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Recommended Citation
Carbaugh, R.J. (2007). Is international trade a substitute for migration? *Global Economy Journal, 7*(3). DOI: 10.2202/1524-5861.1297

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Global Economy Journal

Volume 7, Issue 3 2007 *Article 1*

Is International Trade a Substitute for Migration?

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Is International Trade a Substitute for Migration?

Robert J. Carbaugh

Abstract

If a goal of immigration reform is to lessen the flow of unauthorized immigrants into the U.S., could international trade be used to deter immigration rather than adopting legal barriers? The purpose of this paper is to shed some light on this question by considering the theoretical foundations and empirical research regarding the connection between trade and migration.

KEYWORDS: international trade, migration

Introduction

Immigrants provide important contributions to the U.S. economy. They help the economy grow by increasing the size of the labor force; they assume jobs at the lower end of the skill distribution where relatively few native-born Americans are available to work; they also take jobs at the highest end of the skill distribution and help keep the United States at the forefront of technological innovation; they respond quickly and flexibly to shifts in labor demand; and they work hard to make better lives for themselves and their children. The foreign-born proportion of the U.S. population has steadily increased, and now stands at about 12 percent of the total U.S. population.

In spite of the advantages of immigration, immigration policy has emerged as an important policy debate in the United States and other wealthy countries. Critics of immigration in recipient countries contend that foreigners will take jobs away from domestic workers, suppress domestic wages, and consume sizable amounts of public services. In the United States, the debate has recently focused on the *Comprehensive Immigration Reform Act of 2007*, which among other things included a proposal to build a fence in a portion of the United States-Mexico border in order to stop the flow of unauthorized Mexicans into the United States. The inability of the U.S. government to pass immigration reform legislation in 2007 comes at no surprise to those who have followed the issue over the years. Diverse economic interests, personal biases, and political ideologies made it difficult to build consensus for effective immigration policies (Marshall 2007).

If the policy objective is to lessen the flow of unauthorized immigrants into the United States, could international trade and economic growth be used to deter immigration rather than adopting legal barriers? The purpose of this paper is to shed some light on this question by considering theoretical foundations and empirical research regarding the connection between international trade and immigration.

Interaction of Trade and Migration

Immigration is often compared with international trade. In fact, the similarities between the two have led some to conclude that they are roughly equivalent–that is, they are substitutes. Some people maintain that trade in goods can provide a substitute for the movement of factors of production (including people) and that trade barriers can be reduced instead of immigration barriers, to yield the same outcome. In their view, free trade agreements are an important policy option to decrease immigration. They maintain that trade liberalization will benefit the economies in the migrant-sending countries and reduce the economic factors that foster unwanted migration. As the workers' employment opportunities and incomes improve at home, the workers will be less motivated to migrate.

For example, during the signing of the North American Free Trade Agreement in 1993, former President Bill Clinton noted that NAFTA would result in an even more rapid closing of the gap between the wage rates of Mexico and the United States. And as the benefits of economic growth are spread in Mexico to working people, they will have more income to buy more American products and there will be less illegal immigration because more Mexicans will be able to support their children by staying home. On the Mexican side, President Salinas de Gortari shared Clinton's opinion. He emphasized that more jobs will mean higher wages in Mexico, and this in turn will mean fewer migrants to the United States and Canada. Also, President George W. Bush had similar views when supported the United States' entering into the Central American and Dominican Republic Free Trade Agreement in 2005.

In spite of the formation of free trade agreements between the United States and its southern neighbors, immigrants have continued to pour into the country, especially unauthorized immigrants from Mexico. This had led some to doubt the ability of trade in goods and services to create a convergence of wages worldwide that will discourage migration. They wonder whether trade and migration are in fact complements rather than substitutes, meaning that trade and migration increase (decrease) in unison. These questions are of enormous relevance to the current policy debate regarding the closing of the borders of wealthy countries to unauthorized immigrants.

Explaining Migration

Concerning migration, there are several reasons why moving from developing countries to advanced countries occurs. The reasons can be classified into demand-pull and supply-push factors.

Topping the list of supply-push factors are substantial inequalities in wages and standards of living that exist between countries. Inequalities of living standards have become larger than ever before in history, far greater than the inequalities that prompted large numbers of people to leave Europe for America during the 1700s-1800s. For workers with similar qualifications, like education and job experience, migrating to more wealthy nations allows them to increase their incomes without additional investments in human capital. When migrants relocate, their wages generally rise to the levels of similar workers in their adopted countries, thus resulting in large incentives to migrate.

For example, researchers have measured the average wages for Mexican-born workers who had recently moved to the United States, and compared them to the wages of similar workers who were still working in Mexico. The wages adjusted for international differences in prices ranged from about 2-to-1 to 6-to-1 in favor of the U.S.-based workers, depending on the age and education group. This wage gap

provided a substantial economic incentive for Mexican workers to migrate to the United States (Council of Economic Advisors 2007).

Differences in labor demand across countries comprise another push factor that fosters migration. That is to say, people tend to locate where relative economic opportunities are most favorable. When a country's economy is weak and unemployment is high, its citizens have the incentive to migrate to another country having a strong economy and job market. Such was the case in the 1990s, when workers migrated from poverty-stricken Mexico to the United States to take advantage of a booming economy. If labor supply is elastic and the demand for labor rises in a particular country, one would expect substantial migration to that country. The evidence suggests that there are substantial geographic shifts in labor demand that promote increasing pressures for migration. Also, a supply push for noneconomic reasons could be explained by war or persecution which force people to move abroad to a safe-haven country.

On the demand side, the need for migrant workers in many host countries is apparent. A number of large European countries and the United States have traditionally filled positions in their service and agriculture sectors through the use of foreign labor. This was especially the case from the 1950s-1970s when there were widespread labor shortages and countries like Australia, Germany, France, and the United Kingdom actively promoted immigration. In recent years, there has been a shift in host-country labor demand toward skilled workers and increased emphasis on attracting skilled immigrants in sectors where labor shortages are evident, such as computer programmers and engineers. A number of countries also allow immigrants to enter temporarily as seasonal workers, primarily in agriculture.

Finally, population growth imbalances can contribute to migration. In Europe, changes in fertility behavior have caused contractions in national populations. With fewer young workers to support national pension plans, Europe has faced increasing pressure to allow immigrant workers make up the slack.

Similarities

Although there are important similarities between trade and immigration, there are also important differences. Both must be considered when evaluating whether trade and immigration are substitutes (Camarota 1998).

One similarity is that both trade and immigration change the supply of labor and alter the composition of skills in the economy. With trade, the goods produced by foreign workers come to the home country. In the case of immigration, the workers themselves move to the host country. Whether the workers come or only the goods they have produced, the supply of some kinds of labor relative to others is increased. When we import finished goods, for example, we are importing both the skilled labor that went into designing a product and also the unskilled labor that went

into assembling it. To the degree that immigrants have skills that differ from those of native workers, they too will change the composition of labor in the economy.

While native workers who compete with immigrants and imports of goods may absorb losses in wages and employment, these losses should foster economic gains for owners of capital and others factors of production who can now be paid more. The main benefit from changes in the supply of labor is that they allow workers in the host country to specialize in jobs in which they are relatively productive, leaving those jobs in which they are less productive to producers of imported goods and immigrants–the principle of comparative advantage. Because workers are performing in the most efficient manner, there should be some net economic benefit from immigration. Some natives, however, will incur economic hardships–mainly those in low and unskilled jobs, because this is where immigrants tend to be concentrated.

Immigration and trade also make it possible for consumers in the receiving country to purchase products that it might not otherwise have access to. Just as trade allows us to enjoy Russian caviar, for example, immigration allows us to eat at authentic Italian restaurants.

Differences

There are also several differences between trade and immigration. First, immigration, unlike trade, results in a permanent modification of the supply of labor, not just in the year that a product is imported. With trade, a society can quickly modify the mix of labor it consumes to cope with its evolving tastes and preferences. By importing workers, however, some of this flexibility is lost. This could become an important issue if, for example, a host country that has allowed a sizable number of unskilled workers to enter it finds that, due to technological change, its economy no longer needs such workers.

The long-term effects of immigration are not limited to the lifetime of the immigrant. Even after the original immigrant dies, his or her children remain and continue to affect the host country. Trade, on the other hand, does not impact the labor market for decades to come. Once an imported good is consumed, it no longer has an effect on the receiving economy.

Immigration also increases the supply of labor across a wider range of occupations than does trade. For example, natives can avoid competition with imported autos by finding jobs in nontraded goods such as merchandising or public service. Because immigrants take employment in many sectors of the economy, however their effect is broader.

Besides the direct impact on the economy, there are other major differences between importing people and importing goods. One difference is that immigrants consume public services. By migrating to the United States, people become eligible

for public services that might not be provided if they remained at home. For example, if a low-wage agricultural worker who heads a large family picks fruit in Mexico, we can have access to his fruit simply by importing it. If he migrates to the United States and performs the identical work, however, he and his family will become eligible for taxpayer-funded governmental public services. And his low income makes it very questionable that he will pay enough in taxes to cover his use of these services.

Finally, immigrants are human beings and are entitled to be treated in accordance with certain human rights. An immigrant, unlike an imported DVD player, cannot simply be discarded when he or she wears out. As human beings, immigrants also have a major impact on the demographic, political, and cultural environment in the host country. However, trade does not modify the size or composition of the population. Therefore, consumer goods, unlike immigrants, do not vote, receive government benefits, or create urban sprawl.

Trade and Immigration: Substitutes or Complements?

Since the days of David Ricardo, the principle of comparative advantage has been the cornerstone of free trade policy (Ricardo 1817). When Ricardo formulated this principle in the early 1800s, he did not explain what ultimately determines comparative advantage. He simply took it for granted that relative labor productivity, and thus relative labor costs and relative product prices, differed in the two countries before trade. Moreover, Ricardo's assumption of labor as the only factor of production ruled out an explanation of how trade affects the distribution of income among various factors of production within a nation and why certain groups favor free trade, whereas other groups oppose it.

In the early 1900s, economists Eli Heckscher and Bertil Ohlin formulated a theory addressing two questions left largely unexplained by Ricardo: (1) What determines comparative advantage? (2) What effect does international trade have on the earnings of various factors of production in trading nations (Ohlin 1933). Because Heckscher and Ohlin maintained that factor endowments determine a nation's comparative advantage, their theory became known as the factor-endowment theory. This theory is so intuitively appealing that it has become a standard for analyzing the principle of comparative advantage, in spite of doubts about its empirical applicability.

The Heckscher-Ohlin theory presents trade and migration as substitutes. For example, a country that produces a labor-intensive good may export either that good or the labor itself. The theory further implies that the adoption of free trading policies will promote a convergence of labor conditions around the world, thus discouraging migration (Flanagan 2006).

In the Heckscher-Ohlin theory, countries would tend to specialize in the

production of goods requiring resources that are relatively abundant, and thus cheap, in the country. Each country would then have a comparative advantage in international markets over countries in which that resource is relatively scarce, and hence costly. Simply put, Heckscher and Ohlin contend that products that embody large quantities of a particular scarce resource are imported, and products intensive embodying relatively abundant factors are exported.

How does the international convergence of labor conditions occur in the Heckscher-Ohlin world? Given a competitive markets, international trade effectively increases the price of a country's relatively abundant resources and decreases the price of relatively scarce resources. For example, assume that the wage rate is relatively high in the United States (the relatively labor-scarce country) and relatively low in Mexico (the relatively labor-abundant country). Thus, Mexican workers initially have an economic incentive to migrate to the United States. However, it is because of this difference in relative wage rates that Mexico has a comparative advantage in textiles (the relatively labor-intensive good). As trade continues, the wage rates tend to equalize in the two countries. As the United States produces fewer textiles, its demand for labor decreases, and the wage rate falls. As Mexico produces more textiles, its demand for labor increases, and the wage rate rises. This process continues until the wage rates converge in the two countries. With convergence, the incentive of workers to migrate from Mexico to the United States no longer exists. In this manner, trade serves as a substitute for migration. These take place only under stringent assumptions. Also, they tend to take time and may hold true only in the long run, perhaps decades.

However, several factors limit the ability of free trade to fully equalize labor conditions around the world. Even if all trade barriers are removed, significant differences in technology and resources between advanced and developing countries reduce the possibilities for a complete convergence of working conditions via trade. So do the costs of conducting trade, such as transportation costs and tariffs. Simply put, there are enough real world limitations on the full potential of the factor price equalization principle to leave a significant role for international migration in equalizing labor conditions around the world. Therefore, free trade tends to produce only a convergence of factor prices, but not full equalization (Mundell 1957).

Indian computer engineers provide an example of how trade may serve as a substitute for immigration. Without immigration restrictions, the computer engineers could migrate to the United States where wage rates are much higher, thus increasing the relatively supply of computer-engineering skills and lessening upward pressure on computer-engineering wages in the United States. Although such migration in fact has occurred, it has been limited by immigration restrictions. What was the market's response to the restrictions? Computer engineering-skills that could no longer be supplied through migration now arrive through trade in services. Computer-engineering services occur in India and are transmitted via the Internet to

business clients in the United States and other countries. In this manner, trade serves as a substitute for immigration.

However, the forces of globalization have begun to even things out between the United States and India. As more U.S. tech companies poured into India in the early 2000s, they soaked up the pool of high-end computer engineers who were making about 25 percent of what their counterparts earned in the United States. The result was increasing competition for the most skilled Indian computer engineers and a narrowing U.S.-India gap in their compensation. By 2007, India's software-and-service association put wage inflation in its industry at 10 percent to 15 percent a year, while some tech executives said it's closer to 50 percent. In the United States, wage inflation in the software sector was less than 3 percent. For experienced, top-level Indian engineers, salaries increased to between $60,000 and $100,000 a year, pressing against salaries earned by computer engineers in the United States. Simply put, wage equalization was occurring between India and the United States. Taking into account the time difference with India, some Silicon Valley firms concluded that they were not saving any money by being there anymore, and thus they were bringing jobs home to American workers (Tam and Range 2007).

Although there are examples of how trade can substitute for immigration, trade theory does not support substitution as the general case. For example, the prediction of the Heckscher-Ohlin theory that trade flows will equalize wages rests on the assumption that differences in factor endowments are the sole basis of trade. However, recent trade theorists note that trade and migration can be complements, at least in the short to medium term, when there is some other basis for trade such as international differences in technology (O'Rourke and Williamson 1999). This is opposite that what is suggested by the standard trade model of Heckscher and Ohlin.

If technologies are identical, there would be no basis for trade because production possibilities curves would be identical, and so would be goods' prices and factor prices. For example, assume that Mexico realizes technological improvements in textiles. Trade takes place, with the Mexico producing more textiles for export. Assuming that textiles are labor intensive, the increased demand for labor in Mexico results in Mexico's wage rate rising above that of its trading partner. This results in migration from the trading partner nation to Mexico. Therefore, trade and migration are complements (Markusen 1983).

There are other reasons why trade and migration may be complements. As an economy tries to compete against imports, some of its workers become unemployed. The uprooting of these workers forces them to seek new employment abroad which results in their moving to other countries. For example, Mexico is currently losing jobs to other countries, especially China, where average wages are less than half of Mexico's. Also, theories involving multinational corporations emphasize the value of relocating managers and technical experts to facilitate production abroad to produce goods that are exported to the home country. The result is that trade

liberalization increases the migration of knowledge-based workers (Bruder 2004).

International Migration: Convergence of Working Conditions

Similar to the Heckscher-Ohlin theory, patterns of foreign scarcity also explain how international migration produces a convergence of working conditions. If labor commands a relatively high wage in the United States where it is scarce and a relatively low wage in Mexico where it is plentiful, some workers still move from Mexico to the United States, assuming no barriers to migration. Wages in low-wage Mexico rise as workers leave; wages in the high-wage United States fall or grow more slowly as immigration increases the labor force. Therefore, labor conditions converge from international migration.

In the case of immigration, we would expect that individuals in societies that use labor intensively to oppose immigration because of fear of losing their jobs to immigrants or seeing their wages reduced. However, the owners of those labor-intensive industries would be in favor of immigration, and if there is a larger supply of workers, there would be an incentive to create more labor-intensive industries, therefore creating new jobs in that region. Given that industries as interest groups are influential, we would expect senators from states with abundance in labor intensive industries to favor immigration

The potential for immigration-induced convergence of working conditions is great. However, significant monetary and nonmonetary migration costs, immigration barriers in receiving countries, and concerns about the quality of migrant human capital tend to limit equalization before equality is achieved. Thus, immigration promotes partial convergence of labor conditions among countries.

The trade-migration linkages may run the other way, from migration to trade, through two main channels. First, migrants serve as trade intermediaries and information providers. They bring important new information from their home countries--knowledge of opportunities and potential markets, access to distribution channels, contacts and language, familiarity with local customs, laws and business practices, and capacity for contract enforcement. Access to information and knowledge about market and trade opportunities offer advantages to immigrants themselves in setting up their own businesses. Second, immigrants bring preferences for goods produced in their home countries, likely stimulating home-country exports. These preferences may increase the demand for imports of such products that are not available in sufficient quantities in the host countries (Xenogiani 2006).

Empirical Contributions

So far, this paper has discussed how standard trade theory, as seen in the Heckscher-Ohlin model, views trade and migration as substitutes. Thus, trade liberalization

should decrease migration pressure by increasing the demand for all labor through increased exports of unskilled, labor-intensive goods. Trade should also promote the convergence of wage rates internationally, which weakens the propensity of workers to move across national borders. These effects are likely to take time, however, and may hold true only in the long term. However, more recent theorists point to complementarity between trade and migration, at least in the short to medium term. There is an abundance of empirical evidence on the substitutability or complementarity of trade and immigration, and it is mixed. Below is a summary of a few of the notable studies.

Some researchers have found evidence that free trade can result in a decrease in migration flows. The argument is that with protectionist policies, there will be an increase in low-skilled jobs abroad, strengthening one of the demand-pull factors of migration. Also, a decrease in labor-intensive exports in developing countries will also strengthen a supply-push factor of migration (Assous 2000). Moreover, researchers have found that protectionist policies in Northern countries support their sectors intensively in low-skilled labor, which increases the demand for foreign workers and thus enhances one of the migration demand-pull factors. At the same time, they discourage labor-intensive exports from developing countries and thus create additional supply-push factors (Faini and Venturini 1993).

However, others have noted that with trade, small and medium size industries are often negatively affected. As layoffs occur, migration occurs from rural to urban areas within the country. Moreover, they argue that this move will cause an increase in international migration since these people will have little preference to their new home. Once uprooted from rural communities, certain migrants might view migration to another country as a logical next step. Simply put, other factors may overwhelm wage differentials as determinants of migration flows, especially in the short or medium run. The result is that immigration and trade may be complements to each other (Cogneau and Tapinos 2000).

Some researchers have found evidence of an inverted U relationship between trade and migration, resulting in a "migration hump" (Volgler and Rotte 2000). In the early and middle years of increased trade and development, migration increases. Migration gradually declines as a country approaches developed status. The reason? During the early stages of development, the societal disruptions that come with trade liberalization may play an especially strong role in promoting migration. As workers lose jobs, they are pushed out of their home economies as they are enticed by higher wages abroad. Thus, trade liberalization is complementary to migration in the short and medium run. Over the long run, potential convergence of incomes and home preferences cause migratory movements to decline.

Clearly, the evidence is mixed on whether free trade alone is a substitute for migration. There is much more to migration that simply free trade.

North American Free Trade Agreements: Canadian and Mexican Illustrations

The U.S.-Canada Free Trade Agreement of 1989 provides an illustration of the relationship between trade and migration. When Canada and the United States implemented a free trade agreement in 1989, some policy makers were concerned that trade liberalization between the two countries would result in the migration of skilled workers from Canada to the United States, and that these workers would become permanent residents of the United States. However, others contended that U.S. skilled workers would migrate to Canada. The key question was what direction migration would occur and whether or not the migrants would become permanent residents of the other country?

Ten years after the Canada-U.S. Free Trade Agreement went into effect, the Canadian government asked researchers to determine its effect on labor migration flows. They concluded that the trade liberalization had little impact on permanent migration flows between the two countries. Although the magnitude of the permanent flow of migrants did not change significantly, the composition of the immigration did appear to change somewhat: Professional and managerial workers comprised a larger share of the migration to the United States and a smaller share of the migration from the United States to Canada over the period studied, compared with the previous period. (Globerman 1999).

Another example comes from the North American Free Trade Agreement (NAFTA). During the debate over NAFTA, some felt that the agreement would decrease unauthorized migration from Mexico to the United States. They based this argument on the assumption that NAFTA would bolster the Mexican economy, thereby improving employment opportunities and wage rates. The result was that NAFTA would decrease forces that draw workers from a less-developed country to a more developed country because of better economic prospects. At that time, the U.S. International Trade Commission noted that "NAFTA is likely to decrease sightly the gap between real U.S. wages and Mexican wages of both skilled and unskilled workers combined, but a greater share of the wage adjustment would occur in Mexico than in the United States. As wage differentials between the United States and Mexico narrow, the incentive for migration from Mexico to the United States will decline" (U.S. International Trade Commission 1991). These predictions were in accordance with that of the Heckscher-Ohlin theory which regards trade as a substitute for migration.

However, others asserted that NAFTA would promote unauthorized immigration from Mexico, suggesting that trade and migration are complementary. This is because NAFTA would destabilize the Mexican economy as it attempted to compete in a free market, dislocating many workers and farmers. Once these people were uprooted, they would be forced to seek new employment opportunities, and ultimately many would migrate to the United States.

These issues were considered by the Commission for the Study of International Migration and Cooperative Economic Development. Although the Commission recommended the adoption of NAFTA, it stated that expanded trade and development was a long-term solution to the problem of unauthorized migration. Thus, the development solution to unauthorized migration is measured in decades, even generations (Commission for the Study of International Migration and Cooperative Economics Development 1990).

This view is consistent with the so-called "migration hump" model of migration: Migration from Mexico to the United States would initially increase in the years immediately following the implementation of NAFTA, and subsequently it would dwindle. Researchers predicted that migration flows would be at the point they would have been without NAFTA after about 15 years, and that over the course of 30 years NAFTA would reduce unauthorized Mexico-U.S. immigration as trade becomes a substitute for migration (Martin, 2002). While there are no data that accurately measure the annual flow of all migrants from Mexico to the United States, empirical evidence provides some support for this hypothesis (Wasem 2005).

Conclusions

The economic incentive for international immigration is clear: Workers can improve their working conditions, including wages and labor rights, by moving from countries with poor labor conditions to those with superior labor conditions. During the 1800s and early 1900s, this process helped reduce inequality in working conditions across the Atlantic ocean. Although the transportation costs and social costs of migrating from the Old World to the New World were high, the wage differential favoring the New World was even higher, thus providing incentive for migration. Migration produced a substantial convergence of unskilled real wage rates between sending and receiving countries during this period (Hatton and Williamson 1998). However, the advent of World War I greatly reduced labor migration. Since that time, advanced countries in Europe and the United States have imposed an array of immigration restrictions, thus suppressing the mechanism for equalizing labor conditions among nations. This is especially true since the September 11, 2001 terrorist attack against the United States.

Restrictive immigration policies would be unnecessary in a world with smaller economic incentives to migrate. The ultimate solution to the unauthorized immigrant problem of the United States will be sufficient growth in Mexico and other in developing countries to provide suitable employment at attractive wages for their citizens. This implies bettering the economic and social opportunities in countries of emigration. Policies to achieve this objective would include trade liberalization, structural reforms that create a stable macroeconomic environment and encourage private financial flows, peace and respect of human rights, and social

policies improving the welfare of the population. Projects aimed at increasing employment can only be effective when combined with other programs aimed at education and social infrastructure. Undoubtedly, this will require aid from the United States. However, the record of achieving this objective is poor, and even the rare successes have required a long time lag to narrow the productivity and wage differences that stimulate labor migration (Easterly 2002). Simply put, there seems to be no easy solution to curbing migration to more developed countries.

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Global Economy Journal

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Recommended Citation

Carbaugh, Robert J. (2007) "Is International Trade a Substitute for Migration?," *Global Economy Journal*: Vol. 7 : Iss. 3, Article 1.
Available at: http://www.bepress.com/gej/vol7/iss3/1

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