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Trade and Immigration

Implications for the U.S. Labor Market

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In the United States, debate and concern about trade and immigration, two of the major components of globalization, have focused to date on low and moderately skilled workers. This focus is changing. As trade in services expands and as attention is directed to American technological leadership and a high-skill workforce, the more highly-skilled sides of trade and immigration are emerging as topical concerns for policy and politics. With the growth of services trade and the potential for services offshoring, the set of workers at risk of job displacement has broadened from a production and manufacturing focus to include professionals, office and administrative workers, and more generally the services sector. The migration of foreign-born skilled workers, particularly in the information technology sector, creates another outlet where more highly skilled domestic workers feel threatened by international forces. While it might be an overstatement to conclude that trade and immigration are two sides of the same coin in the sense of posing foreign competition to American workers, there are informative parallels for policy analysis. Importantly, international trade (as the flow of goods and services) and immigration and migration (as the flow of potential labor) are two sides of the same coin from the perspective of measured impact. In both cases, measured impact (net benefit) is a question of distribution: the net benefits of both are unevenly distributed. As Lowenstein (2006) notes, “Like any form of economic change, immigration causes distress and disruption to some” (pg. 71). Change one word, and the same sentence applies to trade.

On the political and policy side, 2008 is an important time, and the window of opportunity may be open only for a short period. President

Bush's trade promotion authority (TPA), formerly known as fast-track authority to negotiate trade agreements, expired at the end of June 2007, and TAA authorization expired that fall. It may not be an opportune time for the Bush administration to push for trade expansion. With the return of Congress to Democratic leadership following the midterm elections in November 2006, the ground has shifted on trade-related legislation. Passions about trade topics are running high, given the size of the current account deficit and the imbalance with China. The so-called social effects of trade are likely to get a louder hearing under Democrats. In particular, enforcing tougher labor standards for other countries within trade agreements will get some attention, which is due in no small part to strategic choices by organized labor. During the summer of 2007, Congress discussed (and ultimately failed to pass) a bipartisan immigration compromise—potential legislation addressing undocumented migrants, a guest worker program, border security, and a point system for green cards. All of this activity is taking place amid broadening anxiety over the impact of trade and immigration at home.

This chapter adds a focus on skilled migration, services trade, and offshoring to the existing assessment of the impact of trade and immigration on the labor market and domestic workers. I review recent studies of services trade and offshoring in the context of more established analyses of manufacturing trade and production-worker job loss. On the immigration side, I examine issues and concerns regarding high-skill migration that add complexity to the ongoing debate on the domestic labor market impact of immigration, particularly that of undocumented migration. A concluding section offers policy recommendations.

STARTING POINTS—A BRIEF SYNTHESIS OF THE LITERATURE

Trade: U.S. Gains from Global Integration; Trade-Related Job Loss

Almost without exception, economists view trade liberalization as a known and proven method of increasing national income. Comparative advantage, economies of scale, technological spillovers, and import competition are the main channels for (net) increases in national in-

come. Production efficiencies result from all four of these channels. Import competition is the most controversial, in that when domestic firms lose market share or close, workers, firm owners, and communities lose sources of income and profits. It is widely agreed that the benefits are large and diffuse, and the costs relatively smaller and concentrated.¹

There is a sizable literature quantifying the gains from trade and investment liberalization. Bradford, Grieco, and Hufbauer (2005) synthesize a large number of studies using different methods and assumptions. The various estimates reveal substantial gains—on the order of \$1 trillion annually—from past integration. The estimates are notable in size: “The estimated gain in 2003 income is in the range of \$2,800 to \$5,000 additional income for the average person and between \$7,100 and \$12,900 for the average household” (pg. 68). Estimates of gains from future integration range from \$450 billion to \$1.3 trillion annually. Gains from future integration will be large because of the (likely) inclusion of agriculture and services. Readers interested in a more detailed discussion of gains (from product variety to firm productivity) should consult Bradford, Grieco, and Hufbauer (2005).²

Richardson (2004) provides a cogent summary of research detailing the unevenness of gains. Firms that are globally engaged, through exports, imports, investment, outsourcing, and licensing, share distinctive benefits. Some of these benefits include faster growth rates, lower risk of plant closure, and higher worker wages. The gains from import liberalization are broadly distributed.³

Recent attention has been drawn to free-trade skeptics, economists whose writings have been interpreted as noting second thoughts about free trade. Examples include Samuelson (2004), Blinder (2006), and Rodrik (2006). In all cases, the remarks are not really new; rather, the remarks represent a change in tone (emphasizing distributional aspects over aggregate welfare gains), or a highlight of points known for some time but largely ignored. Samuelson (2004) is a prominent example in his consideration of the timely issue of technological progress and human capital advancement in developing countries. Samuelson’s basic point is that there are situations where free trade, in the context of changes in comparative advantage, is not always welfare-enhancing. He points out that in simple cases of (large) differences in labor productivity, free trade leads unambiguously to increases in national income for both countries. Yet in the case where a country (call it China) improves

productivity in the goods it imports (and thus the goods that the United States exports), trade can be wiped out (if the productivity improvement is just enough to equalize wage ratios), robbing the United States of the benefits of trade it previously enjoyed. In other words, technical progress in China can reduce the potential benefits of trade experienced by the United States. For example, if China began producing aircraft (a good it imports and the United States exports), the United States would be made worse off by the direct change in the terms of trade.⁴ As Panagariya (2004) notes, this point about productivity growth and technological change is not new; when the United States was growing faster than Europe in the 1950s, Europeans were concerned that U.S. growth might decrease their standard of living; when Japan was growing in the 1960s and 1970s, the United States was concerned about Japan's effects on American standards of living.⁵

In fairness to the aforementioned skeptics, none dispute the overall gains from trade. Rather, they take up reallocative costs and the uneven distribution of gains. Because traditionally the gains from free trade have played a much larger role in economic discourse than any discussion of the costs, there seems to be some notion of skepticism when influential scholars pick up the refrain that benefits are net, with often considerable gross costs. In part, this unevenness comes from the prominence of economic theory, where, as noted by Bhagwati, Panagariya, and Srinivasan (2004, pg. 111), "Popular economic models of trade, at least the basic ones . . . typically assume that workers who lose one job can readily find another. . . . In the real world, workers may suffer through a period of joblessness and displacement." These real-world questions are clearly empirical in nature. There are agents and units in the economy (workers, firms, and communities) that bear costs because of firm closure, job loss, or reemployment at lower earnings. Community futures are often tied to employment opportunities. Scaling up summaries of microdata outcomes reported in Kletzer (2001), Bradford, Grieco, and Hufbauer (2005) estimate that U.S. trade-displaced manufacturing workers lose \$54 billion in lifetime earnings. Yet federal government spending on programs explicitly tied to trade liberalization (such as Trade Adjustment Assistance) is less than \$2 billion annually, clearly far less than the worker costs and overwhelmingly smaller than the permanent gains from trade and investment liberalization.

The discussion here is hardly unique in noting the large and positive net benefits of free trade, and the corresponding ability of free trade's "winners" to compensate the "losers," based on the estimated sizes of benefits and costs. Within the economics literature, the presumption that the losers can be compensated (at least partially if not fully) is strong, and often seems to serve as adequate justification for promoting policies that advance free trade. These presumptions work well in the academic literature but are problematic in any policy or political context.

One key problem is that presumptions of an ability to compensate have only weakly translated into a record of compensation policies and programs. The record of trade liberalizations undertaken by the United States is not matched by a record of policies to compensate workers for their trade-related job losses. The creation of, and reforms to, Trade Adjustment Assistance (TAA) have some parallels to rounds of trade liberalization, but the important dimension is in results, and on this score there is little sense that TAA brings to workers any form of adequate compensation.⁶

The highly visible nature of job loss, along with the failure of current federal adjustment programs to compensate workers for their losses, clearly weakens popular support for the view that economic integration brings widespread benefits. Yet opinions about trade liberalization do become more favorable when it is linked to worker adjustment programs (Scheve and Slaughter 2001). The public sense remains strong that fairness dictates compensation for workers affected by trade. Access to a wider variety of goods, at lower prices, seems to be of little relief when accompanied by job insecurity.

Immigration

Similar to trade, immigration imparts both benefits and costs to the United States.⁷ With the flow of people across borders, the benefit/cost calculations are even more political and emotional, given the complexities of race, ethnicity, class, language, and geography. But the questions remain distributional ones: how much is lost by native workers competing with immigrant labor; how much is gained by native workers complementary to immigrant labor; how much is gained by consumers of immigrant-produced goods and services (standard consumer benefit

of a factor increase); and if immigration lowers the price of labor, what are the gains to employers?

Both academic and popular discussions of the impact of immigration on the employment opportunities of natives start with the basic textbook model of a competitive labor market where an influx of immigrant workers lowers the wage of competing (native) workers. (The earnings of complementary factors—whether labor or capital—increase.) That is, immigrants represent an outward shift of the labor supply curve, along a downward sloping labor demand curve. Given the widespread appeal of a simple demand and supply model, there is often surprise that the literature provides mixed results. Measured impacts vary considerably across studies, and it is commonly concluded that the estimated effects cluster around zero (Borjas 2003; Friedberg and Hunt 1995). More specifically, Friedberg and Hunt (1995, pg. 42) conclude strongly that “there is no evidence of economically significant reductions in native employment.” On the wage side, estimated effects are truly small, with a 10 percent increase in the fraction of immigrants being associated with a 1 percent reduction in native wages.

Skill is very much the essence of the question about the impact of immigration, and skill is strongly associated with country of origin. The European dominance of migration to the United States, stemming from the national origin quotas of the Immigrant and Nationality Act of 1924, have given way to an Asian, Mexican, and Central American dominance, following the establishment of preferences for family reunification in the 1965 Immigration Act. Card (2005) reports, from the 2000 census, that both recent and more established migrants include a much larger fraction of people with low levels of educational attainment than is true for natives. About 40 percent of recent (less than five years) and more established (five-plus years) migrants are high school dropouts, as compared to 13 percent of natives. Card also notes that immigrants were 13 percent of the working-age population in the 2000 census, yet they made up 28 percent of the population having less than a high school diploma. Thus, from a relative supply perspective (the basis of the straightforward demand and supply model), natives with the lowest levels of education are seen as those facing the greatest labor market competition from migrants, and most studies have focused on this group. This group has also faced potentially adverse consequences

from increasing manufacturing trade, from a stagnant minimum wage, and from declining unionization.

For economists, the debate about immigration is also methodological. Exploiting the presence of many local labor markets in the United States with different fractions of immigrants and therefore different relative supplies of skilled labor, one approach uses a cross-city research design.⁸ If cities were closed economies, this approach might mimic the shift in labor supply associated with the textbook model. But cities are not isolated or closed; if natives respond to changes in price and wages, the impact of immigration may be diffused. In addition, migrants are not likely to be randomly distributed across cities, which means there is the potential for spurious correlations between migrant flows and changes in native employment opportunities. Recognizing the flow of goods and factors across local labor markets, the second approach is national, relating changes in relative outcomes to time-series changes in immigrant shares. This approach lacks a clear counterfactual (what would have happened without immigration), in part because of coincident time trends such as technological change.

Lewis (2005) takes on the interesting question of why local labor market outcomes of low-skilled natives are not much affected by relative supply shocks. Despite the large impact of immigrants on the relative supply of low-skilled workers, there is little impact on the wages of native low-skilled workers. He finds an absorption of unskilled immigrants within industries in high immigrant cities.⁹

MOVING UP THE SKILL LADDER: TRADE AND IMMIGRATION

Services Trade and Services Offshoring

Globalization, particularly globalized production, is evolving and broadening from manufacturing into services. Services activities have become increasingly tradable and now account for a larger share of global trade than in the past. Services trade has almost doubled over the past decade and a half: over the period 1990 to 2005, exports have increased from \$189 billion to \$353 billion, and imports have increased

from \$143 billion to \$267 billion (GPO Access 2007, Table B-25). These changes, and their implications for American firms and workers, have attracted widespread attention.

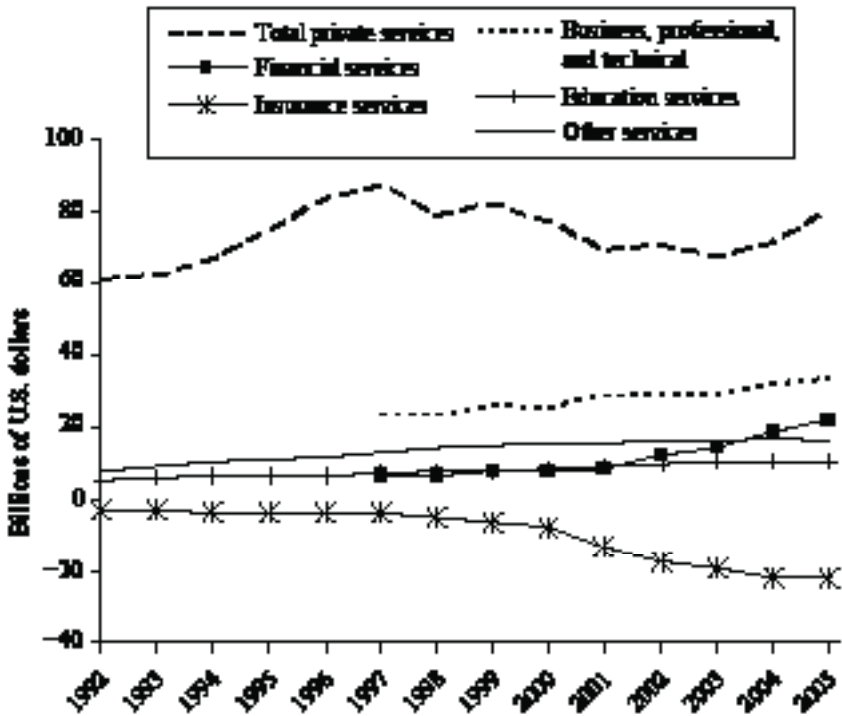
That trade is now different can be seen simply in the phrase “knowledge industries.” Knowledge industries are characterized by a focus on creating value from new ideas and concepts, a notion that is different from creating value from material inputs and physical labor. Firms have always had ideas and used knowledge, of course, but now the output is often information-based, intangible, or conceptual. Knowledge work and output includes areas such as software development, financial services, pharmaceuticals, engineering services, and biotechnology. Knowledge work need not be “new”; it can include new products, services, and processes within older and more established industries such as architectural and accounting services. Trade in knowledge industries and in information technology-enabled service activities have broadened services trade beyond the traditional areas of transportation, travel, and tourism.

The growth in services trade is seen in Figure 4.1, which shows net exports of services.¹⁰ The United States is a net exporter of many services, most prominently financial services, business, professional and technical services, and education. The trade surplus in services is in contrast to goods trade, where imports exceed exports by a wide margin (Figure 4.2).

Services offshoring, which is the migration of jobs (but not the people performing them) across national borders (mostly from rich countries to poor ones), has received considerable attention since 2000. Fueled by the 2004 presidential race and continued slack in the labor market, the services-offshoring debate became headline material. The literature on services offshoring is expanding rapidly (see Jensen and Kletzer 2006 and Blinder 2006 for references).

The scope of the phenomenon is largely unknown because of a lack of data. Anxiety over services trade is often fueled by one simple statistic: the large share of employment in the services sector. As Figure 4.3 shows, services employment has been predominant in the United States for more than 30 years, and the services sector now accounts for 70 percent of total civilian employment (GPO Access 2007, Table B46). Most observers believe that the scope of services offshoring will be large,

Figure 4.1 U.S. Net Exports of Services, 1992–2005



SOURCE: Department of Commerce, Bureau of Economic Analysis.

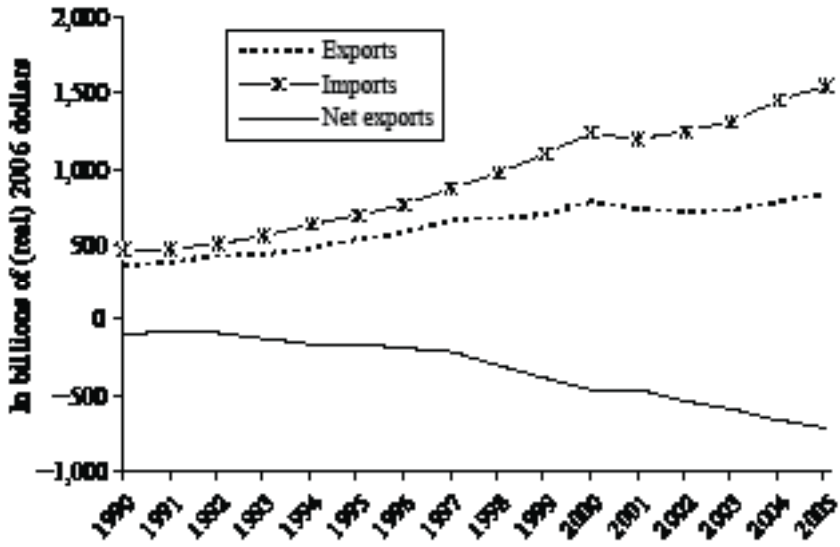
even huge. Here is an example, from the Web site of the U.S. House of Representatives Committee on Science and Technology:

Recently, however, offshoring has begun to strike at the very high-tech jobs that we believed U.S. workers would move to fill as blue-collar opportunities shifted to other countries. A Cable News Network report in early March 2006 noted that 500,000 American jobs have migrated to India in recent years. That number is expected to triple in the next two years as American companies seek to cut costs and streamline business. India is but one example of a country that seems to be gaining employment at the expense of American workers. Over the last six years, the U.S. has lost just under 3 million jobs due to offshoring.

Now, we are witnessing software engineering, computer design, research and development, radiology, architecture and design and other high-value-added positions moving offshore to low-wage markets such as India, China, Ireland, and Brazil (Committee on Science and Technology 2006).

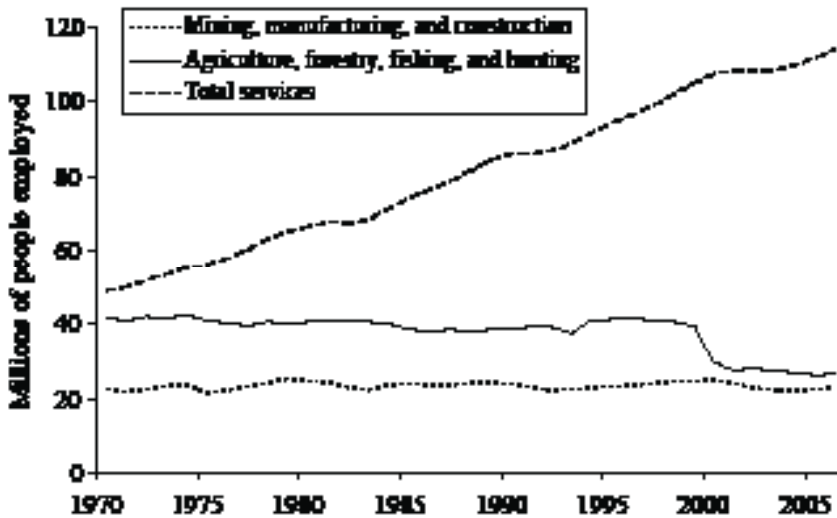
Jensen and Kletzer (2006) developed a new empirical approach to identify, at a detailed level, service activities that are potentially exposed to international trade. The approach uses the geographic concentration of service activities within the United States to identify which service activities are traded domestically, then classifies activities that are traded domestically as *potentially* tradable internationally. With the tradability classification, we developed estimates of the number of workers who are in tradable activities for all sectors of the economy. The paper offers comparisons of the demographic characteristics of workers in tradable and nontradable activities and employment growth in traded and nontraded service activities. The tradability designation also allows an examination of the risk of job loss and other employment outcomes for workers in tradable activities.

Figure 4.2 U.S. Trade in Goods, 1992–2005



SOURCE: Department of Commerce, Bureau of Economic Analysis.

Figure 4.3 U.S. Employment by Aggregated Sector, 1970–2006



SOURCE: Bureau of Labor Statistics.

The Jensen and Kletzer methodology finds substantial employment in tradable service industries and occupations. Given the overall size of the services sector, it may not be surprising that more workers are employed in tradable industries in the services sector than in the manufacturing sector. Outside of education, health care, and personal care occupations, the typical white-collar occupation involves a potentially tradable activity. Workers in these industries and occupations are more highly skilled and have higher incomes than workers in the manufacturing sector and nontradable service activities. But the higher incomes are not solely a result of higher skill levels—in regressions controlling for observable characteristics, workers in select tradable service activities earn 16–17 percent higher incomes than similar workers in nontradable activities in the same sector.

There is little evidence that tradable service industries or occupations have lower employment growth than nontradable industries or occupations overall, though employment growth is negative for tradable services at the low end of the skill distribution. High-skill service activities have the highest employment growth rates.

While the share of employment in tradable services is large, this does not suggest that all or even most of these jobs are likely to move offshore. Just because an activity is tradable does not necessarily mean that the job will move to a lower-cost location. Tradable services are largely consistent with U.S. comparative advantage. While professional and business services are more skilled and higher paying than manufacturing in general, tradable services within these sectors are even more highly skilled and more highly paid than nontradable service activities. As technological and organizational change increases the potential for trade in services, economic activity within the United States will shift to activities consistent with comparative advantage. Because these activities are consistent with U.S. comparative advantage, it is possible that further liberalization in international services trade would directly benefit workers and firms in the United States.

Jensen and Kletzer (2007) extend the examination of tradable jobs with a focus on the task and activity content of jobs, in order to develop measures of the occupational job tasks, activities, and characteristics associated with potential offshoring. The literature on offshoring notes that movable jobs are those with the following characteristics: little face-to-face customer contact, high information content, and a work process that is Internet-enabled or telecommutable (Bardhan and Kroll 2003; Blinder 2006; Dossani and Kenney 2003). More informally, it is commonly believed that if the output of a job can be sent down a wire (or sent wireless), that job is offshorable.

The next step involves an operational assessment of how the basic principles of offshorability (high information content, remote from customer, Internet-enabled) match up to the characteristics of “real” jobs. Detailed information on the content and context of jobs (occupations) is available from O*Net, a U.S. Department of Labor database of 450 occupations. (O*Net is the successor to the well-known Dictionary of Occupational Titles.) For each of hundreds of occupations, O*Net contains detailed qualitative information on job tasks, work activities (interacting with computers, processing information), and work context (face-to-face discussions, work with others, work outdoors).

The Jensen and Kletzer index of offshorability (in which occupations are ranked based on a weighting of these characteristics) produces occupations that are “most tradable,” such as credit authorizers, data-entry keyers, accountants, medical transcriptionists, market research

analysts, bookkeepers, and account clerks. Occupations at the bottom of the list, the “least tradable,” include crossing guards, massage therapists, manicurists, and barbers.

Blinder (2007) explores a subjective index based on various measures of face-to-face interaction: establishing and maintaining personal relationships, assisting and caring for others, performing for or working directly with the public, selling to others or influencing others, being aware of others’ reactions and understanding why they react as they do (social perceptiveness). He concludes that an objective index does poorly in assessing offshorability (as compared to his subjective assessment, based on O*Net data). His subjective index does not incorporate any attributes related to amount of information content or to Internet enabling, nor does he consider the creativity or routineness of work.¹¹ Objective measures may well be preferred, given the number of occupations (more than 450) and the desire for replication. Using both production and nonproduction occupations, Blinder estimates that 30 to 40 million workers are currently in potentially tradable jobs, based on May 2005 employment levels.

An important question in moving forward is the time frame for the process of services offshoring. It is commonly believed (although untested) that a phenomenon that takes years to be fully realized will be less disruptive than a more rapid structural change.

Much more is yet to be learned about the scale, scope, and labor market costs of services offshoring. Until then, it remains to be seen whether Bhagwati, Panagariya, and Srinivasan (2004, pg. 94) were correct when they pronounced that “outsourcing is fundamentally just a trade phenomenon; that is, subject to the usual theoretical caveats and practical responses, outsourcing leads to gains from trade, and its effects on jobs and wages are not qualitatively different from those of conventional trade in goods.”¹²

Services offshoring is one aspect of a larger concept that we might call “global operations.” Briefly, global operations allow firms to access new markets and new sources of revenue, technologies, and ways of production. As firms globalize their business operations, there are implications for work and for workers. Much attention is paid to cost reduction (largely in the form of wages) as a motivator; other factors include proximity to global customers and enhanced abilities to meet customers’ expectations that they should be able to reach a representa-

tive at any time of day or night. See Gereffi (2005) for a comprehensive introduction to research on global supply chains.

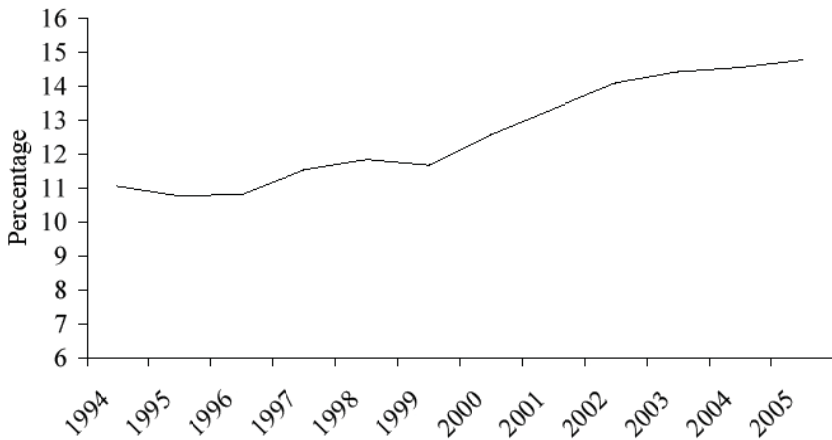
Skills and Immigration

The immigration debate is occurring at both ends of the skill spectrum. While headline coverage is often limited to undocumented (and lesser-skilled) migration, Web sites and the business press provide ample evidence of a heated debate about legally admitted, temporary, high-skill foreign workers. At the high-skill end, the real debate may be over whether or not a shortage exists of (legally residing, not necessarily native) computer programmers, systems analysts, and computer scientists. Claims of a shortage buttress arguments for more liberal H-1B caps.¹³ These claims arose in the late 1990s, as the labor market tightened with strong economic growth and with the peak of the dot-com boom.

The United States is a net importer of the highly educated, particularly of scientists and engineers. There is little doubt that foreigners help the United States maintain its position at the technological frontier. “Leadership in science and technology gives the U.S. its comparative advantage in the global economy,” writes Freeman (2006a, p. 124). “U.S. exports are disproportionately from sectors that rely extensively on scientific and engineering workers and that embody the newest technologies. . . . In a knowledge-based economy, leadership in science and technology contributes substantially to economic success.”

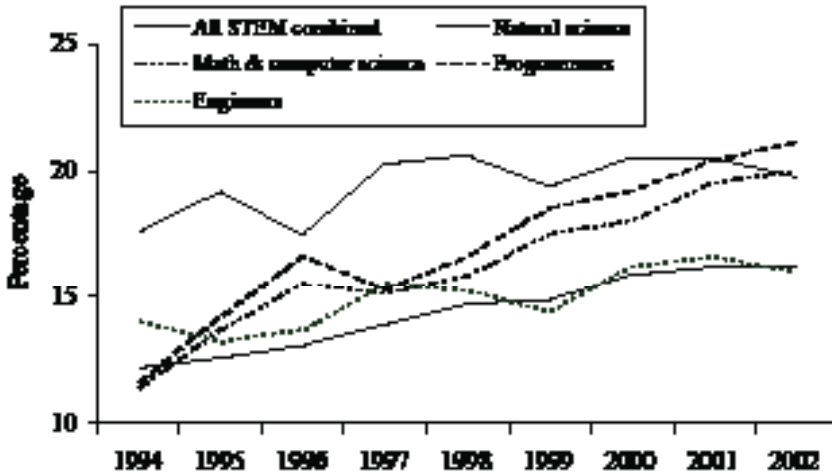
Highly skilled immigrants play a prominent role in the economy. In 2003, the foreign-born accounted for about 13.0 percent of the population, 14.4 percent of the total adult workforce, and 17.2 percent of young adult workers (Figure 4.4). As Figure 4.4 illustrates, the share of foreign-born in the workforce has risen considerably since the late 1990s. The foreign-born are well-educated (particularly advanced degree holders). In 2002, they made up 16.2 percent of science, technology, engineering, and mathematical (STEM) occupations and 18.4 percent of core STEM (excluding social scientists and technicians) occupations (Figure 4.5). Foreign-born workers are particularly important in computer science occupations. Foreign-born STEM workers are more likely to have advanced degrees than natives, and the vast majority of both natives and foreign-born have degrees from U.S. institutions.

Figure 4.4 Percentage of Foreign-Born in the U.S. Workforce



SOURCE: Bureau of Labor Statistics.

Figure 4.5 Foreign-Born as a Percentage of STEM Occupations, 1994–2002



SOURCE: Commission on Professionals in Science and Technology.

Saxenian (2002) notes the role of immigrants in Silicon Valley entrepreneurship. Wadhwa et al. (2007) update and expand that study and find that one-quarter of engineering and technology companies started between 1995 and 2005 had at least one foreign-born founder. Freeman (2006a) reports that 60 percent of the growth in the number of U.S.-based scientists and engineers over the decade of the 1990s came from the foreign-born. There is a critical question about maintaining U.S. comparative advantage in the absence of highly educated immigrants. With higher earnings, more domestic (or native) workers could be attracted to science and engineering fields, but this will take time. Without adequate supply, more research and development could be located offshore. Yet maintaining the flow of foreign-born scientists and engineers might lessen earnings growth, making it difficult to attract native students into science and engineering fields.

Since 1965, U.S. immigrant policy has been strongly based in family reunification. (Before 1965, immigrant admission was based on national origin.) The focus of the debate over skilled migrants is not about immigrant entry, but rather about nonimmigrant entry, the visa category of H-1B.

The H-1 nonimmigrant category was created under the Immigration and Nationality Act of 1952 to assist U.S. employers needing workers temporarily.¹⁴ Nonimmigrants are foreign nationals who come to the U.S. on a temporary basis and for a specific purpose, such as schooling or work. The H-1B program was created by the Immigration Act of 1990, amending the 1952 Act. The H-1B program allows an employer to temporarily employ a foreign worker in the United States on a nonimmigrant basis in a specialty occupation or as “a fashion model of distinguished merit and ability.” A specialty occupation requires the theoretical and practical application of a body of specialized knowledge and a bachelor’s degree or the equivalent in the specific specialty (e.g., sciences, medicine and health care, education, biotechnology, and business specialties). The 1990 act, which is current law, limits the number of foreign workers who may be issued a visa or otherwise be provided H-1B status to 65,000 a year.

In 1998, Congress increased the H-1B cap to 115,000 for fiscal years 1999 and 2000. In 2000, Congress set the cap higher, at 195,000 for fiscal year 2001. That level was maintained for fiscal years 2002 and 2003. From fiscal year 2004 on, the cap has reverted back to 65,000.¹⁵

Under the H-1B Visa Reform Act of 2004, H-1B workers hired by institutions of higher education, nonprofits, and government research organizations are exempt from the cap. There is a separate 20,000 cap on H-1B petitions filed on behalf of aliens with U.S.-earned master's or higher degrees. An H-1B visa is generally valid for three years of employment and is renewable for an additional three years. From an H-1B visa, individuals may apply for permanent residency status.

To hire a foreign worker on H-1B visa status, the U.S. employer files a labor condition application (LCA) with the U.S. Department of Labor's Employment and Training Administration. On the application, the employer must attest to meeting the following four conditions: 1) paying at least the local prevailing wage, or the employer's actual wage, whichever is higher; 2) offering nonimmigrants benefits on the same basis as U.S. workers receive; 3) that employment of H-1B nonimmigrants must not adversely affect the working conditions of U.S. workers; and 4) that no strike or lockout exists in the occupational classification at the place of employment. In addition, the employer must attest to notifying employees, at the place of employment, of the intent to employ H-1B workers.

Employers who are "H-1B dependent"—that is, whose workforce is comprised of 15 percent or more H-1B employees—face additional requirements. These requirements include attesting to the following three conditions: 1) no U.S. workers displaced within a period of 90 days before or 90 days after filing an LCA petition; 2) good-faith steps were taken before filing the LCA to recruit U.S. workers and the job was offered to a U.S. applicant equally or better qualified than an H-1B worker; and 3) before placing the H-1B worker with another employer, the first employer inquired and has no knowledge as to that employer's action or intent to displace a U.S. worker within the 90 days before or 90 days after the placement of the H-1B worker with that employer.¹⁶

Information on worker characteristics is available from petitions to Citizenship and Immigration Service (CIS) for visas. These petitions are not, however, clear proxies for admission. Petitions are used to sponsor initial employment, continued employment, a change in employer (for someone already in the United States with H-1B status), or a change in location with the same employer. The total number of petitions therefore greatly exceeds the number of foreigners with nonimmigrant status. By country of origin, India, China, and Canada accounted

for 58 percent of fiscal year 2005 petitions (44 percent, 9.2 percent, and 4.4 percent, respectively). Sixty-five percent of approved petitions were for workers between 25 and 34 years of age; 45 percent for workers with a bachelor's degree, 37 percent for those with a master's degree, 5 percent for those with a doctorate, and 12 percent for those with a professional degree. Forty-three percent went to those in computer-related occupations; 12 percent to those in architecture, engineering, and surveying; 10.9 percent to those in education (CIS 2006).

Hira (2007) argues that the above LCA conditions do not constitute a "labor market test," in the sense that employers can hire H-1B workers even (as worded by the U.S. Department of Labor) "when a qualified U.S. worker wants the job, and a U.S. worker can be displaced from the job in favor of the foreign worker" (pg. 2). Only H-1B-dependent employers face more stringent requirements about not displacing native (resident) workers. Hira also sees the following problems from the H-1B program and any proposed expansion: more offshore outsourcing of jobs, displacement of American technology workers, decreased wages and job opportunities for domestic workers, and discouragement of young Americans from entering science and engineering fields.

Hira's unique contribution to the debate is his assertion that the H-1B program promotes offshoring. He argues that the biggest users of H-1B visas are offshore outsourcing firms, and that these firms do not sponsor permanent resident status for their workers; rather, they train them in the United States and send those workers, along with the production, back to the country of origin. According to Hira's analysis of data from the U.S. Department of Labor's Office of Foreign Labor Certification (OFLC), the top 11 (and 15 of the top 20) H-1B requesters are firms that specialize in offshore outsourcing (Hira 2007, Table 1). These firms use H-1B (and L-1) workers as part of their knowledge transfer operations, rotating foreign workers to learn U.S. workers' jobs. H-1B workers also provide on-site (domestic) presence for these firms with their customers.¹⁷

Proponents of H-1B argue that nonimmigrant workers are vital because of systematic shortages of native (or resident) technology (science and engineering) workers. Yet standard labor market indicators yield little or mixed evidence of IT worker shortages. Wage or earnings growth is moderate (similar to that of other professionals); unemployment rates shot up in the dot-com bust and have now fallen. In a com-

prehensive survey, Lowell (2001a) found little evidence of shortages. Private (trade) surveys do often conclude that there are shortages, but there is little corroboration from public use data. The growth in H-1B visas alone is not evidence of a shortage; other factors include backlogs in the permanent visa application process, cyclical demand in main (IT) industries in the 1990s, strong U.S. economic growth, changes in global competition that create demand for foreign workers because of expansions of foreign markets, the growing importance of international students in U.S. institutions (students who stay in this country upon graduation and need to be transitioned from student visa status to a working visa). Healthy H-1B hiring, with an absence of clear evidence of shortages, is not a sufficient argument for an expansion of the H-1B program. Expanded H-1B caps will create problems for the permanent residency component of immigration (where there are already considerable backlogs).

Secondarily, proponents argue that the H-1B program is the point of entry for the world's best and brightest and essential for maintaining U.S. competitiveness. Existing separately from the H-1B debate, but clearly confounded with it, is the widespread concern that the United States faces a problem in maintaining its position as the scientific and technological leader in the world and that loss of leadership threatens the nation's future economic well-being and national security. Business, science, and education groups have issued reports that highlight the value to the country of leadership in science and technology. More specifically, numerous reports highlight the contribution of immigrants in innovative fields. In a report on the entrepreneurial economy, the Kauffman Foundation (2007) advocated an "entrepreneurial immigration policy" of raising H-1B quotas in the short term and eliminating them in the long term. There is also advocacy of new policies to increase the supply of scientific and engineering talent in the United States.¹⁸

A central charge is that employment of H-1B visa holders comes at a cost to older native-born workers, particularly engineers and technology (computer) workers, in terms of both wages and employment. Serious data limitations have prevented economists from doing much analysis on the question of the impact of H-1B visas on the wages and employment of U.S. workers.¹⁹ The National Research Council (2001) concludes that the magnitude of a wage effect caused by the H-1B program is difficult to estimate. That report suggests that the H-1B program

has an effect in keeping wages from rising as quickly as they might in the absence of an H-1B program (Lowell 1999, 2000a,b, 2001a,b). Zavadny (2003), using Department of Labor LCA data for fiscal year 2001 across states, found no relationship between share of H-1B workers and domestic earnings, earnings growth, or unemployment.²⁰

As the fraction of doctoral degrees awarded to foreign students has risen (from 11.3 to 24.4 percent between 1976 and 2000), there is a natural question about labor market competition: do foreign student doctorates harm the economic opportunities of native doctorates? Borjas (2005a) estimates factor price elasticities and finds that an immigration-induced 10 percent increase in the supply of doctorates lowers the wages of competing workers by about 3 percent.

Thinking About Immigration Policy

A successful immigration policy is a challenge to build, given the lack of clear political alignments, contradictory empirical evidence, strong emotions, and conflicting political ideologies. It is easy to think of immigration as a “problem.” But as Marshall (2007, pg. 1) advises,

Immigration is not the problem: the United States is and will remain a nation of immigrants, who have contributed greatly to the vitality, diversity, and creativity of American life. Immigrants are particularly important to the U.S. economy, accounting for over half of the workforce growth during the 1990s and 86 percent of the increase in employment between 2000 and 2005. Because there will be no net increase in the number of prime-working-age natives (aged 25 to 54) for the next 20 years, the strength of the American economy could depend heavily on how the nation relates immigration to economic and social policy.

The most heated issues in the current immigration policy reform debate lie outside the boundaries of traditional economic policy thinking. Questions of culture, language, race, ethnicity, and geography trump economics now, and they could continue to do so. Current immigration policy is based on family unification, not economics. The small economic costs of immigration do not provide justification for an economics-based policy. As Borjas (1999a,b) argues, evidence alone (whether economic or not) cannot decide the course of immigration policy.²¹ There needs to be an explicit understanding of national interest—what

it is that Americans intend from an immigration policy. Borjas suggests consideration of three groups, whose interests may be in conflict: people living in the United States (“natives”), potential immigrants, and people who remain in the source countries. Most discussions attach the largest weight to the interests of natives. Even with this simplification, economic interests need to be defined: as Borjas asks, is it the size of economic pie (national income, or per capital income), or the splitting of the slices of the pie (distribution of income)?

This last question has a straightforward answer: like trade, the economic impact of immigration is distributional. The net impact is relatively small (a small increase in net national income), with losses (also small) concentrated among the less-skilled, and gains accruing to the skilled and owners of capital.²² Borjas (1999b) states in plain terms, “The debate over how many and which types of immigrants to admit is best viewed as a tug-of-war between those who gain from immigration and those who lose from it” (p. 185). Yet, unlike trade, the policy “solution” for immigration is likely to involve regulation of the flow, while for trade the solution involves addressing adjustment costs. In this way, immigration policy stands out from trade and financial policy in the context of globalization. As countries have moved to liberalize flows of goods, services, and capital, the climate for liberalized movements of people has distinctly cooled. Freeman (2006a) notes that opinion surveys across the rich countries find majority support for more restrictive immigration.

An economics-based immigration policy may largely involve skill. Arguments for an entry system that favors skilled migrants include three considerations: 1) the skilled earn more, pay more taxes, and require fewer social services; 2) capital benefits from skilled migration (although Lewis [2005] sees production choices as endogenous to local relative skill supply, allowing capital to benefit from less-skilled migration as well); and 3) skilled migrants also contribute to innovation and entrepreneurship (Wadhwa et al. 2007). On the national competitiveness front, there is advocacy of a high-skill immigration policy that would permit unrestricted H-1Bs and automatic citizenship to foreign nationals earning science and engineering graduate degrees from U.S. institutions (Kauffman Foundation 2007).

Addressing the flow, presence, and impact of undocumented migrants dominates current public discourse on immigration policy re-

form. The “bipartisan immigration compromise,” as it has been commonly termed, is the current template for public discourse. Highlights and contentious issues of that compromise include the following: border security, legalizing the residency of undocumented migrants, a guest worker program, and a point system for future immigrants that rewards skill (measured as educational attainment, occupational qualifications, and English-language proficiency). Other migration issues are also hotly contested, most prominently the H-1B visa program. Two bills were introduced in Spring 2007 to increase the allotment of H-1B visas while tightening the regulations regarding employer good-faith efforts to hire American workers first and strengthening USDOL enforcement capabilities.²³

CURRENT WORKER ADJUSTMENT ASSISTANCE POLICY AND PROGRAMS; MOVING AHEAD ON POLICY

Regarding trade, the policy focus is on labor market adjustment programs. This section reviews the current policy landscape and looks ahead at possible reforms and expansions.

Current Policy Mix

The United States has a well-developed and broad set of labor market adjustment policies and programs, with unemployment insurance (UI) at the center. Other programs include advance notice for major layoffs, which is mandated by the Worker Adjustment and Retraining Notification (WARN) Act, and training and job search assistance, which is provided under the Workforce Investment Act (WIA). The Trade Adjustment Assistance (TAA) program, created in 1962, provides adjustment assistance to workers laid off as a result of international trade. The United States is unique among industrialized countries in providing special assistance to workers who have lost jobs because of increased imports or international shifts in the location of production.

The main benefits available through TAA are extended income support and training. The following summary comes from the GAO (2006a). By statute, the U.S. Department of Labor certifies groups of

laid-off workers as potentially eligible for TAA benefits and services by investigating petitions filed on behalf of workers. Petitions can be filed by firms, unions, or groups of workers. Workers are eligible if laid off as a result of international trade and if they were involved in making a product, supplying component parts, or performing finishing work for directly affected firms. Historically, most eligible workers have lost jobs in the manufacturing sector.

Under the current TAA program, eligible participants have access to the following assistance:

- Training—up to 130 weeks, including 104 weeks of vocational training and 26 weeks of remedial training (such as ESL or language literacy). TAA-approved training must be full-time.
- Trade Readjustment Allowances (TRAs, or extended income support)—up to 104 weeks of extended income support, after the 26 weeks of standard UI is exhausted. By statute, the level of TRA support is set at the state's UI benefit level. The 104 weeks include 78 weeks while participating in vocational training and an additional 26 weeks if remedial training is necessary. During the first 26 weeks of TRA receipt, participants must be enrolled in training, have completed training, or have a waiver of the training requirement. Beyond the first 26 weeks, receipt of TRA support is conditional on training enrollment.
- Job search and relocation benefits.
- Health Coverage Tax Credit (HCTC). Eligible participants may receive an advanceable tax credit covering 65 percent of the health insurance premiums. To be HCTC-eligible, workers must be receiving TRA support, be eligible for TRA but still receiving standard UI (in both cases, in training), or be enrolled in ATAA (see below).
- Alternative Trade Adjustment Assistance (ATAA)—a targeted program of wage insurance, designed for workers aged 50 and older who forgo training, become reemployed within 26 weeks, and experience a reduction in earnings from the old job to the new job. If annual earnings on the new job are \$50,000 or less, the benefit covers 50 percent of the difference between old and new job earnings, up to a maximum of \$10,000 over two years.

The narrow focus of TAA on manufacturing, while historically appropriate given the predominance of goods (as opposed to services) in international trade, is becoming a serious point of contention. The U.S. Department of Labor follows a narrow interpretation in its eligibility determinations. The statute requires workers to prove that they lost their job from a firm that makes a product that is “similar to or like an imported good.” The department’s interpretation of the word “good” has resulted in many denials of eligibility. As services offshoring continues to capture attention, this conflict over interpretation will persist.

More generally, eligibility denial is a contentious issue. Workers, or worker groups, have appealed to the U.S. Court of International Trade, the court with jurisdiction over TAA. As noted by Kletzer and Rosen (2005), the Court is increasingly sharply critical of the Department of Labor’s decisions on denials. The Court’s opinion in the case of *Former Employees of BMC Software Inc. vs. U.S. Secretary of Labor* is illustrative, and worth quoting at length:

Trade adjustment assistance programs historically have been—and today continue to be—touted as the *quid pro quo* for U.S. national policies of free trade.

As illustrated by the history of virtually every TAA case filed with the court in recent years, the Labor Department’s standard investigative modus operandi appears to be to target whichever element of a TAA claim the agency perceives to be the weakest, and—if the agency finds that that particular element is not satisfied—to deny the claim on that basis, with no investigation or analysis of the other elements of the claim.

The TAA program is fundamentally broken, as evidenced by a number of key indicators, particularly the . . . extraordinarily high percentage of cases in which the agency reverses itself on appeal. Those statistics are a scathing indictment of the Labor Department’s administration of the TAA program.

In short, “there is something fundamentally wrong with the administration of the nation’s trade adjustment assistance programs if, as a practical matter, workers often must appeal their cases to the courts to secure the thorough investigation that the Labor Department is obligated to conduct by law.”

The literature assessing TAA performance is limited, in large part because of the Labor Department’s paltry release of outcome and perfor-

mance data. Decker and Corson (1995) is perhaps the most commonly cited study, and it was based not on (the nonexistent) publicly available data, but on data obtained through Mathematica's contracted evaluation of TAA in 1993. The 2002 Trade Act mandated an evaluation, with data collection beginning in 2005 and a final report to be issued by the end of 2008. GAO (2004) offers a preliminary assessment, based on contact with state workforce agencies, of the 2002 reforms. Kletzer and Rosen (2005) also offer an assessment, based on publicly available information, and with an eye to policy reform. In the context of program evaluation, GAO (2006b) notes serious administrative concerns about the collection of TAA program performance data, and of data on outcomes such as employment and earnings. As that GAO report concludes,

since the passage of the TAA Reform Act of 2002, the TAA program has evolved to become one of the most important means to help the workers affected by our nation's trade policies rejoin our nation's workforce. The program has seen substantial increases in the population it serves and in the funds available to serve them. Unfortunately, efforts to monitor the program's performance have not kept pace with the program's development. Four years after the passage of the reforms, we still do not know whether the program is achieving what lawmakers intended.

In the current budgetary environment, with many claims on limited discretionary funds, it is increasingly important to have performance data and assessments.

Two of the 2002 reforms, the health care tax credit and wage insurance (ATAA), have received considerable recent attention (Andrews 2007). A number of recent policy-related studies and articles address the costs and benefits of wage insurance (Brainard, Litan, and Warren 2006; Kletzer and Rosen 2006; Kling 2006). While these debates are a vital component of policy discourse, it is frustrating to note that virtually nothing is known about the efficacy of these two program additions. Kletzer and Rosen's (2005) study predates any real numbers on ATAA take-up, and surprisingly little has been learned since late 2004. GAO (2006a) concludes that

while few workers took advantage of training and long-term income support through the TAA program, even fewer made use of two new benefits under the TAA program—health insurance assistance and wage insurance for older workers. Workers who knew

about the benefits sometimes told us that the benefit levels were not high enough to get them to participate. But relatively large numbers were simply not aware of the benefits, and some said they might have applied for the benefits had they known about them. Sometimes workers admitted to being overwhelmed by the prospect of losing their jobs and by the wealth of information they initially received. However, states' efforts to inform workers about and explain these benefits have been mixed at best—some trained their case managers to answer questions from workers, while others did not see that as their role. Despite Labor's efforts to encourage states to make this information more widely available, many workers still do not know about these benefits and, as a result, cannot make use of them. Without better information, these workers may not have the opportunity to avail themselves of benefits that could ease their transition to reemployment.

MOVING AHEAD ON POLICY—SHORT-TERM PROSPECTS

A Democratically controlled Congress facing a lame-duck Republican administration, and a costly war in Iraq, are impediments to the goal of progress on the globalization policy agenda. Public skepticism about the benefits of trade expansion further complicates the picture. With all these complexities, it may not be possible to set out an economically defensible policy plan that is also politically feasible. Thus the discussion here will focus on the former, and leave the latter to political professionals.²⁴

Any policy discussion must recognize the highly dynamic nature of the U.S. labor market, in which millions of jobs are created and lost each year. A flexible labor market can benefit an economy, especially when workers are able to move from low- to high-productivity jobs. Young workers benefit from turnover, since they gain skills and experience and find productive matches with a sequence of employers. At the same time, labor market flexibility can impose significant costs on workers and their families. Workers can experience prolonged unemployment, and once reemployed they may experience large and persistent earnings losses. In a rapidly changing economy, workers lose jobs for many reasons (domestic competition, technological change, plant or office relo-

cation), and, as shown in Kletzer (2001), there is very little variation in the reemployment earnings consequences: losing a job is costly, regardless of reason. Analysis of data from the Dislocated Worker Survey reveals that only two-thirds of unemployed workers find a new job within one to three years after layoff. More than 40 percent of workers experience earnings losses. Only about one-fourth of workers experience no earnings loss or an improvement in earnings after reemployment. Preliminary evidence on the reemployment consequences of services job loss, as reported in Jensen and Kletzer (2006), suggests little reason to temper this conclusion on costly job loss. The numbers of workers facing job displacement are significant: over the 2003–2005 period, 1.8 million workers were displaced from manufacturing industries, and 3.7 million workers were displaced from services industries (down from the 2001–2003 period, when 2.9 million workers were displaced from manufacturing and 4.9 million were displaced from services).²⁵

Calls for reform are timely, based on workers' needs, which are unmet by current programs. It may, however, be time to reconsider the usual ways of advocating assistance policy. Consider the legislative history of TAA. President Kennedy and Congress established the Trade Adjustment Assistance (TAA) program in 1962 to provide assistance to workers who lose jobs because of increased import competition. The unique manner in which international trade policy is conducted in the United States, along with the modest level of existing adjustment assistance, played a role in the establishment of TAA. Congress must transfer, temporarily, authority to the president in order for the administration to participate in trade negotiations. This transfer of authority (now called trade promotion authority) gives Congress an opportunity to influence the negotiating agenda. Just as importantly, Congress gets a chance to pass legislation to compensate workers adversely affected by changes in foreign competition associated with trade agreements. As a result, expansions of TAA programs have been highly correlated with efforts to liberalize trade. This is the framework in which TAA has been seen as a quid pro quo for congressional support of trade-liberalizing legislation. As noted by Kletzer and Rosen (2005), reforms to TAA in the 1980s, the creation of NAFTA-TAA, and the 2002 reforms to TAA all fit into this framework of mustering votes to pass trade legislation.

There is a view that little additional gain accrues from assistance programs targeted at trade-displaced workers. TAA does not receive

much support from organized labor. On a practical basis, unions do work to ensure that workers receive assistance, yet their political support is tepid out of fear that out-and-out support will weaken unions' priority position against trade liberalization. With TAA as assistance after job loss (and modest levels of assistance at that), the program is often sarcastically referred to as "burial insurance" among union leaders. The same arguments exist for organized labor's lukewarm response to wage insurance (Andrews 2007). As analyzed by Destler (2005), the 2002 reforms to TAA, as part of the Trade Act of 2002 that granted trade promotion authority to the president, gained little additional Democratic support. TAA is viewed by many as "a backwater government program that gets attention only when an administration needs votes for trade legislation" (Destler 2005, p. 328). A broad program of assistance to all displaced workers is more justifiable on the economic costs of job loss and is likely to more broadly address public anxieties about job insecurity. In addition, a general program of adjustment assistance avoids politicizing (or demonizing) any one particular cause of job loss, such as free trade and globalization.

In turning to a broad program of assistance to all displaced workers, we should recognize that a comprehensive reform strategy starts with reforming UI. Unfortunately, political will does not currently seem to exist to significantly reform UI. Short of UI reform, the next best alternative would be to continue expanding TAA eligibility to include more workers, specifically those adversely affected by the various aspects of globalization. An expanded TAA program would be in addition to the existing UI system. Rosen (2007) suggests the following parameters, in a program that would be renamed Globalization Adjustment Assistance (GAA).

Eligibility

The existing eligibility test, i.e., the association between 1) an increase in imports or a shift in production and 2) a decline in output and employment, is tedious, difficult to implement, and subject to judicial objection. In addition the USDOL currently does not consider workers who are employed in the service sector as producing "an article" and thus deems them ineligible for TAA. The problem of covering service workers is exacerbated by the absence of detailed service import data,

which makes it difficult to show that a decline in output and employment is associated with an increase in service imports.

One alternative would be to move toward more qualitative eligibility criteria. Criteria would be developed to determine if an entire industry, occupation, or region was considered to be under distress. Once this determination was made, any worker losing a job from that industry, occupation, or region would only need to prove membership in any of these groupings in order to receive assistance under the revised program. This reform would reduce the discrimination between similar workers and also significantly reduce the bureaucratic burden associated with administering the program.

Criteria to determine industry distress could include some combination of declines in sales and output, increases in imports, and job loss throughout the entire industry or occupation, not just a single firm. The addition of occupations as a potential eligible grouping is necessary due to the task-oriented (or occupation-oriented) nature of services offshoring. High unemployment, plant closings, and vacancies could be used to identify regions under distress.

Financial Assistance

The current system of providing 78 weeks of income maintenance at the UI rate if a worker is enrolled in training (a provision that goes well beyond the traditional 26 weeks of UI) would continue to be the central aspect of the program. The adjustment burden of workers changing industry or occupation is high (Kletzer 2001). Longer duration of income maintenance enables workers to enroll in significant training and thereby make a serious adjustment. In the case of regional distress, income maintenance payments can help stimulate the local economy.

Training

Training funds are inadequate, and many states exhaust their allocation before the end of the year. Income maintenance payments under TAA are an entitlement—i.e., Congress must appropriate enough money to provide income maintenance payments to all eligible workers. In contrast, appropriation of training funds is considered a “capped entitlement,” for which Congress sets an appropriation cap on the amount

of total funding for training. It is inconsistent to make entitled income maintenance payments conditional on (limited) training enrollment.²⁶ In addition, given the training appropriation cap, all workers may not receive the same amount or quality of training. Raising the training appropriation cap would begin to address this problem.

Health Coverage Tax Credit

Currently, workers participating in TAA can receive a 65 percent advanceable, refundable tax credit to help cover the cost of maintaining health insurance during the period of unemployment. Anecdotal evidence suggests that workers find the Health Coverage Tax Credit (HCTC) to be the most valuable form of assistance offered under the TAA program. On the other hand, the GAO (2006a) finds that many workers claim they cannot afford to pay the remaining 35 percent in order to maintain their health insurance. To remedy this, the HCTC could be increased to 75 percent. In addition, states could be encouraged to offer some assistance, thereby reducing workers' out-of-pocket expenditures even more.

Wage Insurance

Wage insurance offers assistance that is tailored to actual earnings losses. In order to be effective, wage-loss insurance must be a complement to traditional UI, since it only assists those workers who find new jobs. Under the program, eligible workers would receive some fraction—perhaps half—of their weekly earnings loss over a specific period.

For example, between 1979 and 2001, the average weekly wage before layoff for workers displaced from manufacturing industries was \$396.88. At the same time, the average weekly wage for those laid off from nonmanufacturing jobs was \$368.65. For those workers who found new jobs, the average percentage loss in earnings was 29.2 percent for manufacturing workers and 18.6 percent for nonmanufacturing workers. Had a wage-loss insurance program been in place, manufacturing workers would have received approximately \$6,000 over a two-year period, which is 15 percent of their prelayoff wage. Nonmanufacturing workers would have received approximately \$3,600 over a two-year period, which is equal to 9 percent of their prelayoff wage.

Despite its benefits, wage insurance is not a perfect solution to addressing the costs associated with unemployment. Structuring a program with a relatively short eligibility period, which would start with the date of job loss, creates a reemployment incentive and addresses one of the most commonly expressed UI concerns, but it also limits the compensatory nature of the program. Displaced worker earnings losses are long-term (earnings losses exist for five to six years after job loss), well beyond the two years covered by ATAA.

The cost of a wage insurance program depends on the number of eligible workers, the earnings losses of those reemployed at lower pay, and the duration of unemployment prior to reemployment. Other critical program characteristics include the duration of wage insurance payments, the annual cap on program payments, and the replacement rate. It has been estimated that the cost for a program with a two-year duration, a 50 percent replacement rate, and a \$10,000 annual cap for all dislocated workers would be around \$4 billion.

The Trade Act of 2002 established a wage insurance program, formally called Alternative Trade Adjustment Assistance (ATAA). ATAA encourages and provides financial assistance to workers who return to work within 26 weeks after separation. It is possible that their new employers may provide on-the-job training, which is seen by many as more effective than classroom training.

Financing an Expanded Program

The Office of Management and Budget reports that current spending on TAA is approximately \$1 billion a year. Kletzer and Rosen (2005) estimate that making all workers that have been displaced from import-competing manufacturing industries eligible for TAA would cost approximately \$3 billion a year. Including service workers could potentially double the price tag. Increasing the HCTC and reducing the wage insurance age requirement could add another \$1 billion to the total cost. These estimates are very tentative, but total spending on an assistance program sketched here could be in the range of \$6–\$7 billion a year.

One immediate proposal for financing the additional costs would be to raise the maximum taxable wage base currently used in calculating the UI payroll tax (the Federal Unemployment Tax Act, or FUTA). In addition to raising revenue to offset the additional expense associated

with expanding the program, raising the maximum taxable wage base would also make the UI tax more progressive. The maximum wage base has been fixed at \$7,000 for more than 20 years. Adjusting the base to \$45,000, over time, could be expected to raise an additional \$9 billion, enough to finance a program expansion.

A More Expansive Policy Reform

Should the political will exist (or be found) to engage in a more comprehensive reform of the nation's worker assistance programs, the first step would be UI reform.²⁷ The original UI program was designed to offset income losses during cyclical periods of temporary involuntary unemployment. In contrast, current workers face long-term structural unemployment. The existing UI system is inadequate in responding to these current labor market conditions.

The current UI system does not assist workers who seek part-time employment, workers who voluntarily leave one job in order to take another, or workers who experience long-term unemployment. New entrants and reentrants into the labor market are not currently eligible for UI, since these two groups of unemployed do not fit well with one of the program's original objectives, i.e., insuring against the risk of involuntary job loss. Covering these workers would raise issues concerning the amount and duration of assistance, since they may not have relevant work experience.

Underlining these macroeconomic changes to the U.S. labor market is a shift from traditional employer-based full-time employment to an increased reliance on contingent and part-time employment. The shift to these nontraditional forms of employment reflects additional shortfalls in the current UI program. A system designed to provide income support during temporary layoffs for workers who were permanently attached to a single employer is not well designed for a labor market with considerable self-employment and contingent, part-time, and low-wage employment.

Although there clearly remain some differences in local labor market conditions, the current pressures on the U.S. labor market are becoming more national. State differences in the incidence and experience of unemployment have narrowed considerably. Local labor market conditions primarily affect the prospects for reemployment. Given the

increasingly national nature of the labor market, UI would be better able to meet its original objectives if the federal government played a more prominent role in this state-federal partnership.

In addition to inequities created by disparate rules across states, a significant downside of the current federal-state partnership is the states' real or perceived fears that program generosity will result in adverse changes to their business environment. Increased federal leadership would avoid interstate competition and a race to the bottom in program benefits.

An increased leadership role for the federal government would be characterized by expanding standards for eligibility, duration, and level of benefits, and for financing the program. Recommendations include the following:

- Standardize the base period for determining eligibility to the past four complete calendar quarters prior to job loss. This change, already implemented by a number of states, updates the operational definition of labor market attachment and reflects the reduced time needed to report earnings.
- Use hours rather than earnings in determining eligibility. Shifting the determination of eligibility to hours instead of earnings would bring more low- and moderate-wage workers—who often most need help during periods of unemployment—into the system.
- Harmonize nonmonetary eligibility standards. The patchwork of nonmonetary eligibility criteria, in which some states consider voluntary separations for good cause while others do not, creates unnecessary complexity and inequities in the system.
- Enable reentrants to the labor force, if it is determined retroactively that they were eligible at the time of job loss or separation, to be eligible to receive the benefits they would have received at the time of job loss. In a fluid labor market, many workers may leave the labor force for some time (e.g., to care for a child or parent) and then return. If the workers were eligible for UI when they separated from their previous job but did not claim them at that time, they should be eligible for benefits when they return to the labor force.

- Amend the work test to allow job search for part-time employment. Part-time work is a common feature of the current labor market, accounting for 16 percent of employment in July 2006, and unemployed workers should not be disqualified from receiving benefits because they are searching for part-time work.

The share of unemployed workers who actually received assistance under the UI program averaged 37 percent between 1980 and 2005. The proposals outlined above are designed to increase the number and share of unemployed workers eligible to receive assistance. Table 4.1 reports estimates for the costs associated with raising the reciprocity rate in increments to 50 percent.

A more comprehensive reform would bring the fuller set of assistance programs into the twenty-first century. The basic structure of current UI was designed for a system of single employers, full-time work, and cyclical temporary layoff. The workforce today faces permanent job loss, part-time or contingent work, and self-employment. In addition, technological change and intensified competition from globalization create increased pressures and anxieties.

CONCLUSION

The U.S. debate about trade and immigration is broadening to include higher skilled workers. The growing services trade potentially broadens the group of workers at risk of displacement. Migration and immigration of skilled workers also may be perceived as a threat to higher skilled U.S. workers.

Trade-displaced manufacturing workers may lose over \$50 billion in lifetime earnings, and there are additional service workers' losses. Federal spending on Trade Adjustment Assistance is less than \$2 billion annually, due in part to restrictions on workers' eligibility. Because the TAA statute refers to "imported goods," virtually all displaced service workers are deemed ineligible for TAA.

Most reviews conclude that immigration's effects on native U.S. workers are small, in terms of wages and employment. High skill immigrants help the U.S. maintain technological leadership.

Table 4.1 Estimated Costs Associated with Increasing the Reciprocity Rate

| Reciprocity rate | Increase in number of workers eligible (thousands) ^a | Increase in total benefits paid (billions \$) ^a |
|------------------|-----------------------------------------------------------------|------------------------------------------------------------|
| 0.40 | 220 | 1.6 |
| 0.45 | 620 | 4.5 |
| 0.50 | 1,000 | 7.4 |

^a Increase in workers and costs (benefits paid) relative to 25-year average.

SOURCE: Kletzer and Rosen (2006).

Strengthening programs of adjustment assistance is essential for maintaining any significant level of public support for globalization efforts. Eligibility for Trade Adjustment Assistance should be expanded to include services workers, and additional training dollars should be made available to program participants. The wage insurance program started in 2002, which provides trade-displaced workers over age 50 with up to half the difference between their old and new wages, should be evaluated, with the possibility of expanding eligibility to workers in their 40s. Reforms to the unemployment insurance (UI) system should include allowances for reentrants and part-time employment and the addition of wage-loss insurance for all displaced workers.

Skilled migration is critical for U.S. innovation. Ensuring that temporary migrant workers have basic labor market rights, such as free mobility, may help lessen problems from more open immigration.

Openness to flows of goods, services, people, and investment brings economic benefits to Americans. The same flows are also associated with economic costs, especially for competing workers, firms, and communities. Thus, it is the distribution of benefits and costs that is contentious and controversial. While the academic debate remains lively on the distributional questions and can be expected to continue, there is a clear need to strengthen the programs and policies in place to assist workers who are confronting job and income losses and the uncertainties created by globalization and other structural change.

Notes

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1. Gains to all countries do not necessarily follow on theoretical grounds. In addition, trade liberalization is only guaranteed to enhance welfare under certain limited theoretical conditions (including that the home economy is small, relative to world markets).
2. Broda and Weinstein (2005) examine in more detail the gains from expanded varieties of goods.
3. Gresser (2002) showed that textile tariffs apply disproportionately to lower-end garments, purchased mainly by lower-income consumers.
4. Gomory and Baumol (2000) present a model with similar outcomes, where gains from trade can shrink as competitors gain technological expertise.
5. See Rodrik (2006) for other skeptical thoughts on the benefits of free trade. He sees the evidence of the past 15 years as yielding no one single recipe for developing country growth, including policies of open trade.
6. TAA has held center stage in the limited mix of worker adjustment policies since the mid-1970s. Overlapping with the evaluation literature, a number of papers consider the evidence on TAA and training for displaced workers. See Decker and Corson (1995) and Leigh (1990).
7. The two-sides-of-the-same-coin analogy fits well in economy theory. In models of international trade based on differing factor endowments across countries, trade in goods and services or movements of factors of production can equalize prices and earnings. In an essay on international labor mobility, Freeman (2006b) notes that Mundell (1957) provides a model of substitutability between commodity movements and factor movements. If country A has more labor relative to capital than country B, A can send labor to B directly through immigration or indirectly through the export of labor-intensive goods. Immigration restrictions should therefore result in an increase in trade.
8. Grossman (1982) was the first in this approach. Card (2005) provides an updated summary.
9. Most of the immigration literature focuses on impacts on lesser-skilled workers. Friedberg (2001) studied mass migration from the former Soviet Union to Israel, finding little effect on the earnings and employment of natives. The H-1B literature is even thinner, given data limitations.
10. Net exports (of either services or goods) is the difference between the value of exports and the value of imports—i.e., exports (in \$) minus imports (in \$).
11. The routineness of work, or the codification of tasks, is a characteristic emphasized by Autor, Levy, and Murnane (2003).
12. Bhagwati, Panagariya and Srinivasan (2004) seem to mean “offshoring” when

- they use “outsourcing.” Their outsourcing is arms-length and located in a foreign country.
13. As discussed in more detail below, the H-1B nonimmigrant work visa allows employers to temporarily employ foreign workers in the United States in a specialty occupation.
 14. GAO (2006c) is the source of information for this section.
 15. Over the recent past, employer demand for H-1B visas has greatly exceeded the cap. For fiscal 2007, the application cap was reached in May 2006. For fiscal 2008, first-day applications exceeded the cap, and Citizenship and Immigration Services (CIS) received a record 150,000 applications as of late afternoon on April 2, 2007. For the first time, applications will be placed in a computer-generated lottery (Marcucci 2007).
 16. As noted in GAO (2006c), these additional requirements applied from January 19, 2001, to September 30, 2003. The provision requiring these attestations expired, and was only reinstated on March 8, 2005. From October 1, 2003, to March 7, 2005, H-1B-dependent employers and willful-violator employers were able to hire H-1B workers even if U.S. workers were displaced, and they did not have to undertake efforts to hire U.S. workers.
 17. The L-1 nonimmigrant visa is for intracompany transfers.
 18. Freeman (2006b) proposes tripling the number of NSF graduate fellowships and increasing the size of the award to encourage advanced study in science and engineering fields.
 19. See Matloff (2003) for a survey.
 20. The problem with LCA data is that observations are applications, not actual visa issuances for workers. Wage information is the submitted prevailing wage, not the wage paid.
 21. Chapter 1 of Borjas (1999b) contains a thoughtful discussion on the framing of a U.S. immigration policy.
 22. Focusing on California, Peri (2007) finds that immigrants are imperfect substitutes for natives with similar education and age and that immigrant flows stimulated, rather than harmed, the demand for—and the wages of—most U.S. native workers.
 23. The two bills are “The H-1B and L-1 Visa Fraud and Abuse Prevention Act of 2007,” introduced by Senators Dick Durbin (D-IL) and Chuck Grassley (R-IA) and “The Skilled Worker Immigration and Fairness Act of 2007,” introduced by Senators Joe Lieberman (I-CT) and Chuck Hagel (R-NE).
 24. See Destler (2005) for a broader discussion of a desirable direction for American trade policy.
 25. Based on author’s estimates from the 2004 and 2006 Displaced Worker Surveys. Overall manufacturing employment has declined by nearly 18 percent since 2000, while employment in the services sector has grown by 5.4 percent.
 26. Workers can apply for a waiver to excuse them from the requirement of enrolling in training in order to receive income maintenance payments.
 27. This section borrows heavily from Kletzer and Rosen (2006).

References

- Andrews, Edmund L. 2007. "Economic View: Why Wage Insurance Is Dividing Democrats." *New York Times*, March 18, C:6. <http://www.nytimes.com/2007/03/18/business/yourmoney/18view.html> (accessed July 11, 2007).
- Autor, David H., Frank Levy, and Richard J. Murnane. 2003. "The Skill Content of Recent Technological Change: An Empirical Exploration." *Quarterly Journal of Economics* 118(4): 1279–1334.
- Bardhan, Ashok Deo, and Cynthia A. Kroll. 2003. "The New Wave of Outsourcing." Fisher Center Research Report No. 1103. Berkeley, CA: Fisher Center for Real Estate and Urban Economics, University of California, Berkeley.
- Bhagwati, Jagdish, Arvind Panagariya, and T.N. Srinivasan. 2004. "The Mud- dles over Outsourcing." *Journal of Economic Perspectives* 18(4): 93–114.
- Blinder, Alan S. 2006. "Offshoring: The Next Industrial Revolution?" *Foreign Affairs* 85(2): 113–128.
- . 2007. "How Many U.S. Jobs Might Be Offshorable?" CEPS Working Paper No. 142. Princeton, NJ: Princeton University.
- Borjas, George J. 1999a. "The Economic Analysis of Immigration." In *Hand- book of Labor Economics*, Orley C. Ashenfelter and David Card, eds. Vol. 3A. Amsterdam: Elsevier, pp. 1697–1760.
- . 1999b. *Heaven's Door: Immigration Policy and the American Econo- my*. Princeton: Princeton University Press.
- . 2003. "The Labor Demand Curve Is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market." *Quarterly Journal of Economics* 118(4): 1335–1374.
- . 2005a. "The Labor Market Impact of High-Skill Immigration." NBER Working Paper No. 11217. Cambridge, MA: National Bureau of Economic Research.
- Bradford, Scott C., Paul L.E. Grieco, and Gary Clyde Hufbauer. 2005. "The Payoff to America from Global Integration." In *The United States and the World Economy: Foreign Economic Policy for the Next Decade*, C. Fred Bergsten and the Institute for International Economics, eds. Washington, DC: Institute for International Economics, pp. 65–109.
- Brainard, Lael, Robert E. Litan, and Nicholas Warren. 2006. "A Fairer Deal for America's Workers in a New Era of Offshoring." In *Brookings Trade Forum 2005: Offshoring White-Collar Work*, Susan M. Collins and Lael Brainard, eds. Washington, DC: Brookings Institution, pp. 427–456.
- Broda, Christian, and David Weinstein. 2005. "Are We Underestimating the

- Gains from Globalization for the United States?" *Current Issues in Economics and Finance* 11(4): 1–7.
- Card, David. 2005. "Is the New Immigration Really So Bad?" NBER Working Paper No. 11547. Cambridge, MA: National Bureau of Economic Research.
- Citizenship and Immigration Services (CIS). 2006. *Characteristics of Specialty Occupation Workers (H-1B): Fiscal Year 2005*. Washington, DC: U.S. Department of Homeland Security, Citizenship and Immigration Services.
- Committee on Science and Technology. 2006. *Globalization and the American Workforce*. Washington, DC: Committee on Science and Technology, U.S. House of Representatives. http://sciencedems.house.gov/investigations/investigations_detail.aspx?NewsID=1167 (accessed July 30, 2007).
- Decker, Paul T., and Walter Corson. 1995. "International Trade and Worker Displacement: Evaluation of the Trade Adjustment Assistance Program." *Industrial and Labor Relations Review* 48(4): 758–774.
- Destler, I.M. 2005. *American Trade Politics*. 4th ed. Washington, DC: Institute for International Economics.
- Dossani, Rafiq, and Martin Kenney. 2003. "Went for Cost, Stayed for Quality? Moving the Back Office to India." Berkeley Roundtable on the International Economy Working Paper No. 1020. Stanford, CA: Asia-Pacific Research Center, Stanford University.
- Freeman, Richard B. 2006a. "Does Globalization of the Scientific/Engineering Workforce Threaten U.S. Economic Leadership?" In *Innovation Policy and the Economy*, Adam B. Jaffe, Josh Lerner, and Scott Stern, eds. Vol. 6. Cambridge, MA: National Bureau of Economic Research, pp. 123–157.
- . 2006b. "People Flows in Globalization." *Journal of Economic Perspectives* 20(2): pp. 145–170.
- Friedberg, Rachel M. 2001. "The Impact of Mass Migration on the Israeli Labor Market." *Quarterly Journal of Economics* 116(4): 1373–1408.
- Friedberg, Rachel M., and Jennifer Hunt. 1995. "The Impact of Immigrants on Host Country Wages, Employment and Growth." *Journal of Economic Perspectives* 9(2): 23–44.
- Gereffi, Gary. 2005. *The New Offshoring of Jobs and Global Development*. Seventh ILO Social Policy Lecture. Geneva: International Institute for Labour Studies and International Labour Office.
- Gomory, Ralph E., and William J. Baumol. 2000. *Global Trade and Conflict: National Interests*. Cambridge, MA: MIT Press.
- Government Accountability Office (GAO). 2004. *Trade Adjustment Assistance: Reforms Have Accelerated Training Enrollment, but Implementation Challenges Remain*. GAO-04-1012. Report to the Committee on Finance, U.S. Senate. Washington, DC: GAO.

- . 2006a. *Trade Adjustment Assistance: Most Workers in Five Layoffs Received Services, but Better Outreach Needed on New Benefits*. GAO-06-43. Report to Congressional Requesters. Washington, DC: GAO.
- . 2006b. *Trade Adjustment Assistance: Labor Should Take Action to Ensure Performance Data Are Complete, Accurate, and Accessible*. GAO-06-496. Report to the Committee on Finance, U.S. Senate. Washington, DC: GAO.
- . 2006c. *H-1B Visa Program: Labor Could Improve Its Oversight and Increase Information Sharing with Homeland Security*. GAO-06-720. Report to Congressional Requesters. Washington, DC: GAO.
- GPO Access. 2007. *Economic Report of the President: 2007 Report Spreadsheet Tables*. Washington, DC: Government Printing Office. <http://www.gpoaccess.gov/eop/tables07.html> (accessed July 30, 2007).
- Gresser, Edward. 2002. "Toughest on the Poor: Tariffs, Taxes and the Single Mom." Policy Report. Washington, DC: Progressive Policy Institute.
- Grossman, Jean Baldwin. 1982. "The Substitutability of Natives and Immigrants in Production." *Review of Economics and Statistics* 64(4): 596–603.
- Hira, Ron. 2007. "Outsourcing America's Technology and Knowledge Jobs: High-Skill Guest Worker Visas are Currently Hurting Rather than Helping Keep Jobs at Home." EPI Briefing Paper No. 187. Washington, DC: Economic Policy Institute.
- Jensen, J. Bradford, and Lori G. Kletzer. 2006. "Tradable Services: Understanding the Scope and Impact of Services Offshoring." In *Brookings Trade Forum 2005: Offshoring White-Collar Work*, Susan M. Collins and Lael Brainard, eds. Washington, DC: Brookings Institution, pp. 75–116.
- . 2007. "Measuring Tradable Services and the Task Content of Offshorable Services Jobs." Unpublished manuscript. University of California, Santa Cruz, and Peterson Institute for International Economics, Washington, DC.
- Kauffman Foundation. 2007. *On the Road to an Entrepreneurial Economy: A Research and Policy Guide*. Kansas City, MO: Kauffman Foundation.
- Kletzer, Lori G. 2001. *Job Loss from Imports: Measuring the Costs*. Washington DC: Peterson Institute for International Economics.
- Kletzer, Lori G., and Howard Rosen. 2005. "Easing the Adjustment Burden on U.S. Workers." In *The United States and the World Economy: Foreign Economic Policy for the Next Decade*, C. Fred Bergsten, ed. Washington, DC: Institute for International Economics, pp. 313–342.
- . 2006. "Reforming Unemployment Insurance for the Twenty-First Century Workforce." Hamilton Project Discussion Paper 2006-06. Washington, DC: Brookings Institution.
- Kling, Jeffrey R. 2006. "Fundamental Restructuring of Unemployment In-

- urance: Wage-Loss Insurance and Temporary Earnings Replacement Accounts.” Hamilton Project Discussion Paper 2006-05. Washington, DC: The Brookings Institution.
- Leigh, Duane E. 1990. *Does Training Work for Displaced Workers? A Survey of Existing Evidence*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Lewis, Ethan G. 2005. “Immigration, Skill Mix, and the Choice of Technique.” FRB Philadelphia Working Paper No. 05-8. Philadelphia: Federal Reserve Bank of Philadelphia.
- Lowell, B. Lindsay. 1999. “Skilled Temporary Specialty Workers in the United States.” *People and Place* 7(1): 24–32.
- . 2000a. “The Demand and New Legislation for Skilled Temporary Workers (H-1Bs) in the United States.” *People and Place* 8(4): 29–35.
- . 2000b. “H-1B Temporary Workers: Estimating the Population.” CCIS Working Paper No. 12. La Jolla, CA: Center for Comparative Immigration Studies, University of California, San Diego.
- . 2001a. “The Foreign Temporary Workforce and Shortages in Information Technology.” In *The International Migration of the Highly Skilled: Demand, Supply, and Development Consequences in Sending and Receiving Countries*, Wayne A. Cornelius, Thomas J. Espenshade, and Idean Salehyan, eds. La Jolla, CA: Center for Comparative Immigration Studies, University of California, San Diego, pp. 131–160.
- . 2001b. “Skilled Temporary and Permanent Immigrants in the United States.” *Population Research and Policy Review* 20(1–2): 33–58.
- Lowenstein, Roger. 2006. “What Is She Really Doing to American Jobs and Wages?” *The New York Times Magazine*, July 9, pp. 36–43.
- Marcucci, Michele R. 2007. “H-1B Demand Exceeds Limit: Lottery Will Determine Which Requests from Employers are Accepted.” *San Jose Mercury News*, April 4, C:1.
- Marshall, Ray. 2007. “Getting Immigration Reform Right.” EPI Briefing Paper No. 186. Washington, DC: Economic Policy Institute.
- Matloff, Norman. 2003. “On the Need for Reform of the H-1B Non-Immigrant Work Visa in Computer-Related Occupations.” *University of Michigan Journal of Law Reform* 36(4): 1–99.
- Mundell, Robert A. 1957. “International Trade and Factor Mobility.” *American Economic Review* 47(3): 321–335.
- National Research Council. 2001. *Building a Workforce for the Information Economy*. Washington, DC: National Academies Press.
- Panagariya, Arvind. 2004. “Why the Recent Samuelson Article is NOT about Offshore Outsourcing.” Policy Paper. New York: Columbia University School of International and Public Affairs. <http://www.columbia.edu/>

- ~ap2231/Policy%20Papers/Samuelson%20JEP%20(Summer%202004)_Not%20on%20Outsourcing.htm (accessed July 11, 2007).
- Peri, Giovanni. 2007. "Immigrants' Complementarities and Native Wages: Evidence from California." NBER Working Paper No. 12956. Cambridge, MA: National Bureau of Economic Research.
- Richardson, J. David. 2004. "Some Measurable Costs and Benefits of Economic Globalization for Americans." In *Globalization and Its Outcomes*, John O'Loughlin, Lynn Staeheli, and Edward Greenberg, eds. New York: Guilford Press, pp. 182–192.
- Rodrik, Dani. 2006. "Goodbye Washington Consensus, Hello Washington Confusion? A Review of the World Bank's Economic Growth in the 1990s: Learning from a Decade of Reform." *Journal of Economic Literature* 44(4): 973–987.
- Rosen, Howard F. 2007. "The Case for Globalization Adjustment Assistance." Unpublished manuscript. Peterson Institute for International Economics, Washington, DC.
- Samuelson, Paul A. 2004. "Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization." *Journal of Economic Perspectives* 18(3): 135–146.
- Saxenian, AnnaLee. 2002. "Silicon Valley's New Immigrant High-Growth Entrepreneurs." *Economic Development Quarterly* 16(1): 20–31.
- Scheve, Kenneth F., and Matthew J. Slaughter. 2001. *Globalization and the Perceptions of American Workers*. Washington, DC: Peterson Institute for International Economics.
- Wadhwa, Vivek, AnnaLee Saxenian, Ben Rissing, and Gary Gereffi. 2007. *America's New Immigrant Entrepreneurs*. Durham, NC: Pratt School of Engineering, Master of Engineering Management Program, Duke University. http://memp.pratt.duke.edu/downloads/americas_new_immigrant_entrepreneurs.pdf (accessed July 11, 2007).
- Zavodny, Madeline. 2003. "The H-1B Program and Its Effects on Information Technology Workers." *Federal Reserve Bank of Atlanta Economic Review* Third Quarter(2003): 1–11.

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