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The Economic Impact of International Labor Migration: Recent Estimates and Policy Implications

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THE ECONOMIC IMPACT OF INTERNATIONAL LABOR MIGRATION: RECENT ESTIMATES AND POLICY IMPLICATIONS

HOWARD F. CHANG

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ABSTRACT

In this essay, I survey the economic theory and the most recent empirical evidence of the economic impact of international labor migration. Estimates of the magnitude of the gains that the world could enjoy by liberalizing international migration indicate that even partial liberalization would not only produce substantial increases in the world's real income but also improve its distribution. The gains from liberalization would be distributed such that if we examine the effects on natives in the countries of immigration, on the migrants, and on those left behind in the countries of emigration, we find that each group would enjoy significant gains. Furthermore, estimates of the impact of immigration on native workers in the United States indicate that only the least skilled native workers suffer adverse effects and that these effects are small. Thus, although the economic effects of immigration on native workers and distributive justice among natives are often advanced as reasons to reduce immigration, these concerns do not provide a sound justification for our restrictive immigration laws. Instead, the appropriate response to concerns about the distribution of income among natives is to increase the progressivity of our tax system. Protectionist immigration policies are not only likely to be relatively costly as an instrument for redistribution but also perverse from the standpoint of global justice. Thus, considerations of economic efficiency and distributive justice both militate in favor of liberalized immigration policies.

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THE ECONOMIC IMPACT OF INTERNATIONAL LABOR MIGRATION: RECENT ESTIMATES AND POLICY IMPLICATIONS

HOWARD F. CHANG[*]

Given the prominent role of claims regarding the economic impact of immigrant workers in debates over immigration reform, it is important to understand what economists have to say about the effects of labor migration. In this essay, I survey the survey the economic theory and the most recent evidence of the economic impact of labor migration in order to shed light on these policy debates. Where economists disagree about these effects, I seek to explain and to reconcile divergent estimates in the empirical literature on the direction and magnitude of these effects.

To an economist, recent increases in the international migration of workers are one facet of globalization, which economists understand to mean the development of a global common market, that is, our evolution toward a world economy that is integrated across national boundaries. Our progress in this direction has been especially dramatic in the liberalization of international trade in goods. Economists generally welcome this development, prescribing free trade as the regime that maximizes global economic welfare. Economists also recommend liberalized trade as a policy that is likely to produce gains for each national economy. Economists also recognize that the same theory that applies to goods also applies to international trade in other markets. Nations can gain through not only the free movement of goods across national boundaries but also the free movement of labor across national boundaries.[1]

The basic intuition for this result derives from the gains from international trade in the labor market. We would expect labor to migrate from low-wage countries to high-wage countries in pursuit of higher wages. As a result of migration, world output rises. Higher wages in the host country imply that the marginal product of labor is higher there than in the source country. That is, higher wages for the same worker mean that the worker produces more value in the host country than in the source country. Labor migration generally leads

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[*] Earle Hepburn Professor of Law, University of Pennsylvania Law School. Copyright © 2007 by Howard F. Chang. I would like to thank symposium participants at Temple University, colloquium participants at Columbia University, and roundtable participants at Shanghai University for helpful comments.

[1] *See* Howard F. Chang, *Liberalized Immigration as Free Trade: Economic Welfare and the Optimal Immigration Policy*, 145 U. PA. L. REV. 1147, 1148-50 (1997).

to net gains in wealth for the world as a whole, because labor flows to the country where it has the higher-value use.[2] For this reason, economic theory raises a presumption in favor of the free movement of labor. Migration restrictions distort the global labor market, producing a misallocation of labor among countries, thereby wasting human resources and creating unnecessary poverty in labor-abundant countries. The larger the inequality in wages between countries, the larger the distortion of global labor markets caused by migration restrictions, and the larger the economic gains from liberalizing labor migration. Given the degree of wage inequality in the world today,[3] it should be apparent that the gains from liberalized migration are huge.

In Part I of this essay, I survey the latest estimates of the magnitude of the gains that the world could enjoy by liberalizing international migration. This literature indicates that even partial liberalization would not only produce substantial increases in the world's real income but also improve its distribution by reducing international inequality. Furthermore, the gains from liberalization would be distributed such that if we examine the effects on natives in the countries of immigration, on the migrants, and on those left behind in the countries of emigration, we find that each group would enjoy significant gains.

In Part II, I turn to the question of the effects of immigration on the distribution of income among natives in the United States. In particular, I review recent estimates of the impact of immigration on the least skilled native workers. I suggest that under a fair reading of this economic literature, the best evidence available indicates that the adverse effect of immigration on the least skilled native workers is small.

In Part III, I conclude with some observations regarding the use of immigration restrictions to protect native workers from foreign competition. I argue that although the economic effects of immigration on native workers and distributive justice among natives are often advanced as reasons to reduce immigration, these concerns do not provide a sound justification for our restrictive immigration laws. Instead, the appropriate response to concerns

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[2] *See* PAUL R. KRUGMAN & MAURICE OBSTFELD, INTERNATIONAL ECONOMICS: THEORY AND POLICY 158-59 (2d ed. 1991).

[3] *See Mexican Deportees Report Good Treatment*, UPI, Apr. 21, 1996, available at LEXIS, Nexis Library, UPI File (reporting the results of a survey of deported Mexican immigrants, who received an average of $278 per week in the United States, compared with $30.81 per week in Mexico).

about the distribution of income among natives is to increase the progressivity of our tax system. Protectionist immigration policies are not only likely to be relatively costly as an instrument for redistribution but also perverse from the standpoint of global justice. Thus, considerations of economic efficiency and distributive justice both militate in favor of liberalized immigration policies.

I. THE GAINS FROM INTERNATIONAL TRADE IN THE LABOR MARKET

Some economists have attempted to estimate the gains that the world could enjoy by liberalizing migration. For example, in an early study using data from 1977, Bob Hamilton and John Whalley produce a range of estimates based on various assumptions about critical parameters, but all their estimates suggest that the potential gains are enormous.[4] Many of their estimates indicate that the elimination of immigration restrictions could more than double the world's real income, and even their most conservative estimate indicates that the world's real income would rise by 13 percent.[5] They also find that liberalized migration would reduce global inequality by raising wages dramatically for the world's poorest workers.[6]

In a recent study applying the same assumptions to 1998 data, Jonathon Moses and Bjørn Letnes produce similar results, finding that "the estimated efficiency gains from liberalizing immigration controls have only increased over time" as a result of the increase in "wage ... inequalities over the past 20 years."[7] Even when they adopt more conservative assumptions, "the estimated gains remain substantial," ranging from 5.6 percent to 12.3 percent of the

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[4] *See* Bob Hamilton & John Whalley, *Efficiency and Distributional Implications of Global Restrictions on Labour Mobility*, 14 J. DEV. ECON. 61 (1984).

[5] *See id.* at 70-72. Using a different model and 1990 data, Ana Maria Iregui also estimates large gains from the elimination of immigration restrictions. *See* Ana Maria Iregui, *Efficiency Gains from the Elimination of Global Restrictions on Labour Mobility: An Analysis Using a Multiregional CGE Model*, *in* POVERTY, INTERNATIONAL MIGRATION AND ASYLUM 211, 216, 222 (George J. Borjas & Jeff Crisp eds., 2004) (producing estimates of the increase in the world's real income that range from 48 to 67 percent).

[6] *See* Hamilton & Whalley, *supra* note 4, at 73-74.

[7] Jonathon W. Moses & Bjørn Letnes, *The Economic Costs to International Labor Restrictions: Revisiting the Empirical Discussion*, 32 WORLD DEV. 1609, 1610, 1619 (2004).

world's real income, or from $1.97 trillion to $4.33 trillion per year.[8] Given that even their most conservative estimates "exceed the combined levels of development assistance and foreign direct investment to the developing world," they suggest that "international migration may be one of the most effective means of shrinking the income gap that separates rich and poor countries."[9] Furthermore, their estimates of the benefits of partial liberalization of migration controls indicate that "a substantial portion of these gains can be reaped without allowing for full migration," because even small increases in migration "could produce significant economic gains," large enough to "dwarf those generated by traditional development policies."[10]

The World Bank has recently studied the potential gains from such a limited increase in international migration.[11] The World Bank economists consider the effects of an increase in migration from "developing" countries to "high-income countries" sufficient to increase the labor force in the host countries by 3 percent by the year 2025.[12] They conclude that this scenario "would generate large increases in global welfare,"[13] increasing the world's real income by 0.6 percent, that is, by $356 billion in 2025.[14] Their estimates

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[8] *Id.* at 1616. The estimated gains in what they consider "the most reasonable ... scenario" are $3.39 trillion per year, or 9.6 percent of the world's real income. *Id.* at 1615-16. The magnitude of all these potential gains increased between 1977 and 1998, not only in absolute terms but also relative to the world's real income. *See id.* at 1616.

[9] *Id.* at 1620.

[10] *Id.* at 1610; *see id.* at 1616-18.

[11] *See* WORLD BANK, GLOBAL ECONOMIC PROSPECTS 2006: ECONOMIC IMPLICATIONS OF REMITTANCES AND MIGRATION (2006).

[12] *Id.* at 25.

[13] *Id.* at 26.

[14] *See id.* at 31. Other economists have used 1997 data to study a similar scenario, liberalizing the movement of workers by enough to increase the labor force in developed countries by 3 percent. *See* L. Alan Winters et al., *Liberalising Temporary Movement of Natural Persons: An Agenda for the Development Round*, 26 WORLD ECON. 1137, 1143 (2003). Like the World Bank, they estimate that such a scenario would increase the world's real income by 0.6 percent, which comes to $156 billion for 1997. *See id.* at 1145; TERRIE LOUISE WALMSLEY & L. ALAN WINTERS, RELAXING THE RESTRICTIONS ON THE TEMPORARY

"suggest that labor-market restrictions are imposing a much larger burden on the global economy than are trade restrictions" and leave "little doubt that easing restrictions on the movement of labor could provide a significant boost to the global economy."[15]

Would the effects of immigrant workers in the labor market, however, be in the economic interest of natives in the countries of immigration? If we examine the impact of immigrants in the labor market, we find that the natives of a host country, taken together, will gain from the immigration of labor.[16] Wages may fall for those native workers who compete with immigrant labor, but this loss for those workers is a pure transfer among natives: it is offset by an equal gain for those who employ labor, and ultimately for consumers, who obtain goods and services at lower cost.[17] Furthermore, natives gain from employing immigrant workers: they gain surplus in excess of what they pay immigrants for their labor.[18] Thus, natives as a group enjoy a net gain from employing immigrants. In fact, the World Bank economists estimate that the high-income countries receiving immigrants in their liberalization scenario

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MOVEMENTS OF NATURAL PERSONS: A SIMULATION ANALYSIS 3 (Centre for Economic Policy Research Discussion Paper No. 3719, 2003). The World Bank economists calculate that these gains would amount to 0.9 percent of the world's real income if they express the global gains and global income in terms of purchasing power parity (PPP). *See* WORLD BANK, *supra* note 11, at 35.

[15] WORLD BANK, *supra* note 11, at 41. The limited liberalization of migration analyzed by the World Bank would produce a gain of $175 billion, whereas the elimination of all remaining barriers to international trade in goods would produce a gain of $155 billion, scaling both gains "to the same reference year, 2001." *Id.*; *see* WALMSLEY & WINTERS, *supra* note 14, at 29 (concluding that such a liberalization of labor movement would produce an "increase in world welfare" that "is substantial and far exceeds the benefits expected from any remaining trade liberalisation"); Winters et al., *supra* note 14, at 1148 (concluding that "very serious amounts of welfare are at stake" and that even such a limited liberalization of the movement of workers would "offer greater gains than the removal of all restrictions on goods trade").

[16] *See* NATIONAL RESEARCH COUNCIL, THE NEW AMERICANS: ECONOMIC, DEMOGRAPHIC, AND FISCAL EFFECTS OF IMMIGRATION 135-53 (James P. Smith & Barry Edmonston eds., 1997) [hereinafter NRC].

[17] *See id.* at 138-39.

[18] *See id.*

would enjoy an increase of 0.4 percent in their real income, that is, a gain of $139 billion.[19]

The economist George Borjas has attempted a rough calculation of the size of the gain enjoyed by natives in the United States as a result of immigration, using a variety of assumptions.[20] Assuming a perfectly inelastic supply of homogeneous labor, for example, he estimates that the presence of the existing stock of immigrants in our labor market increases the income of natives by 0.1 percent,[21] which amounts to a gain of $8 billion in 1998.[22] Borjas generates larger estimates for the immigration surplus when he drops the assumption that labor is homogeneous and allows workers to have two different levels of skill.[23] Under these assumptions, his estimates range from $7 billion up to $21 billion, but he still characterizes the gain to natives as "a minuscule amount" compared to the total size of the U.S. economy.[24] As noted by the National Research Council, however, this gain is not only large in absolute terms but

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[19] *See* WORLD BANK, *supra* note 11, at 34.

[20] *See* George J. Borjas, *The Economic Benefits from Immigration*, J. ECON. PERSP., Spring 1995, at 3.

[21] *See id.* at 6-7. Both the assumption of perfectly inelastic supply and the assumption that labor is homogeneous are extreme and conservative. First, a calculation based on an assumption of perfectly inelastic supply estimates only the benefits on the demand side from lower wages and omits the corresponding benefits on the supply side. *See id.* at 6 n.2. Second, the assumption of homogeneous labor does not allow for the possibility that immigrant labor and native labor may be different and thus complementary rather than perfect substitutes. As Borjas notes, "immigration policy maximizes the economic gains to natives by fully exploiting the production complementarities between immigrants and natives," for example, "by admitting immigrants who complement the native workforce." *Id.* at 14.

[22] *See* GEORGE J. BORJAS, HEAVEN'S DOOR: IMMIGRATION POLICY AND THE AMERICAN ECONOMY 91 (1999).

[23] *See* Borjas, *supra* note 20, at 17-18. These simulations, however, continue to assume that labor supply is perfectly inelastic and that natives and immigrants are perfect substitutes within each class of labor. Both of these assumptions are unrealistic and introduce a downward bias in his estimates of the gains from immigration.

[24] BORJAS, *supra* note 22, at 99.

also large compared to the economic effects of most other public policies.[25] Furthermore, if we think that these gains are too small, then we can always increase immigration and thereby enjoy substantially greater gains.[26]

In addition, the immigrants themselves also gain from their own migration. They obtain higher wages than in their source countries and thereby enjoy far larger gains per capita than natives in host countries do from their immigration. In the scenario analyzed by the World Bank, the additional migrants allowed to move under liberalized immigration policies nearly triple their own real income on average, enjoying a gain of $162 billion, even after subtracting remittances sent back to those left behind in their countries of origin.[27] In this sense, labor migration represents a form of international trade in which the source country exports labor to the host country. Like international trade in goods, labor migration allows foreign suppliers to sell their services to domestic buyers, allowing both parties to each transaction to gain from trade.

In theory, migration may make those left behind in the source countries worse off insofar as they no longer enjoy the gains from trade that they used to enjoy from employing the workers who have emigrated. Workers left behind may enjoy an increase in wages as a result of the departure of competing workers, but employers and their consumers would lose more from the departure of those emigrants than the workers left behind would gain from their departure. As long as the migrants allowed to move under the liberalization analyzed by the World Bank send the same proportion of their income to those left behind in source countries as that sent by existing migrants, however, the World Bank estimates that with these remittances, those left behind would enjoy a net increase of 0.9 percent in their real income,

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[25] *See* NRC, *supra* note 16, at 68 ("Not many changes in policies would produce benefits as large as that number.").

[26] Higher levels of immigration would bring a more than proportionate increase in the immigration surplus because the marginal benefits of immigration increase with the quantity of immigration: more of the decline in domestic wages comes at the expense of immigrant workers rather than native workers. Therefore, a more liberal immigration policy would produce a much larger immigration surplus for natives, as the estimates produced by the World Bank would suggest.

[27] *See* WORLD BANK, *supra* note 11, at 34 (reporting that migrants would increase their real income by 199 percent)..

that is, a gain of $143 billion.[28] Developing countries, including the migrants allowed to move in this scenario, enjoy an increase of 1.8 percent in their real income.[29] Thus, "the relative gains are much higher for developing-country households than high-income country households," not only increasing the world's real income but also reducing international income inequality.[30]

II. DISTRIBUTION AMONG NATIVES IN THE UNITED STATES

Despite the significant gains from international trade in the labor market, countries often restrict immigration to protect native workers from the unemployment or the wage reductions that the entry of foreign workers would supposedly entail. In this sense, immigration barriers, like trade barriers, are protectionist: they are designed to protect natives from foreign competition. Protectionists often defend these barriers as policies that promote a more equal distribution of income among natives, pointing to the adverse effects of immigration on the welfare of the least skilled workers in particular. Contrary to popular belief, however, these concerns for distributive justice do not provide a sound justification for our restrictive immigration laws.[31]

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[28] *See id.* at 33-34. For the average migrant from a developing country, these remittances are 17 percent of the migrants' labor income. *See id.* at 33. For helpful discussions of the various benefits that migrants confer on those left behind, including remittances, see PHILIPPE LEGRAIN, IMMIGRANTS: YOUR COUNTRY NEEDS THEM 161-97 (2006); Michael J. Trebilcock & Matthew Sudak, *The Political Economy of Emigration and Immigration*, 82 N.Y.U. L. REV. 234, 247-60 (2006).

[29] *See* WORLD BANK, *supra* note 11, at 31.

[30] *Id.* at 25.

[31] Moses and Letnes estimate that even if migration under "a full liberalization of migration controls" were large enough to eliminate international wage inequality, it would still decrease wages in the developed countries "only ... by 17.6 per cent," which "seems to be a relatively small price to pay for the sort of efficiency gains that are generated." Jonathon W. Moses & Bjørn Letnes, *If People Were Money: Estimating the Gains and Scope of Free Migration*, *in* POVERTY, INTERNATIONAL MIGRATION AND ASYLUM, *supra* note 5, at 188, 201. Using a different model that divides labor into skilled and unskilled classes, Ana Maria Iregui estimates that such a migration scenario would have a much larger adverse effect on unskilled workers in developed countries, especially in the United States. *See* Iregui, *supra* note 5, at 223 (estimating that wages for unskilled workers in the United States would fall by 40 or 47

First, concerns regarding income inequality do not justify any restrictions on skilled immigration, because skilled immigrants not only increase total wealth for natives but also promote a more equitable distribution of income among natives.[32] They are likely to have an adverse effect only on competing skilled natives and increase the real wages of everyone else, including less skilled natives, who enjoy the benefits of a greater supply of skilled labor. Therefore, the pursuit of a more equal distribution of income would at most justify concerns regarding unskilled immigration, which could have an adverse effect on the real wages of unskilled native workers.[33]

Second, studies of the effects of immigration in U.S. labor markets have shown little evidence of any significant effects on native wages or employment, even for the least skilled native workers.[34] Given the small effects of immigration on native wages and employment, protectionist policies seem particularly misguided. David Card's influential study of the effect of the

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percent under this scenario). As Iregui notes, however, the costs of migration would imply less migration than that needed to eliminate international wage inequality, even if countries were to eliminate legal barriers to migration. *See id.* at 226-27. Less migration, in turn, would imply smaller effects on wages. Furthermore, both of these models also make two additional assumptions that bias the results in favor of large adverse effects on native wages in countries of immigration: First, they assume that immigrants and natives are perfect substitutes within each class of labor. Second, they assume that capital is fixed and immobile. The discussion that follows in this essay elaborates on the important impact of these assumptions in estimating the effects of immigration.

[32] *See* Howard F. Chang, *Immigration and the Workplace: Immigration Restrictions as Employment Discrimination*, 78 CHI.-KENT L. REV. 291, 308-09 (2003).

[33] Furthermore, even if unskilled immigration were to drive down the wages of unskilled native workers, unskilled natives could respond to these wage effects by acquiring more skills. This investment in human capital would decrease the supply of unskilled native workers and increase the supply of skilled natives, which would in turn reduce income inequality among native workers. *See* Randall K. Filer, Book Review, 39 J. ECON. LITERATURE 578, 579 (2001) (reviewing BORJAS, *supra* note 22) (suggesting that "[i]f increased immigration lowered the wages of unskilled native workers, more natives would invest in human capital" until the "only effect" of immigration would be "to increase the number of skilled natives, possibly reducing income inequality").

[34] *See* George J. Borjas, *The Economics of Immigration*, 32 J. ECON. LIT. 1667, 1697-98 (1994); Rachel M. Friedberg & Jennifer Hunt, *The Impact of Immigrants on Host Country Wages, Employment and Growth*, J. ECON. PERSP., Spring 1995, at 23, 42; NRC, *supra* note 16, at 223.

Mariel Cubans on the Miami labor market, for example, produces fairly typical results for this literature: he found that the arrival of 125,000 Cubans in 1980, which increased the supply of labor in Miami by 7 percent almost overnight, had virtually no effect on the wages and employment opportunities for workers in Miami, including unskilled whites and unskilled blacks.[35]

Why do immigrants have so little adverse impact on the wages and employment of natives? One reason is that the demand for labor does not remain fixed when immigrants enter the economy. Immigrant workers not only supply labor, for example, they also demand goods and services, and this demand will translate into greater demand for locally supplied labor. This increase in demand can offset the effect of increased supply.

Furthermore, the empirical evidence indicates that immigrants and natives are not perfect substitutes in the labor market, so they often do not compete for the same jobs.[36] In fact, labor markets are highly segregated, with immigrant labor concentrated in some occupations and natives concentrated in others.[37] Immigrants compete with one another far more than they compete with natives.[38] Indeed, some immigrant labor can be a complement rather than a substitute for some native labor, so that an increase in the supply of immigrant labor will increase the demand for native labor and thus have positive effects on native wages rather than negative effects.[39]

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[35] *See* David Card, *The Impact of the Mariel Boatlift on the Miami Labor Market*, 43 INDUS. & LAB. REL. REV. 245, 256 (1990).

[36] *See* Jean Baldwin Grossman, *The Substitutability of Natives and Immigrants in Production*, 64 REV. ECON. & STAT. 596 (1982).

[37] *See* NRC, *supra* note 16, at 218 (concluding that the data suggest that "the jobs of immigrant and native workers are different").

[38] Thus, immigration does have a more substantial adverse effect on the wages of other immigrants, who are much closer substitutes for new immigrants. *See id.* at 223 ("The one group that appears to suffer significant negative effects from new immigrants are earlier waves of immigrants, according to many studies.").

[39] Thus, when Borjas asserts that "*there is no immigration surplus if the native wage is not reduced by immigration*," he is assuming implicitly that immigrants and natives can only be substitutes in the labor market. BORJAS, *supra* note 22, at 96. Once we drop that restrictive assumption and allow natives and immigrants to be complements in the labor market, then it is possible for natives to gain from immigration without driving down the wages of native workers.

To illustrate these points, consider the restaurant business as a simple example. Suppose restaurants employ both waiters and busboys, and an influx of immigrant labor expands the supply of busboys. Restaurants prefer to hire natives as waiters, however, because immigrants often lack the English language skills needed to perform well as waiters. Thus, immigrants and natives are imperfect substitutes in this labor market. Waiters may be predominately natives, whereas busboys in this labor market may be predominately immigrants. The expansion in the supply of busboys reduces their wages and thus cuts a restaurant's labor costs, which enables it to charge lower prices while still enjoying an increase in its profits. Lower prices bring in more business, as consumers are now more inclined to patronize the restaurant. Furthermore, to the extent that the influx of immigrants itself adds more consumers to the local market, this influx of consumers may also expand the demand for meals at local restaurants.

As restaurants expand supply to handle the greater volume of business, they must hire more waiters. To bid more workers away from alternative employment, restaurants must increase the wage they pay waiters by an amount sufficient to ensure that workers now find employment as a waiter to be more attractive than before.[40] Thus, the increased demand for waiters drives up the income earned by waiters, who tend to be native workers. Native workers employed as waiters enjoy a gain from the entry of more busboys because these two sets of workers are complements in production. Indeed, given the expanded demand for waiters, perhaps natives previously employed as busboys can now get better employment with higher income as waiters. That is, natives may gain even from the entry of immigrant workers that compete with those natives for some jobs, because those immigrant workers are complements rather than substitutes for those natives in at least some lines of employment.

Native workers enjoy still greater gains once capital adjusts to respond to this influx of immigrant labor. Owners of capital will respond to higher profits in the restaurant business by investing in more capacity, either expanding existing restaurants or building new restaurants. This expanded capacity will enable restaurants to hire still more waiters and busboys, adding to the gains

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[40] Thus, regardless of the effects that the influx of busboys may have on the tips earned by waiters in this market, the total compensation (wages plus tips) expected by a waiter in this market would rise. Restaurants must increase the wages they pay to waiters by an amount sufficient to increase their total expected compensation in order to induce more workers to take jobs as waiters.

enjoyed by waiters and reducing the losses for busboys.[41] This expansion in the supply of restaurants, however, will also drive down profits as restaurants compete for business by bidding prices down. Ultimately, profits return to normal and competition passes the benefit of lower labor costs fully on to consumers.

Indeed, in a race to take full advantage of these profit opportunities before they disappear, investors will make every effort to predict accurately where they will arise in the future. Insofar as investors have anticipated an influx of immigrant labor, they may have already invested capital in those economic activities expected to employ these new workers. Thus, to the extent that investors foresee the influx of immigrant labor, their investments based on this foresight would bring markets into long-run equilibrium more quickly.[42]

This type of scenario would play itself out in markets throughout an economy absorbing an influx of immigrant labor. Conversely, cutting off immigration would have the opposite effects. Immigration restrictions may raise wages for some workers, but these workers are likely to be other immigrants rather than natives. Higher labor costs would cause those sectors employing those workers to shrink, which in turn would cause some jobs that would otherwise go to natives to disappear instead. If some of these sectors produce goods traded in international markets, then higher labor costs could cause those jobs to go overseas, where the relevant labor is more abundant and therefore less costly. Thus, the net result of immigration restrictions may well be harmful for native workers.

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[41] Thus, by shifting resources to the sectors of the economy employing immigrants, an economy can mitigate or even eliminate the adverse effects that immigrant workers may have on the wages of competing native workers. *See* Noel Gaston & Douglas Nelson, *Immigration and Labour-Market Outcomes in the United States: A Political-Economy Puzzle*, 16 OXFORD REV. ECON. POL'Y 104, 108 (2000) (noting that "some of the adjustment ... will occur via a change in the output mix, reducing the ... costs to the competing factor (i.e. domestic unskilled labour)"); *id.* at 109 (arguing that "there is some presumption that output-mix adjustment fully absorbs the immigrant shock").

[42] *See* David Card, *Immigrant Inflows, Native Outflows, and the Local Labor Market Impacts of Higher Immigration*, 19 J. LAB. ECON. 22, 28 (2001) (noting that "employers ... could have anticipated some fraction of the relative supply shifts that actually occurred" in the local labor market as a result of an influx of immigrant workers, "leading to ... a lessening of impacts on the relative wage structure").

Nevertheless, some economists claim that immigration has had a significant adverse impact on the least skilled native workers.[43] It is important, however, to interpret these claims carefully in light of the positive effects of immigration on the demand for native labor. Recent work by Borjas, in particular, is widely cited by restrictionists for his large estimates of the effect of immigrants on native wages. In a study published in 2003, he divides workers into 32 classes based on levels of education and experience, and then estimates that if immigration increases the supply of a given class of labor by 10 percent, this hypothetical increase in supply would cause a 3 to 4 percent fall in the wage for natives in that class of labor.[44] One cannot infer from this estimate, however, that the actual influx of immigrants into the United States has such a negative effect, because in reality this stream of immigrants includes workers from all 32 classes of labor, and many of these workers may be complements rather than substitutes for native workers in any given class of labor. Even if a native worker suffers a loss from the entry of those immigrant workers that are the closest substitutes for the native's own labor, the entry of other immigrant workers may confer sufficient gains on that worker to leave that native worker better off on balance.

Borjas attempts to estimate the actual effect of all immigration between 1980 and 2000 on native workers in the United States, concluding that the large influx of workers over these two decades reduced the wage of the average native worker by 3.2 percent and the wage of high-school dropouts by 8.9 percent during this period.[45] These results, however, are based on a simulation that makes two extreme assumptions. First, he assumes that immigrants are *perfect* substitutes for natives within each class of labor. This assumption runs contrary to the weight of the empirical evidence. Second, he assumes that the capital stock is fixed and does not respond to this immigration by increasing the supply of capital to the economic activities employing this

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[43] *See, e.g.*, BORJAS, *supra* note 22, at 99 (claiming that immigration "transfers a substantial amount of wealth away from the workers who compete with immigrants to the natives who have skills or physical resources that benefit from the presence of immigrants" and that "it is the less-skilled natives who pay the price of immigration").

[44] *See* George J. Borjas, *The Labor Demand Curve* Is *Downward Sloping: Reexamining the Impact of Immigration on the Labor Market*, 118 Q.J. ECON. 1335, 1344, 1347, 1349, 1356, 1359 (2003).

[45] *See id.* at 1368.

expanded supply of labor.[46] Given these unrealistic assumptions, his simulation is inherently biased in favor of finding large adverse effects on native workers.[47]

A more recent study by Gianmarco Ottaviano and Giovanni Peri uses a simulation that instead allows the supply of capital to adjust and allows immigrants and natives within each class of labor to be imperfect substitutes.[48] By relaxing the unrealistic assumptions used by Borjas, they produce dramatically different results. Once they allow the capital stock to adjust fully, they estimate that all immigration into the United States from 1990 to 2004 *increases* the average wage of native workers by 1.8 percent and decreases the wage of native high-school dropouts by only 1.1 percent.[49] Indeed, they find that all native workers with at least a high-school education enjoy increased wages as a result of this immigration rather than reduced wages.[50] Thus, this influx of immigrants had an adverse effect only on the shrinking minority of

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[46] *See id.* ("[a]ssuming that the capital stock is constant").

[47] In a more recent simulation, George Borjas and Lawrence Katz allow the capital stock to adjust and produce much better results for native workers. *See* GEORGE J. BORJAS & LAWRENCE F. KATZ, THE EVOLUTION OF THE MEXICAN-BORN WORKFORCE IN THE UNITED STATES 39 (National Bureau of Econ. Research Working Paper No. 11281, 2005). After the capital market adjusts to the influx of immigrants between 1980 and 2000, the wage of the average worker *rises* slightly, and the wages of high-school dropouts falls by only 4.8 percent. *See id.* at 39-40, 63. Borjas and Katz have since reduced their estimate of this adverse effect on the wages of high-school dropouts down to 3.6 percent, "acknowledging that the original analysis used some statistically flimsy data." Eduardo Porter, *Cost of Illegal Immigration May Be Less Than Meets the Eye*, N.Y. TIMES, Apr. 16, 2006, § 3, at 3. This "small impact ... was likely swamped by all the other things that hit the economy," including "the revolution in technology." *Id.* Furthermore, all of these simulations maintain the unrealistic assumption that immigrants and natives are perfect substitutes within each class of labor.

[48] *See* GIANMARCO I.P. OTTAVIANO & GIOVANNI PERI, RETHINKING THE EFFECTS OF IMMIGRATION ON WAGES 3-4 (National Bureau of Econ. Research Working Paper No. 12497, 2006).

[49] *See id.* at 4.

[50] *See id.*

native workers with less than a high-school education,[51] and this effect was quite small.[52]

Indeed, the estimated effect on native workers with less than a high-school education is so small, many of these workers may well enjoy net gains rather than suffer net losses as a result of this immigration. Applying a similar approach to California data, Peri estimates that immigration yielded even larger benefits for native workers in California, where almost 30 percent of all immigrant workers lived in 2004.[53] Under the "most plausible" assumptions, Peri estimates that immigration from 1990 to 2004 increased the average wage of native workers in California by 4.1 percent and even increased wages for

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[51] *See* BORJAS, *supra* note 22, at 27 (noting that "by 1998, only 9 percent of natives lacked a high school diploma" and showing how this percentage declined steadily over the preceding four decades); NRC, *supra* note 16, at 228 (noting that "[b]y 1995, high school dropouts represented less than 10 percent of the American workforce" and were "a declining group of American workers"). Borjas notes with concern that "the educational attainment and wages of immigrants" have increasingly fallen behind those of native workers, who have steadily become more educated over the past four decades. BORJAS, *supra* note 22, at 21. He complains that unskilled immigrants "do not perform well in the American labor market" and that "there is little hope that they will reach economic parity with native workers during their lifetimes." *Id.* at 38. Yet this increasing divergence between the skill levels of immigrants and those of natives may be salutary rather than a cause for concern. As we do a better job of educating our native workforce, unskilled immigrants are increasingly likely to be complements rather than substitutes for natives in the labor market and thus likely to pose little threat to the wages of native workers.

[52] A recent study by Card also finds that "the measured effects of immigrant inflows on the native wage structure are small." Card, *supra* note 42, at 57-58. Card concludes that "in the short run at least," immigrant inflows from 1985 to 1990 probably reduced wages and employment rates for less-skilled native workers in "very high-immigrant cities like Los Angeles and Miami" by 3 percent at most. *Id.* at 57. The effects in other cities with fewer new immigrants and the effects on natives in "other occupation groups," however, "were probably much smaller." *Id.* "Even for workers in the bottom of the skill distribution," he finds "relatively modest employment effects of recent immigrant inflows in all but a few high-immigrant cities," and "the implied effects for natives as a whole are very small." *Id.* at 58. Furthermore, his findings for the effects on the least-educated native workers are based on "[i]nstrumental variable estimates," which do not allow "industry structure" to adjust "product mixes and capital stocks" in response to the influx of immigrant labor. *Id.* at 28; *see id.* at 50, 54. Allowing employers to adjust rather than assuming "a fixed industry structure" would mitigate any adverse effects on native workers. *Id.* at 28.

[53] *See* GIOVANNI PERI, IMMIGRANTS' COMPLEMENTARITIES AND NATIVE WAGES: EVIDENCE FROM CALIFORNIA 2 (National Bureau of Econ. Research Working Paper No. 12956, 2006).

native workers with less than a high-school education in California by 0.2 percent.[54]

III. PROTECTIONISM AND DISTRIBUTIVE JUSTICE

We may want to prevent even a small reduction in the wages of our least skilled workers, and protectionists may defend immigration restrictions on this basis. Like trade barriers, however, immigration barriers sacrifice gains from trade and thus reduce the total wealth of natives as a group. In this sense, protectionism is a costly way to redistribute wealth from some natives to others. We could redistribute the same wealth through tax policies and transfer programs rather than through protectionism and probably would thereby make all classes of natives better off than they are under restrictive immigration policies, because immigration produces net gains for natives as a group.[55]

If we wish to protect unskilled native workers from adverse changes in the distribution of income, then progressive reforms of tax and transfer policies are likely to prove less costly than protectionist immigration restrictions. As long as immigration increases total wealth, then those who gain from immigration can compensate those who lose and still be better off. Redistribution can shift the costs of liberalized immigration policies to the beneficiaries of liberalization. Protectionist policies currently impose an implicit tax on natives that probably costs them more than the explicit tax that would be necessary to compensate unskilled native workers for the effects of liberalized immigration policies. Once we recognize that protectionism is merely a disguised tax-and-transfer program, it should be apparent that there is no good reason to favor protectionism over less costly and more efficient transfer policies.

We could probably achieve redistribution more efficiently and equitably by expanding programs already in place in our tax system. Given the small adverse effects of immigration and the small number of native workers who find their wages reduced by the influx of immigrant labor, a fairly small increase in the progressivity of our tax rates would suffice to compensate the few who lose income as a result of competition from immigrant workers. We

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[54] *Id.* at 18-19.

[55] *See* Chang, *supra* note 32, 309-11.

could make Social Security taxes more progressive, for example, or we could increase the earned income tax credit and liberalize its requirements.

These measures would not seek to compensate precisely every single individual adversely affected by liberalization so that immigration would make literally *no one* worse off. To insist that reforms effect a Pareto improvement over the status quo is to set too high a hurdle for reform. Such a requirement would prevent us from implementing virtually any reform in any public policy.

Not only is it infeasible as a practical matter to replicate exactly the distribution produced by protectionism, it is also not desirable as a normative matter that we do so. We can design progressive tax and transfer policies so that they distribute income on the basis of morally relevant criteria, whereas the alternative of protectionism distributes its subsidy on a morally arbitrary basis. Protectionism subsidizes the unskilled native who happens to face immigrant competition in the labor market but not the similarly unskilled native who does not. In this sense, protectionism is inferior to tax and transfer policies from the perspective of not only economic efficiency but also distributive justice.

Furthermore, this discussion of distributive justice among natives has ignored the benefits that the immigrants themselves enjoy from their access to our labor markets and the benefits that flow to people overseas in the form of remittances. This discussion has assumed that the welfare of immigrants and of people overseas is of no concern to us. Once we give any weight at all to the interests of those born outside our borders, however, then we have yet another reason to liberalize immigration. Once we recognize any moral obligation to reduce poverty abroad and to reduce global inequality, we must confront the significant economic harm we inflict on those excluded under our restrictive immigration laws. Given adverse effects of restrictive immigration policies on the poor abroad, considerations of global justice militate in favor of progressive fiscal policies and against protectionism as a method of addressing any concerns regarding the distribution of income among natives.