are aware of such effects.

The dynamic trade-off that arises works as follows. On the one hand, skilled (unskilled) natives prefer an immigration policy that admits unskilled (skilled) immigrants to their country. The reason is as in Benhabib's (1996) model: Since skilled and unskilled workers are complements in production, the arrival of unskilled (skilled) immigrants increases the skilled (unskilled) wage. On the other hand, the arrival of unskilled (skilled) immigrants can bring about a situation in which unskilled (skilled) workers gain the political majority and, therefore, vote for

policies that benefit them as a group. Therefore, two opposing effects of immigration are at work: an economic effect in the short-run and a political effect in the medium-to-long run. Another complication of the model—which is consistent with the data—is the fact that skill upgrading takes place in the economy, independently from the arrival of immigrants.¹² Therefore, in choosing the skill composition of immigrants, natives take skill upgrading into account and choose immigrants that are less skilled than they would have, absent skill upgrading.

This paper offers predictions about the determinants of changes in immigration policy. According to the model, immigration policy can be either characterized by a cycle equilibrium or a quota equilibrium. A cycle equilibrium is one in which the political majority switches from one group to the other and, along with it, immigration policy too changes. This is the case in which short-run considerations—based on the short-run impact of immigration on the current wage through factor complementarity and substitutability—are the dominant force. A quota equilibrium is one in which the group in the majority—either skilled or unskilled workers—limits the number of immigrants through quotas, in order to retain future political power. In this case, the medium-to-long run political cost of admitting immigrants of the other category is higher than the short-run economic gain through increases in factor returns. Interestingly, in all quota equilibria, immigration turns out to be mostly unskilled, due to the need to offset skill upgrading through migration policy. In light of these predictions, Ortega interprets the U.S. experience after WWII as consistent with a skilled-majority quota equilibrium, together with skill-upgrading taking place over time.

In testing this model across countries, it is necessary to account for differences in legislation regarding voting rights and citizenship for immigrants. Particularly useful from this point of view is the dataset constructed by Bertocchi and Strozzi (2005), which is discussed below.

The details of the model are here described. There are two types of workers, skilled and unskilled. All agents live for two periods. When they are children, they do not work. When they are adults, they work and receive a wage according to their type (skilled or unskilled), have a child, then cease to exist. Skilled workers have skilled children and can decide to work in either skilled or unskilled jobs¹³. Unskilled workers have skilled children with a small probability p (less than 50 percent). Natives and immigrants are identical in these aspects of the life cycle. However, while natives vote on immigration policy when they are adults, immigrants cannot. Immigrants arrive in the country when they are adults, and face a fixed entry cost that is common to both types of immigrants. Their children are citizens and can vote on immigration policy.

The author first determines the effect of exogenous immigration flows on wages of both types of workers. Assuming that the population (composed of both immigrants and natives) is initially relatively unskilled (under a given immigration flow), unskilled workers earn a lower wage than skilled workers. However, over time, with skill upgrading (since both skilled and unskilled workers bear skilled children) the economy tends to have a higher proportion of skilled

¹² There is skill upgrading in an economy if the skills of the labor force improve over time.

¹³ This assumption is necessary to assure a non-negative skill premium. Since both types of labor are used as complements in the production of one good, in the event of a scarce supply of low-skilled workers, the ability of skilled workers to fill unskilled jobs is necessary to ensure that the marginal product of the unskilled worker equals the marginal product of the skilled worker.

workers, which drives down the skill premium, encourages some skilled workers to work in the low-skill sector, and equalizes the wages of both types of workers.

In the model natives choose the skill distribution of the population—which affects their wages—by voting on the composition of immigration flows. The electorate population of the following period is composed of both skilled and unskilled natives. The skilled workers are composed of children of previous generation skilled natives and immigrants, as well as a fraction p of the children of previous generation unskilled natives and immigrants. Unskilled workers are composed of a fraction $(1-p)$ of the children of unskilled natives and immigrants. The electorate votes on immigration policy, which indicates how many of each type of foreign workers to let into the country.

Voters prefer one of two possible policy rules: one that admits unskilled immigrants and another that admits skilled immigrants. There are two forces that shape voters' opinions about immigration policy. On the one hand, agents would prefer to represent a relatively small portion of the population to ensure a high wage. Skilled workers prefer an unskilled policy and unskilled workers a high-skill policy. On the other hand, a minority group would have no influence on future policy. Therefore, there are several possibilities that emerge. The first possibility is a cycle equilibrium. If workers do not care about losing power in the future, the current-period majority would vote for a policy that would bring them the highest feasible wage—one that admits immigrants of the other group, placing this other group in the majority in the following period and producing a complete reversal in policy. As the name suggests, this would give rise to alternating immigration policies and the associated skill composition of the population in each period. The second two possibilities are equilibria in which immigration policies are fairly stable through time, but differ based on the group in the majority. In this setting, each group seeks to secure high current-period wage without sacrificing its political stance in future generations. Therefore, the skilled would advocate a relatively low-skilled policy (low ratio of skilled to unskilled workers) that would maximize their current wages without losing control over the policymaking process. In a similar fashion, low-skilled workers would also advocate a policy that would maximize their wages without losing control over the future policymaking process. However, due to skill upgrading, the unskilled would admit more unskilled immigrants than absent skill upgrading, to maintain the majority. In summary, while the ratio of skilled to unskilled workers advocated by an unskilled majority is higher than that advocated by a skilled one, in both cases the resulting post-immigration ratio of skilled to unskilled workers is less than the ratio prior to immigration.

To conclude, this paper offers a dynamic general equilibrium model of immigration policy. It extends Benhabib's (1996) seminal work by incorporating two types of labor and endogenizing the voting population's distribution of the capital-labor ratio by considering immigrants' right to vote.

2.2.3 The Political Economy of International Factor Mobility, by Giovanni Facchini and Gerald Willmann (2005)

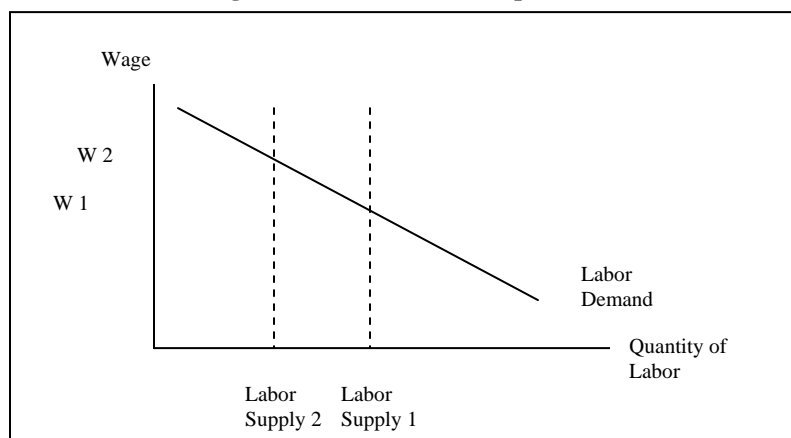
Facchini and Willman (2005) model migration policy as in Grossman and Helpman's (1994) "protection-for-sale" paper on trade. In particular, the goal of this study is to assess the political-economy outcomes—in terms of international factor mobility in a given destination country—when politically organized factors lobby the government for protection. The authors

use an auction model in which the government determines the amount of protection to grant each factor as a function of the complementarities and substitutabilities between factors of production as well as the contribution schedules presented by each lobby.

The paper first discusses the case in which the government’s policy instrument is the domestic price of each factor.¹⁴ Second, it discusses the case in which the government instead sets quotas for each factor. Finally the authors show that, when the government fully captures the rent generated from factor trade, the two settings are equivalent.

In the model, the population is divided into groups of individuals who own different factors used in the production of one good.¹⁵ These factors can be imported if there is insufficient domestic supply, since both domestic and international factors are identical for purposes of production. However, in an effort to secure a high return to the factor owned, an exogenous subset of factor owners—which are politically organized—lobby the government for “protection” against the use of their foreign counterpart. In particular, they present to the government a menu of contributions (“bids”) they would make based on the domestic factor prices the government decides to set (the chosen policy). Essentially, lobbyists strive for a policy that curbs the international supply of a factor so that the domestic sources of that factor are employed at a higher price. Figure 4 uses labor, as an example of a factor of production, to illustrate this result.

Figure 4: Labor-Market Equilibrium



For the case in which the government sets the domestic price of each factor, the chosen policy is represented by the factor-price vector that maximizes the government's objective function, which is the sum of the contributions it receives from organized factors and total welfare. Total welfare is simply the sum of each factor’s total return—gross of lobby contributions—which is composed of factor income (price of the factor times the units of the factor employed) plus its share of the common surplus (profit from production plus the revenue

¹⁴ This case replicates the scenario in which, in the arena of trade policy, the government sets a tariff which determines the domestic price of the good.

¹⁵ This is left general (inputs can be capital, labor of various skill types, etc.).

generated by immigration policy, that is, total imports of factors multiplied by the domestic-world price differential).¹⁶

The policy chosen offers protection (either positive or negative) by essentially imposing import/export subsidies/taxes. If the group lobbies, it gets an import tariff or an export subsidy on its foreign counterpart (if not, it gets the reverse: an import subsidy or export tax). If the factor lobbies, the magnitude of this protection is increasing in the domestic supply of the factor and decreasing in the share of lobbyists in the population. The more abundant or important the factor is, conditional on lobbying, the higher is the protection (otherwise the greater is the import subsidy). On the other hand, the more politically organized factors there are, the less influence each has on the outcome, yielding lower protection overall.

The authors next discuss the effects of substitutes and complements on lobbying efforts and policy outcomes. Whether two factors are complements or substitutes depends on the specification of the production function. If two factors are complements, an increase in imports of one factor causes the marginal product of the other factor to rise, which drives up its factor price. Therefore each politically organized factor will want to have more protection for itself but less protection for its complements. If two factors are substitutes, higher imports of one factor cause the marginal product of that factor, as well as its substitutes, to decline. Therefore each politically organized factor will prefer itself and its substitutes to be protected.¹⁷

In the second part of the paper, the above analysis is repeated using quantity, instead of price, as the policy instrument. As before, each lobby presents its contribution contingent on the government's action, which is a set of quantities. The prices are now determined in equilibrium, given factor supply which is controlled directly by policy. However, unlike in the previous setting, where the government fully captures the revenue from factor trade, in this case there could only be partial capture, with the remaining factor trade revenue received by the imported factor.

Despite this difference, the authors show that the game in which the government sets quotas is strategically equivalent to the one in which it sets prices, if the government receives all of the factor trade surplus. This result follows from the fact that lobbying efforts depend on the outcome (factor's total return), regardless of whether the outcome results from price setting or from imposing quotas, since the government, in either setting, ultimately controls the use of the factors of production. The only difference between the two games is the government's choice of variable.

The quota game can be used directly to analyze the formation of immigration policy. In this case, the factors of production would be workers of different skill type, whose entry is regulated by the government. Furthermore, the partial capture received by the immigrants would reflect the well-established stylized fact that immigrants tend to have a lower wage than similarly skilled natives.

¹⁶ Additionally, this policy is chosen in such a way to induce lobbies to offer truthful contribution schedules, that is the government chooses a policy such that it would not be optimal for lobbies to bid more than they can afford.

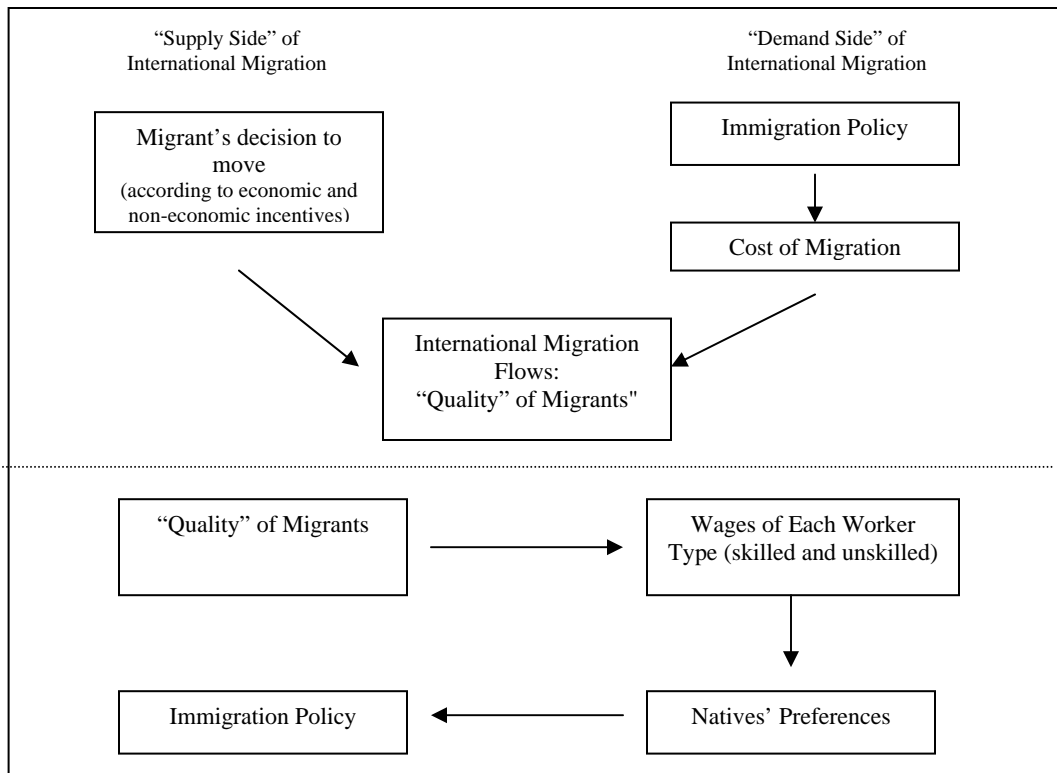
¹⁷ Additionally, since the demand for a factor is more inelastic (elastic) if it has a complement (substitute), there will be a higher (lower) tariff for the factor than there would be without this cross effect.

In conclusion, this paper shows how organized factors of production shape immigration policy by their lobbying efforts. Lobbies influence the government's policy, which affects the supply of factors as well as their total return.

2.2.4 Immigration Policy and Self-Selecting Migrants, by Milo Bianchi (2005)

One of the main contributions of Bianchi's (2005) paper to the literature is to treat both immigrant quality and immigration policy as endogenous variables. The previous literature, instead, either treats the former or the latter variable as exogenous, or only focuses on immigration policy. For example, immigrant quality is assumed to be given in Scheve and Slaughter (2001), Mayda (2005a), and O'Rourke and Sinnott (2005), who analyze the economic drivers of individual attitudes towards immigrants (these papers are surveyed below in Section 2.4). As already pointed out, the literature on the determinants of the size and quality of immigrant flows has either ignored (Borjas 1987) or taken as exogenous (Mayda 2005b) the demand side of international migration, i.e., migration policy. Finally, the political-economy papers reviewed above (Benhabib 1996; Ortega 2005; Facchini and Willman 2005) only focus on endogenous migration policy, without considering migrants' decision to move. The paper by Bianchi (2005) combines these strands of the literature into a unified framework in which immigrant quality affects immigration policy (bottom part of Figure 5) and vice versa (top part of Figure 5), in a framework in which both supply and demand factors determine international migration flows.

Figure 5: Endogenous Quality of Migrants and Endogenous Migration Policy



In particular, the author jointly models the immigrant's decision to migrate and the formation of immigration policy in an economy composed of skilled and unskilled workers. Therefore, in this framework immigrant quality is defined as the skill composition of immigrants. On the one hand, when deciding to migrate, immigrants consider both the cost of immigration (*wealth-constraint channel*) as well as the employment prospects in both origin and destination countries (*incentive channel*).¹⁸ On the other hand, the cost of immigration, which is the government's immigration-policy tool, is a function of immigrants' skill composition, since the latter variable affects natives' utilities through its impact on wages. Therefore, both immigrant quality (who migrates) as well as the cost of migration are endogenous and related to each other. The resulting skill composition of immigrant flows depends on the wage differential between countries and the skill premium in each country, as well as on the destination country's immigration policy.

The details of the model follow below. The population is divided into high- and low-skilled workers, who are complements in the production of one good.¹⁹ Natives' views on immigration depend solely on the ratio of skilled to unskilled workers in the destination country's population, which affects wages. The government maximizes utility of both skilled and unskilled natives by choosing a cost that affects the size and quality of the immigrant flow. This cost is equal for skilled and unskilled migrants and is assumed to be less than the cross-country wage difference for both groups (in order to allow both types of immigration). In addition to this cost set by the government, immigrants face an individual specific cost (according to a specified distribution).²⁰ Therefore, the supply of migrants of a particular skill category is determined by the fraction that can afford to move (*wealth-constraint channel*) times the fraction of those who want to move (*incentives channel*) times the source country's population of that skill type.

Building on the seminal paper written by Borjas (1987), the author finds that there is positive selection of immigrants if the wage premium (the difference between the wages of skilled and unskilled workers) is greater in the destination country than it is in the source country, since the wealth constraint affects quality in the same direction as the incentive channel does in this case (that is, it is less severe for the skilled than for the unskilled, which enables more high-skilled people to migrate). On the other hand, if this premium is smaller in the destination country, it is not clear who migrates, whether the skilled or the unskilled (since the incentive channel and the wealth-constraint channel work in opposite directions). This implies the second result: The quality of immigrants increases with cost if the wage premium is greater in the destination country than it is in the source country, otherwise the impact of cost on quality is ambiguous. The intuition for this result is that a higher cost makes the wealth constraint even more binding for unskilled immigrants; in addition the cost increase represents a higher fraction of an unskilled-immigrant's gain from migration if the wage premium is greater in the destination country than it is in the source country (i.e., skilled immigrants have more to gain from migration). Third, as average wealth in the origin country rises, the quality of immigrants declines. This follows directly from the fact that high-skilled immigrants are assumed to be

¹⁸ The introduction in the model of the wealth constraint changes some of the traditional results in the literature.

¹⁹ This is the standard neoclassical production function (CRS, competitively inelastic labor market, etc.).

²⁰ This individual specific distribution can be interpreted to represent individual specific tastes for immigration (for example, although the wage in the destination country may be high, I prefer to remain in my country; in this case, the individual specific cost of migration is too high).

wealthier, on average, than low-skilled immigrants. Therefore, if the wealth-constraint channel is binding, it is the low skilled who cannot afford to move. Finally, while an increase in source-country wealth inequality improves immigrants' quality, the opposite is true if wage inequality rises in the origin country. The latter effect is exactly as in Borjas (1987).

The second part of the paper focuses on the formation of policy. The model implies that the economic benefits of immigration are minimized when the post-immigration skill ratio equals the pre-immigration one. Intuitively, this says that if the skill composition of immigrants mirrors the skill mix of natives, wages are unaffected, and immigration provides no added value to wages. Holding immigration quality constant and focusing on the size effect of immigration, the destination country increases its welfare with more immigration of a contrasting skill composition to that of natives. The greater the difference between the skill composition of natives and that of immigrants, the greater is the welfare increase, a feature that resembles the "gains from trade" property. Therefore, the optimal policy would be to set the entry cost to zero (i.e., the optimal policy is an open-door policy). However, with endogenous quality, the model suggests that an open-door policy is optimal only when the ratio of skilled to unskilled workers (natives and immigrants) is increasing in the cost of immigration and the ratio of skilled to unskilled natives is higher than that of immigrants. This happens when migrants are positively self selected on account of either the dominance of the wealth effect and/or the skill premium being higher in the destination country than in the source country.

As the author points out, this model can be modified to capture the fact that a country with a high-skill premium might also have limited access to high-skill jobs, because of low levels of meritocracy (i.e., high-skilled workers get the high-skilled jobs with some probability smaller than one). Consequently, the destination country may not attract so many skilled workers. Similarly, the model can be modified to incorporate discrimination, reflected in the possibility that high-skilled immigrants do not get paid the same wages as high-skilled natives do.

To conclude, this paper is unique for two reasons: It incorporates both sides of immigration, the immigrant supply (through the decision to migrate) as well as the immigrant demand (through migration costs); and it considers the interaction between the wealth constraint channel and the incentive channel. The model (specifically the production function and the labor market) resembles the one in Benhabib (1996) and Ortega (2005) in that there are two inputs whose relative proportion drive wages of both groups. One important difference is the governments' objective function: In this paper the government takes into account the welfare of *both* high-skill and low-skill workers instead of only the group in the majority.

2.2.5 Citizenship Laws and International Migration in Historical Perspective, by Graziella Bertocchi and Chiara Strozzi (2005)

Bertocchi and Strozzi (2005) assess the formation, evolution, and impact on migration of citizenship policies in countries around the world during the nineteenth and twentieth centuries. Using a unique data set that the authors constructed on the citizenship policies of various countries, the paper shows that citizenship laws had a negligible effect on immigration patterns during the late nineteenth century, the first phase of mass migration. However, reversing the direction of the empirical analysis, the authors find that half a century later, with matured political institutions and an established history of immigration, immigration flows seem to have affected the evolution of citizenship laws.

First, the authors discuss the history of citizenship policy for various countries. Next, the authors assess the impact of having a particular policy in 1870 on migration during 1870-1910, given that these policies mostly remained constant (and therefore econometrically exogenous) for these countries in this period. Finally, Bertocchi and Strozzi assess how migration flows, border stability, democracy, welfare burden, and colonial history affected the evolution of these policies during the post WWII period.

In particular, this paper focuses on laws associated with citizenship status by birth, abstracting from those regarding citizenship through marriage or naturalization. The world seems to be divided between nations that have either of two types of such citizenship laws: *jus soli* or *jus sanguinis*. Under *jus soli*, a child born in the country is a citizen of that country, despite having immigrant parents. Under *jus sanguinis*, a child inherits citizenship through parents regardless where he is born. *Jus soli* was dominant in Europe during the eighteenth century, but by the nineteenth century it was primarily replaced by *jus sanguinis*. By the twentieth century, during the post WWII period, when the vast majority of countries became independent and political systems matured, immigration and citizenship policies started to evolve.

The first exercise evaluates the effect of citizenship policies on migration flows during the age of mass migration (1870-1910) for 17 destination countries (12 OECD countries in Europe, plus Australia, Canada, the United States, Argentina, and Brazil). This period also marks the era of new political order in many European and North American countries, with new institutions and laws. Since none of the countries changed their citizenship laws during this time, they are assumed to be exogenous, potentially determining migration flows. However, the results indicate that, rather than citizenship laws, it is key economic variables that affected total migration inflows to a destination country during this period. The wage gap has a positive and significant effect on migration flows, while the agricultural share in national income (indicating the level of development) and the young adult share of the total population at the beginning of each decade have a significant and negative effect. These patterns are consistent with theoretical predictions, but the most striking result is that the type of citizenship law has an insignificant effect on immigration.

The authors next investigate the determinants of changes in citizenship laws after WWII. The evolution of these policies for different countries has been effected by the emergence of democracy (which brings about an inclusive attitude towards immigrants), border stability (a border change would favor a *jus sanguinis* policy in order to identify ethnic heritage), and the size of the welfare state (when spread across too thin a tax base, a generous welfare state may increase the importance of distinguishing between immigrants and natives, encouraging *jus sanguinis*), among other factors. Many former colonies have adopted the citizenship policies of their mother countries. The United States has adhered to its *jus soli* policy since its inclusion in the U.S. constitution under the 14th amendment; Australia also inherited *jus soli* from the United Kingdom, but changed its law in 1986, requiring that children must have at least one Australian citizen or permanent resident parent to be citizens. Many other former UK colonies have abandoned *jus soli* and adopted *jus sanguinis* or a mix of the two (for example, double *jus soli*—whereby third-generation immigrants are automatically citizens). Even the United Kingdom has changed its citizenship laws. Originally, all subjects of the British Empire had equal access to British citizenship, but by 1948, six different forms of citizenship were created; then, in 1984,

the British Nationality Act was enacted restricting the *jus soli* clause (a child born in the United Kingdom is a citizen if at least one parent is a citizen or resident). Most of Europe has a history of being *jus sanguinis*. France introduced *jus sanguinis* in 1804 but, in 1889, established double *jus soli*. Germany initially had *jus sanguinis*, but with border stability (reached after the fall of the Berlin wall) and the need to promote ethnic unification there was pressure to implement *jus soli* (a 1990 law introduced the requirement that one parent have lived in the country for at least eight years). Many European countries currently have a similar mixed policy. In Latin America, many countries chose *jus soli* upon independence as a way to protect the people born in their country. Mexico changed its law to *jus sanguinis* in 1997. Former USSR countries instituted *jus sanguinis* in order to reestablish links to their cultural roots. Many African countries remained *jus sanguinis*, even after independence, amidst political instability and border insecurity, as a way to control ethnic identity.

The following table (from the paper) illustrates the popularity of *jus sanguinis* and *jus soli* policies across the world after WWII.

Figure 6

	<u>1948</u>	<u>1974</u>	<u>2001</u>
<i>jus soli</i>	42% (US, Canada, Latin America, former British colonies in Africa and Asia), UK, Ireland.	31%	32% (US, Canada, New Zealand)
<i>jus sanguinis</i>	58%	62%	55% (of which 69% in Africa, 83% in Asia, 41% in Europe)
mixed	0%	6%	22%

The second exercise attempts to capture the impact of geopolitical and migration variables on such policy patterns. Data is collected on 159 countries for two periods: 1948-1974 (post war decolonization) and 1974-2001 (globalization of international migration flows). Countries are grouped by policy: least inclusive of immigrants (*jus sanguinis*), moderately inclusive of immigrants (mixed policy), most inclusive of immigrants (*jus soli*). The following are candidate variables that affect the law for a particular country during both time periods: whether the country was originally *jus soli* in 1948; country border changes; geopolitical position (whether a country was a former British colony, or located in either Latin America, sub-Saharan Africa, or Southern Europe, or whether it is a small oil or a socialist country); measure of democracy; cultural characteristics (religion, ethno-linguistic factions, etc.); income per capita; and size of government/welfare state. Considering migration alone, migration has a negative impact on policy (i.e., the higher the migration, the less inclusive the policy is of immigrants—*jus sanguinis*). Considering geopolitical effects, originally having *jus soli* and being a Latin American country has a positive and significant effect on policy, while being a British colony has a significant negative effect. Border changes have an inconsistent effect, while government size is significant and positive (but is negative when limited to rich countries). Overall, net immigration consistently has a positive effect on the probability of a country being a *jus sanguinis* country and a negative one on the probability of a country having *jus soli*. Therefore,

both legal tradition and migration explain the evolution of citizenship laws that are more inclusive of immigrants.

2.3 Historical Accounts of the Political Economy of Immigration Restrictions

The literature also offers historical accounts of the political economy of immigration policy—for example, Goldin 1994 and Timmer and Williamson 1996. Both papers are surveyed in more detail below.

2.3.1 The Political Economy of Immigration Restrictions in the United States: 1890-1921, by Claudia Goldin (1994)

Goldin (1994) summarizes and explains the changing patterns of immigration policy in the United States around the turn of the twentieth century. The author investigates the hypothesis that support for restrictive immigration policies in the 1890-1920 era was the result of declining low-skilled wages, particularly for laborers and artisans, and fluctuations in immigrant flows. The analysis finds that wage changes as well as the number of immigrants voting in each district are indeed reflected in voting patterns for one such immigration policy, the Literacy Act, debated in Congress during this time. The intent of this act was to screen the quality of new migrants by requiring them to take a test that would assess their ability to read and write in English. This act became an item for debate at the end of the 1800s, but was caught up in political deadlock until it was finally passed in 1917. With this general premise, the author first describes the political voting trends during this era. She notes that the popularity of the act in Congress was preceded by economic downturn. She then discusses related empirical studies that suggest that immigrants may reduce wages paid by the industry in which they are employed. Finally, using results from such studies and her own estimation, the author links this wage effect as well as the population density of immigrants in each district to attitudes about immigration reflected in Congressional voting patterns.

An influx of immigrants increases the demand for all goods and services, which puts an upward pressure on the demand for labor. But since immigrants are disproportionately distributed across industries, the upward pressure on the supply of labor is also disproportionate, having an industry-specific effect on wages. Therefore, it is important to consider both geographical location (city effect) as well as industry affiliation when considering wages. At the local level (industries that trade locally), immigrants were more represented in bakeries and less in printing, which requires more specific skills. At the national level (industries that trade nationwide), immigrants were more represented in the clothing sector and less in the foundries sector.

The first exercise assesses the impact of immigration on the (hourly) wages of native workers. The data, comprised of city level observations for two groups of workers (laborers and skilled workers) in two cities, suggest that immigrants were 1.4 times as likely to be employed in the manufacturing sector than natives, while new immigrants were 1.6 times as likely (particularly in clothing, mining, iron, and steel). The results indicate that in men's clothing manufacturing, the cities with substantial immigration experienced a significant drop in wages (over the ten year period 1899 to 1909). This pattern can also be seen in foundries (immigrants tended to work in the low-skill sector, however foundries had both skilled and unskilled

workers). This implies that immigration affected the low-skilled sectors substantially, while high-skilled sectors had only a marginal depression of wages.

These wage fluctuations are empirically related to Congressional voting patterns, assuming that Congressmen accurately voice the sentiments of the people they represent. In general, both at the city and industry level, the paper finds that a decrease in the wage was associated with an increase in the proportion of votes to override an open-door policy in Congress (i.e., associated with a more restrictive stance). Furthermore, the greater the population, the more supportive the district was of an open-door policy, which may reflect immigrant votes in urban locales.

2.3.2 Racism, Xenophobia or Markets? The Political Economy of Immigration Policy Prior to the Thirties, by Ashley Timmer and Jeffrey Williamson (2004)

Timmer and Williamson (2004) explore the empirical determinants of community attitudes toward immigration, using a set of candidate variables from migration theory. The authors attempt to explain opinions about immigration during critical immigration episodes in five different countries between 1860 and 1930 by constructing an index based on this set of candidate variables. They find that people are, in general, interested in maintaining the skill composition of the population (the ratio of high-skilled to low-skilled workers).

In determining the candidate variables that influence attitudes toward immigration policy, the authors discuss several branches of the literature. The first distinguishes between two groups of people: capitalists/landowners and workers. The first group desires low wages, since this would raise rents and profits, while the latter prefers high wages. This suggests that business cycles, associated with fluctuations of these groups' relative power, affect policy. A second branch of the literature suggests that immigrants may cause inequality in the destination country (and less inequality in the source country), which may slow growth. Although it is unclear from the many empirical studies done in this area whether this is actually true, it might still have an impact on policy. Additionally, other papers argue that a free-trade policy and a free-immigration policy are expected to go hand in hand, since imposing restrictions on cheaper goods and services has the same economic effect as imposing restrictions on cheaper factors (such as labor). With these theories on immigration-policy formation in mind, the authors construct a "policy index" that can explain public opinion about immigration, composed of wages of unskilled workers, trends in inequality, the size or quality of immigration flows, and variables describing the state of the macroeconomy and ethnic/society concerns.

First, the estimation is done for the panel consisting of all five countries. Attitudes about policy are sensitive to labor market outcomes of unskilled workers, while they are not sensitive to the political environment (system). Wages and a measure for "threat" (impact of quantity and quality of immigrants on similar natives) have significant estimates (positive and negative, respectively). Macro effects (real wage growth, GDP, unemployment), as well as the percent of the population that is foreign born have no effect on attitudes. Relative income (unskilled wage/income per capita), which is a measure of the relative position of the unskilled in the economy, is a positive factor in determining policy, which reflects that the better paid the unskilled are, the happier they are about immigration.

These results are different when the five countries are considered individually. The restrictive immigration stance in Brazil of the 1920s is primarily attributed to rising inequality and the drop in real wages, as well as market forces. Canada is unique for having the variable “human capital of immigrants” significantly effect attitudes. More striking is that the index for Canada, during the “prairie boom” of 1899-1919, falls 6 points (due to rising inequality and to the threat variable). The threat variable was also significant in the United States, Australia, and Brazil. For the United States, the results are fairly consistent with Goldin (1993). In sum, economic variables (other than economic growth or unemployment) mattered the most.

2.4 Empirical Literature on the Determinants of Individual Preferences for Immigration

The empirical literature on immigration-policy preferences at the individual level includes a growing number of works focusing on the United States (for example, Citrin et al. 1997; Espenshade and Hempstead 1996; Kessler 2001; Scheve and Slaughter 2001) and on the United Kingdom (Dustmann and Preston 2000, 2001, 2004), as well as a few papers with a cross-country perspective (for example, Bauer et al. 2000; Brücker et al. 2001; Chiswick and Hatton 2003; Gang et al. 2002; Mayda 2005b; O'Rourke and Sinnott 2005).

The works focusing on the United States reach different conclusions. While Espenshade and Hempstead (1996) find mostly evidence in favor of non-economic explanations behind preference patterns, the results in Scheve and Slaughter (2001) and in Kessler (2001) draw attention to the importance of economic determinants. Finally, the results in Citrin et al. (1997) are presented as weak evidence for the role of personal economic circumstances.

Scheve and Slaughter (2001) analyze individual preferences on immigration policy in the United States using the 1992 National Election Studies survey. The focus of their work is on determinants of immigration preferences working through the labor market. Scheve and Slaughter (2001) closely relate the empirical analysis to the results of economic theoretical models. They test three main economic theories: the multi-cone Heckscher-Ohlin model, the factor-proportions-analysis model, and the area-analysis labor model. The main result of the paper is that less-skilled workers in the United States are significantly more likely to be anti-immigration. In addition, Scheve and Slaughter (2001) do not find any support for the hypothesis that the skill-preferences correlation is more pronounced in high-immigration communities. Hence their results are consistent with a framework in which immigration affects the destination country by changing factors' prices in national (as opposed to only local) labor markets. Given that the United States receives immigrants who are on average less skilled than natives, their results are in line with the predictions of the multi-cone HO model (without factor-price-insensitivity) and of the factor-proportions-analysis model, but they are not consistent with the area-analysis model.

Mayda (2005a) uses the same methodological approach as in Scheve and Slaughter (2001)—individual-level data, empirical estimation following economic theoretical models—to estimate the economic and non-economic determinants of immigration attitudes, both within and across countries. The author finds robust evidence that economic determinants matter: Opinions about immigrants appear to be consistent with maximization of economic self-interest. This is true whether natives are hurt by immigrants in the labor market or, alternatively, whether they complement immigrants and their wages increase. In particular, in countries where immigrants

are on average less skilled than natives, the higher an individual's level of skill, the higher the probability that he or she will be in favor of immigration. On the other hand, the data show the opposite pattern for countries where immigrants are as skilled or more skilled than natives (that is, a negative correlation between the level of individual skill and pro-immigration attitudes). These correlation patterns disappear for individuals out of the labor force. These results are completely consistent with a labor-market explanation of immigration attitudes. Non-economic determinants are also important. The probability that an individual is in favor of an increase in the number of immigrants is affected by the respondent's perception of the impact of immigration on crime rates and on the destination country's cultural openness. Political affiliation with right-wing parties as well as residence in more rural areas are associated with opposition to immigration. In addition, both national pride feelings and racist attitudes promote negative attitudes towards immigration. Finally, individual feelings towards political refugees and illegal immigration are important determinants of preferences as well. However, accounting for the impact of such non-economic factors, it is still true that economic determinants (in particular, labor-market ones) matter. In particular, the analyzed immigration attitudes are not consistent with a world in which only xenophobia explains immigration attitudes.

As in Mayda (2005a), Bauer et al. (2000) and Brücker et al. (2001) analyze immigration-policy preferences across countries. Bauer et al. (2000) present evidence on attitudes towards foreigners in twelve OECD countries. They first analyze the impact of different immigration policies on the composition and labor market assimilation of immigrants.²¹ They next look at natives' sentiments towards immigrants and, in particular, at the impact of the specific type of immigration policy on these preferences.²² In their work Bauer et al. (2000) use one of the two data sets employed in Mayda (2005a), the ISSP-NI data set, but they only focus on a subset of countries. Finally, Brücker et al. (2001)'s work, which contains a survey of the empirical literature on immigration preferences in Europe, focuses on the three following determinants of attitudes: racism, macroeconomic labor-market effects, and welfare benefit concerns.

A paper which is very closely related to this literature is Mayda and Rodrik (2005), which analyzes individual preferences on *trade policy* using the same data sources as in Mayda (2005a). O'Rourke and Sinnott (2001) also analyze individual-level attitudes towards free trade, using the first of the two data sets (the ISSP-NI data set).

Finally Mayda (2005c) carries out a comparative analysis of attitudes towards immigrants and preferences towards trade in goods and services. The main result of this paper is that individuals in the sample of countries analyzed tend to be, on average, more pro-trade than pro-immigration. Competition of foreign labor—implied by either trade or immigration—is a common driver of both sets of attitudes. One important difference is, instead, the individual's sector of employment: Respondents working in the non-traded sector tend to be more pro-trade

²¹ In particular, Bauer et al. (2000) emphasize the cross-country differences in the proportions of non-economic immigrants (for example, asylum-seekers and political refugees) relative to economic immigrants. This variation is related to the type of immigration policy carried out by each government.

²² However, as emphasized by the same authors, the direction of causality is not clear: "Although the direction of causality is hard to disentangle, i.e. if immigrant tolerance leads to an open policy or if an open policy leads to tolerance, it is informative to see if there is a relationship between immigration policy and sentiments" (Bauer 2000, 17).

while the sector of employment (whether traded or not) does not make a difference in terms of immigration attitudes.

3. AN EMPIRICAL MODEL OF THE DETERMINANTS OF MIGRATION POLICY

Based on the discussion of the previous literature, it is possible to design a research project that empirically tests the role of each determinant of immigration-policy outcomes and, more generally, the relative importance of factors on the supply and demand side of the international-migration model. Information on such variables, and in particular on data sources, is included in the Appendix at the end of the paper.

In light of the final goal of the CSIS project—a "driver-based" projection model—it is useful to restrict the attention to those drivers that are likely to explain most of the variation in immigration policy. We think that these variables are the "human-capital gap" between natives and immigrants (that is, the ratio between the average skill composition of natives and the average skill composition of immigrants) and interest-group politics.

The human-capital gap determines how immigration affects the relative supply of skilled to unskilled labor in the destination country and, therefore, incomes of individuals in the host economy. Each individual will vote on migration policy according to these economic effects of migration. If voting occurs according to majority rule, the human-capital gap information needs to be combined with information about the skill level of the median voter. So, for example, if in a given year the median voter is skilled and the human-capital gap between natives and migrants is high, migration policy will be open (because the skilled median voter favors migration characterized by a high human-capital gap).

For the United States, the human-capital gap can be measured using a few sources (for example, the U.S. Census and the U.S. Current Population Survey—see the Appendix). For other destination countries, in particular OECD countries, it is possible to obtain data on skill composition of natives and immigrants from the International Migration Statistics dataset for OECD countries (again, see the Appendix). It is harder to measure the skill level of the median voter across countries. However, for the United States, detailed micro-level data from the U.S. Census or U.S. Current Population Survey make it possible to construct this type of measure.

Finally, one way to measure the effect of interest groups is to use data on union membership rates (from the U.S. Current Population Survey or from the U.S. Department of Labor), since unions have been vocal in lobbying the U.S. government on the topic of migration policy. More general information can be used to proxy the pressure of interest groups, such as data on political-action-committee (PAC) campaign contributions, which are available from the Federal Election Commission.

4. CONCLUSIONS

As this paper has discussed, a number of economic, social, political, and cultural variables affect immigration policy through any of the four channels represented in Figure 2 (individual preferences about immigration policy, interest groups, policymakers' preferences, and the institutional structure of government). It is difficult to rigorously assess the relative

importance of each variable—this should be the goal of future empirical analysis—but it is possible to give a preliminary judgment on what such a research project might find.

First of all, out of all the drivers of migration policy identified by the previous literature, two in particular stand out: voters' preferences, which are affected by the "human-capital gap" between natives and immigrants; and interest-groups politics.

Let's first discuss the influence of public opinion and of all those factors that affect public opinion. In particular, can we explain migration policies based on voters' attitudes? The answer is yes, but only in part. The very low fractions of individuals in favor of immigration in advanced countries—as documented in Mayda (2005a)—are consistent with restrictive policies actually in place (and with the relatively small scale of international immigration).²³ Mayda (2005a) finds that individuals are, on average, very opposed to immigration in more than twenty high-income and middle-income countries. Based on the National Identity Module of the International Survey Programme (ISSP 1995), only 7.4 percent of respondents who gave an opinion about immigrants were, on average, in favor of increasing the number of immigrants in 1995. In the United States, for example, only 8.1 percent of the sample interviewed—which is chosen to be representative of the whole population—is in favor of an increase in the number of immigrants (by a lot or a little). However, given the extent of opposition to immigration revealed by such attitudes, it is a puzzle that migration flows take place at all. A median-voter model based on these values would probably predict close to zero flows.²⁴ One very likely explanation of this puzzle—the discrepancy between opinions and the actual size of migration flows—is that domestic interest groups play a dominant role in shaping migration-policy decisions (Facchini and Willman 2005).

Such an interpretation of the empirical evidence is consistent with similar observations in the political-science literature. Both Freeman (1995) and Joppke (1998) focus on the reasons behind the gap in liberal democracies between, on one side, restrictionist public opinion and stated policy goals and, on the other, expansionist volumes of immigration. In CSIS (2005), Thomas Espenshade discusses the dichotomy in U.S. immigration history between a restrictionist American public and policies enacted by Congress. In analyzing the extent of unwanted immigration, Joppke (1998) emphasizes the responsibility of interest group politics in the United States and the role of perceived moral obligation towards families of immigrants in European countries. In his paper, Freeman (1995) points out that, beyond differences due to dissimilar historical experiences (for example, the timing of the first considerable immigration intake), the main OECD receiving countries share a common pattern of immigration policy and politics. In general, they are characterized by an expansionary immigration bias, due to the combination of unorganized restrictionist public opinion and organized pro-immigration interest groups. (In addition, the poor management of postwar immigration policy by Western European governments had the consequence of making temporary labor programs sources of permanent

²³ As pointed out in the introduction, the small scale of international migration provides evidence for the constraining role of immigration policy. since, if international migration was only determined by supply factors, we would expect much higher flows.

²⁴ In CSIS (2005), an alternative view is offered by Jeffrey Williamson, according to whom the reason for non-negligible migration flows to the United States is that immigrants do not compete with the U.S. median voter. While this may be true from a labor-market competition point of view—given that immigrants to the United States are on average less skilled than U.S. native workers—the data in Mayda (2005) show that the U.S. median voter is still very much against immigration, probably for welfare-state and non-economic reasons.

immigration). In CSIS (2005), Espenshade offers a similar interpretation of the dichotomy between attitudes and policy in practice.

To conclude, this paper has pointed out many different channels through which immigration policy is formed. However, two in particular are likely to play a special role—voters' preferences (which are affected by the "human-capital gap" between natives and immigrants) and interest-group politics—and should be the focus of future quantitative research.

APPENDIX

Population Variables	Sources	Paper(s) Focusing on this Variable
<u>Immigration</u>	<p>United States Citizenship and Immigration Services (USCIS) http://uscis.gov</p> <p>US Census: 1980, 1990, 2000 http://www.census.gov/, http://www.ipums.umn.edu/</p> <p>US Current Population Survey (CPS): annual data for 1994-2004 http://www.bls.census.gov/cps/cpsmain.htm</p> <p>International Migration Statistics (IMS) dataset for OECD countries</p>	<p>Timmer and Williamson (1996)</p> <p>Mayda (2005)</p> <p>Clark, Hatton, and Williamson (2002)</p>
US Immigration Policy History	<p>United States Citizenship and Immigration Services (USCIS)</p> <p>Immigration and Naturalization Legislation (1790-1996): http://uscis.gov/graphics/shared/aboutus/statistics/legishist/index.htm http://uscis.gov/graphics/cong106.htm (1999-2000) http://uscis.gov/graphics/cong107.htm (2001-2002) http://uscis.gov/graphics/cong108.htm (2003-2004)</p>	<p>Ortega (2005)</p>
Population	<p>US Census: 1980, 1990, 2000 http://www.census.gov/population/www/censusdata/hiscendata.html</p> <p>World Bank World Development Indicators (WDI) http://www.worldbank.org/data/wdi2005/</p>	<p>Clark, Hatton, and Williamson (2002)</p> <p>Mayda (2005)</p>
Capital Variables	Sources	Paper(s) Focusing on this Variable
Capital Per Worker (destination and origin)	<p>Penn World Tables: non residential capital stock per worker http://pwt.econ.upenn.edu/</p> <p>Nehru-Dhareshwar data on capital perpopulation aged 15- 64. Easterly-Levine data on capital per worker.</p>	<p>Mayda (2005)</p>
Capital-Labor Ratio of the Median Voter	<p>Derived from data on changes in income inequality (see below)</p>	<p>Benhabib (1996) Dutt & Mitra (2002)</p>

Political Economy Variables	Sources	Paper(s) Focusing on this Variable
Organized Factors of Production (share of factors that lobby)	Unionized workers: US Current Population Survey (CPS): annual data for 1994-2004 http://www.bls.census.gov/cps/cpsmain.htm US Department of Labor Political Action Committee (PAC) campaign contributions: Federal Election Commission	Facchini and Willmann (2005)
Voting Data	Congressional Record: 1994-2005 http://www.gpoaccess.gov/crecord/	Goldin (1993)
Political Structures and Regime Changes	Inter-university consortium for political and social research dataset # 9263 (ICPSR; Ann Arbor, 1990)	Timmer and Williamson (1996)
Wages & Employment Variables	Sources	Paper(s) Focusing on this Variable
High-Skilled and low-Skilled Workers	US Bureau of Labor Statistics Current Employment Statistics http://www.bls.gov/ces/home.htm International IPUMS http://www.ipums.umn.edu/	Bianchi (2005), Timmer and Williamson (1996)
Occupation and Union Status (“Unicon” research)	Non union: US Commissioner of Labor, Department of Commerce and Labor Union	Goldin (1993)

Education Variables	Sources	Paper(s) Focusing on this Variable
Skill Composition of the Population (distinguishing between natives and immigrants)	US Census: 1980, 1990, 2000 http://www.census.gov/ , http://www.ipums.umn.edu/ US Current Population Survey (CPS): annual data for 1994-2004 http://www.bls.census.gov/cps/cpsmain.htm International IPUMS http://www.ipums.umn.edu/	Benhabib (1996)
Skill Composition of the Population (years of schooling)	Barro and Lee: International Data on Educational Attainment (dataset): http://www.cid.harvard.edu/ciddata/ciddata.html	Mayda (2005)
Skill Composition of Natives and Immigrants to OECD Countries	International Migration Statistics (IMS) dataset for OECD countries	Mayda (2005)
Macro Variables		
Share of Young Population (origin)	United Nations: http://esa.un.org/unpp/index.asp?panel=2	Mayda (2005)
Income Inequality Data (absolute and relative)	World Bank World Development Indicators (WDI) http://www.worldbank.org/data/wdi2005/ Gini coefficient from Deininger and Squire dataset http://www.worldbank.org/research/growth/dddeisqu.htm	Bianchi (2005), Mayda (2005)
Per Worker GDP (destination and origin), PPP adjusted	Penn World Tables: http://pwt.econ.upenn.edu/	Mayda (2005)
Unemployment Rate (origin)	World Development Indicators	Mayda (2005)
Other Variables		
Distance, Land Border, Common Language, Colony	Glick and Rose (2002) dataset	Mayda (2005)

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