1 Introduction
Large-scale international migration, whether temporary or permanent, is not a new phenomenon. In fact, in the US, the *belle époque* of immigration is generally agreed to be the period ending with the commencement of World War I in 1914 (Hatton and Williamson 2006). Not only was the number of immigrants arriving annually in the US probably the largest in the twentieth century, but in relative terms, because of the much lower population in the US than currently, the rate of immigration was at an unsurpassed high point. Correlatively, emigration rates from the source countries (mostly the United Kingdom, Germany and to some extent Northern Europe) were also at unprecedented levels (Hatton and Williamson 2006). Thereafter, mass migrations – some involuntary – continued to occur in the 1930s and 1940s, before and during World War II (Hatton and Williamson 1998).

In more recent times, US immigration levels have risen sharply following decades of moderate inbound immigration. In turn, the rapid and growing influx of immigrants has sparked a large literature on the labor market impact of immigration for the host country, and to a much smaller extent, the impact of emigration upon the source country. The impact of immigration is by no means limited to its labor market effects or even to general economic effects (such as those on fiscal burdens, inflation, credit markets on the informal sector or ‘shadow economy’ etc.). A voluminous
literature on the effects of immigration on non-economic conditions such as ‘cultural’ assimilation, crime, civic and political participation exists in the areas of sociology and anthropology.\textsuperscript{4} Other strands of the literature deal with changes in political structure and the hegemony of the state in an age of transnationalism and transitizenship, to name but a few. Some of these diverse themes are reviewed in Bhandari (2006). For present purposes however, the objective is limited in scope, and this chapter deals only with the labor market impact of migration, eschewing other possible economic and non-economic effects. It is also to be understood that this contribution is predominantly a concise survey of recent literature and is not intended to present new scholarship except by way of commentary.

2 Immigration and the labor market in the host country
In principle, the effects of migration on host (developed) countries can be categorized according to the type of immigrant labor, whether (a) high skilled or (b) low skilled, and by their effects upon (i) low skilled natives, (ii) high skilled natives and (iii) prior immigrants in each skill category. In each category, an increase in the available supply of labor due to immigration would be expected to lead to a decline in real wages for natives. This assumes, of course, that markets for labor according to skill types are segmented, that foreign-born and native-born labor are substitutable, that there is no accompanying change in complementary factors such as capital, and that labor markets are competitive and well-functioning in all relevant aspects.

Much of the empirical literature in the area falls into two categories: inter-area spatial studies comparing high immigrant density areas with low density areas or national, aggregate studies. Some studies focus on markets for specific occupations such as computer programmers (Zavodny 2003) or Ph.D. students in the US (Borjas 2006b) and will be briefly reviewed in what follows. In addition, I also discuss briefly related results from other countries such as the United Kingdom and Germany.

3 The neoclassical model
In the standard neoclassical framework, labor demand and labor supply functions are assumed to be downward and upward sloping, respectively, in real wages.\textsuperscript{5} It is standard textbook learning that a positive exogenous shock to labor supply leads to a rightward shift in the labor supply curve

\textsuperscript{4} See, for example, Foner et al. (2003) and Bhandari (2006).

\textsuperscript{5} See, for example, Immigration: The Effects on Low Skilled and High Skilled Native Born Workers (Linda Levine, Congressional Research Service 2007, hereafter CRS Report). Some of the following discussion is based upon this paper.
and, in the immediate short run with all else unchanged, to a decline in post-immigration real wages of native-born workers in the sub-market. At the same time, there is a loss of native employment as some native workers opt out of the workplace, a gain in total employment, an increase in total national income, and redistribution of income in favor of capital owners. While the effects upon per capita income for all workers (including both labor and capital income) cannot easily be derived in this framework, there is clearly an increase in aggregate national income, which is often referred to as the ‘immigration surplus’ (see, for example, Levine 2007 and for more advanced analysis, Borjas 1994a and 1994b). It should be clear however, that short-run declines hypothetically occur in native employment, real wages and per capita income of native-born workers whose source of income is labor income alone. It should be no surprise that native workers in this labor sub-market would form anti-immigration views. At the same time, native capital owners and owners of complementary labor skills would find their economic lot improved with respect to real wages as a result of inbound immigration. Pre-tax real wages on income are not the only relevant income criterion, and one would also expect that states and population sub-classes with high tax burdens that are utilized to support immigrants would be averse to further immigration. In a recent short monograph, Hanson (2005) details the divisive nature of the immigration debate. Additional papers along these lines discussing distributional issues and attitudes of categories of individuals toward immigration are O’Rourke and Sinnott (2006), Bhandari (2007), Mayda and Rodrik (2005), Hainmueller and Hiscox (2005) and others.

But are this framework and its implications likely to be realistic? In part, this question can be related to the assumptions underlying the neoclassical model, of which several may be questioned and have, in fact, been relaxed in subsequent empirical work. First and foremost, labor markets are not generally viewed as being instantaneously flexible – a characteristic, for example, of option markets or of stock markets. This is apart from the fact that some wages may be set by long-term wage contracts under the aegis of collective bargaining. It may therefore be unrealistic to expect an immediate downward adjustment in real wages as depicted in this neoclassical framework. Second, a crucial assumption is that native- and foreign-born labor are interchangeable (perfectly substitutable) in this specific labor

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6 The percentage of the US labor force that is covered by collective bargaining union contracts has seen its heyday and has exhibited a downward trend. See Mayer (2004). In Europe on the other hand, collective wage agreements and powerful unions are still prevalent, especially in some industries and sectors of the economy.
class. As later work has pointed out, this may be untrue even for equivalent education levels (assuming that US and foreign education levels can be equivalently measured). Third, over longer periods and particularly in the modern era of ‘rapid response’, one would not expect either capital stock or labor demand to remain unaltered. In particular, complementary factors such as capital or complementary labor might easily adjust in a relatively short period to augment the demand for labor for the precise sub-market under consideration. Were this to be the case, and depending upon the relevant elasticities of substitution, it is entirely possible that no decline occurs in either native employment or post-immigration wages. Some of the recent empirical literature discussed below suggests precisely that these positive effects may occur and may, in fact, overshadow any negative effects. Fourth, in the intermediate run, the stark results of the native neoclassical framework may be undone by native-born workers responding to the influx of immigrants by either re-investing in education and training, which in turn, enhances total factor productivity, or by simply abandoning local markets and re-locating (‘diffusion effects’), which would offset the boost in labor supply and undo the effects noted above.\(^7\) Finally, related to the issues of complementary labor demand, two-way causality between immigration and labor demand and the difficulty of isolating true exogenous shocks to labor supply bedevil empirical work.

4 Empirical results for the US

The neoclassical framework discussed above clearly suggests that native-born workers in the affected labor market experience both a decline in per capita income and employment and, to this extent, are unambiguously worse off as a result of the immigration influx. At the same time, newly arrived immigrants undoubtedly gain from their sojourn to the US, because US wages, even adjusted in terms of purchasing power parity, are several times those in source countries. But what about the average US worker, that is, including workers across all skill classes? This question can be addressed utilizing data at either local or aggregate level, while the effects upon particular labor sub-markets for specific occupation are better examined in the context of the immediate local markets (except, of course, for highly educated and skilled labor such as Ph.D.s for whom the market is undoubtedly national or even international). Unsurprisingly, researchers working in this area have arrived at differing conclusions. In part, as mentioned below, the effects of immigration upon internal migration and vice versa remain unresolved to some degree.

\(^7\) See Greenwood and McDowell (1986) and Chiswick (1989).
As a preliminary matter, recent estimates of the foreign-born component of the US labor force are in the neighborhood of 14–15 percent (Congressional Budget Office 2005; Council of Economic Advisors (CEA) Report 2007). It is also known that a large majority of immigrants are bi-modal in their skill endowments. A large proportion (particularly those originating in Mexico and some Central American countries) are low skilled (Borjas and Katz 2007), while a small percentage (primarily from South and East Asia) are highly skilled. Only a small percentage of immigrants are in the intermediate skills category, which is by far the largest component of the US labor force. On an a priori basis, one would expect an influx of immigrant labor concentrated at the low and high ends of the skills spectrum to have little adverse impact upon the large intermediate skilled native US labor force. It should also be noted that the modern inflow of immigrants into the US has been a steady phenomenon over a period of decades, accelerating without doubt in the 1990s and beyond. However, it is scarcely the case, except for some local labor insurgence due to the Mariel Boatlift or Hurricane Mitch, that aggregate supply in the US has experienced a large and positive shock. If there are negative effects on US-born labor, one would more likely locate them in local markets or, perhaps, more transparently in perceived entry barriers in certain occupations.

A Spatial studies
Spatial or local labor market studies compare areas or locales with high immigrant density with those of lower immigrant concentration. For the most part, this literature focuses on the low skill end of the market as markets for highly skilled labor (for example, those with Ph.D.s) are scarcely expected to be local. While some of the studies and their results are discussed below, in general, such spatial studies do not find that labor markets for low skilled labor have experienced significant or even measurable adverse effects in areas of high immigration density.

8 In part, this is due to the fact that the education and skill levels of US native workers have evolved upward. See, for example, Borjas and Katz 2007).
9 If anything, one might expect a positive effect of low skilled immigration upon high skilled native-born labor due to possible complementarities.
10 Many scholars suggest that the seeds of illegal immigration into the US were sown with the termination of the Bracero Program in 1963. The former Braceros had forged significant social and other networks by the time of the formal cessation of the program. With established networks and lowered migration costs (see Massey 1987), legal migration once permitted under the Bracero Program was simply replaced by illegal migration.
In a series of papers and related work, Borjas et al. (1996, 1997) and Borjas (2003, 2006a) has suggested that such spatial studies might seriously underestimate the wage effects of inbound immigration in local markets because of labor mobility or ‘diffusion’. Specifically, native-born workers in high immigrant density areas do respond to the tightening labor market, not by accepting cuts in real wages but instead by displacement or moving out of the area into other parts of the country with better opportunities. Some may opt out of the labor market entirely. If true, the statistically measured effects of immigrant inflows in localized low skills markets on real wages and total employment would be minimal, the only effect being the substitution of native-born workers with foreign-born labor.

Some studies have focused specifically on the displacement of native-born labor or on the related amount of internal migration of native-born workers from certain localized markets. For example, White and Imai (1994) report a slight decline in native inbound migration (compared with normalized patterns) to areas with high immigrant concentration. On the other hand, Kritz and Gurak (2001) report measurable evidence of non-Hispanic white men leaving states with large immigrant inflows in the 1980s. Some other earlier studies reporting a weak link between immigration and internal migration are collected in Borjas (1992). In sum, reported studies for the most part do not find significant outmigration of natives from locales experiencing high immigrant inflows.

Other studies more directly attempt to estimate the effects of immigrant inflows in local markets on wages and employment rather than on internal migration patterns. It will be recalled that unless careful controls or instrumental variables are found and utilized, such studies are subject to the Borjas criticism of diffusion effects masking the true labor market impact of immigration. For this reason, Borjas has utilized national aggregate data in his work, but his approach too has not been immune from criticism.

Well-known work on local labor markets and immigration includes a series of papers by Card (for example, Alontji and Card 1991, Card 2005, among others). In an earlier work, Card (1990) examined the effects of the 1980 Mariel Boatlift to the Miami area, which boosted the local labor supply by some 7 percent. This sudden influx (along with the later influx from Central America due to Hurricane Mitch) might be as close as any to a laboratory controlled experiment. Nevertheless, Card failed to find significant local labor market effects. Later work by Card utilizing 1990 and 2000 census data respectively (see Card 2001) similarly examined the employment effects of recent immigration upon native workers and upon earlier immigrants in the same occupation skill groups. In both studies, the results appear to indicate a small adverse impact at the low end of the
skills spectrum. A possible rationalization may be that there is significant flexibility in factor proportions utilized by industries and that industries utilizing low skilled labor (including immigrants) were quickly able to adopt even more labor-intensive technology and absorb new immigrants without displacing the existing labor force.

In a more recent work, Kugler and Yuksel (2006) analyzed the labor market impact of an influx of immigrants from Honduras and other neighboring Central American countries devastated by Hurricane Mitch (a category 5 hurricane on the Simpson-Saffir scale) in 1998. The principal way in which Central American men responded to the disaster was migration northward, and external migration from Honduras and Nicaragua increased dramatically. Unlike the Mariel Boatlift whose effects were principally felt in the Miami area, the Mitch immigrants arrived over a wide area of the southern United States in Texas, Florida and California. Thus, the labor market impact was not quite as concentrated as with the Mariel Boatlift, that is, some natural diffusion had already occurred. Unlike the ‘Marieltos’ (some of whom were repatriated to Cuba later) who were granted work permission in the US only some years later in 1984, the Mitch refugees found a ready response from the Immigration and Naturalization Service (INS). Specifically, within two months of the hurricane, the INS moved to grant Temporary Protected Status (TPS) to the refugees. This procedure had only been used for refugees fleeing war and civil unrest in the past. As a result, the Mitch refugees were quickly legalized and were able to lawfully enter the US labor market in a short period.

Kugler and Yuksel attempt to exploit this influx of immigrants to determine their labor market impact. The authors also take note of the possible endogeneity problems created by the fact that immigrants may have moved to areas where their perceived skills were in high demand. In addition, Kugler and Yuksel also measure the extent, if any, of outmigration of US native workers from affected areas. Utilizing a two stage instrumental variables strategy, the authors arrive at several interesting findings. First, there appear to be no measurable outmigration effects upon either US natives or prior immigrants. Second, they estimate a positive wage impact upon US natives with intermediate and higher education, and third, there is some evidence of weak negative wage effects upon less educated native workers. The latter negative effect is precisely consistent with the neoclassical substitution framework set out earlier. The positive effects upon skilled/educated native workers may be consistent with complementary effects emphasized

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11 The exception is Alontji and Card (1991), who report a significant negative impact on local employment conditions in the low skills market.
in a number of papers by Ottaviano and Peri (2006, 2007). Possibly, the presence of new low skilled labor complements skilled US native labor, increasing the latter’s factor productivity and thereby, wages. Direct measurements of factor productivity are difficult to come by and in any case, none is offered in their work.

As indicated above, one of the criticisms of spatial cross-section studies discussed above is the possible omission from these studies of outmigration by native-born workers from affected areas. Other than national studies, one possible way to address this point is to examine time-series data over a period of time so that outmigration effects may be reflected in the data and findings. Two studies (Schoeni 1997 and Johannessen and Weiler 2004) examine extended periods of time precisely in this vein. Schoeni analyses data for the 1970s and 1980s and reports the existence of significant labor market effects, although the type of labor market effect may have changed. For example, in the 1970s, low skilled natives experienced large declines in their wage levels due to immigration, but in the 1980s, the adverse impact may have manifested itself in the form of a decline in employment instead. It will be recalled, however, that neither the 1970s nor 1980s were periods of high immigrant inflows to the same degree as was to occur some years later. Johannessen and Weiler (2004) examine a shorter and more recent time period, that is, 1998–2002. Consistent with Schoeni, these authors also find measurable adverse labor market effects upon low skilled native workers in metropolitan areas experiencing an immigrant influx. And, as in the previous study, the labor market impact was primarily manifested in the form of withdrawal of US natives from the labor force rather than in either outmigration or a decline in wage rates.

B Aggregate studies
Aggregate studies utilizing national data have been conducted by several authors over the years. To some extent, such studies may avoid the effects of native outmigration noted earlier. However, as also mentioned previously, the percentage of foreign-born labor in the total US labor force still remains under 15 percent. As a consequence, statistical studies utilizing national data need to be powerful enough to isolate and discern potentially small effects on average wages for the entire US labor force. Some of these national studies are noted in Levine (2007) and in Council of Economic Advisors (2007).

12 Some of the populist literature takes a different view and ascribes stagnancy in real wages in the US or the relative decline in certain industries in recent years predominantly to immigration rather than to the nature of technological change and to the winds of globalization. See, for example, Buchanan (2006). A very recent book by Krikorian (2008) presents a more scholarly and balanced view.
Two early aggregate studies are by Topel (1994) and Enchautegui (1997). Topel examined the wage gap between low skilled and high skilled men in various regions in the US utilizing 1980s data and concluded that the rising wage premiums to skills were significantly due to immigration at that time, particularly in the Western United States. On the other hand, Enchautegui examined the decline in real wages of workers without a high school diploma over the same period of the 1980s. Decomposition techniques utilized by her appear to indicate that perhaps a third or less of the 13 percent decline in the real wages of these skills groups may be attributable to an influx of low skilled immigrants at a national level.

Papers by Camarota (1997, 1998) focus more directly on the relation between the share of immigrants in certain occupations (across the nation) and the earnings of native-born US workers in those occupations. Estimates from log-linear regressions reveal the presence of significant negative effects in unskilled labor markets. As expected, however, aggregation across occupations moderates the average effects and the impact upon the wages of high skilled labor is either indiscernible or slightly positive. The latter effect, it will be recalled, is consistent with labor complementarities as discussed earlier.

A number of papers by Borjas (such as Borjas 2003) are well cited in this area. Borjas utilizes national data and focuses not on wage inequality between low and high skilled workers, but on the secular decline in real wages of low skilled workers in the US over a number of years. Specifically, inflows of low skilled immigrant labor over the period 1980–95 caused at least a 5 percent decline in the real wages of low skilled workers in the US. More sophisticated later work by the same author, utilizing a 1960–2000 data set, corroborates these findings across various skill groups, including those at the bottom of the skills ladder. The work by Borjas remains the principal weapon in the arsenal of those ascribing the relative ill fortunes of labor in various skill categories to unchecked immigrant inflows.

Subsequently, Borjas’s work has been extended by Ottaviano and Peri (2006) in a number of ways. First, these authors utilize panel data from 1990–2004, and workers are disaggregated more finely according to both education and experience. Second, labor demand functions for different categories of workers are derived in a general equilibrium framework rather than being imposed exogenously in ‘reduced form’. Finally, capital

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13 Camarota (1998) estimates that the mean effect on wages of low skilled native workers is approximately 12 percent.
14 Borjas (2003).
stock is permitted to be fully endogenous. Ottaviano and Peri’s results are provocative but not fundamentally at odds with those of other scholars. Specifically, unlike the significant real wage losses in the low skilled segment of the market (for example, 9 percent in Borjas 2003), Ottaviano and Peri also find adverse real wage effects, but the quantitative magnitudes are much smaller with a barely discernible real wage loss of 1–2 percent due to immigration. But, unlike other national studies finding aggregate effects upon the national labor force to be negligible, Ottaviano and Peri find a measurable increase in the mean wages of all US workers. This is due to the presence of strong complementarities with intermediate and highly skilled US labor. When the results are disaggregated according to US-born labor and prior immigrants, these authors find a significant adverse impact upon prior immigrants. However, because US immigration policy (unlike that in Canada, Australia and now the UK) is very largely family based, poll after poll finds that prior immigrants at all skill levels continue to support new immigration despite its economic costs. Presumably, the non-economic benefits of reunification with family outweigh the economic losses for this group in its calculus of life.

C Effects on the high skills market in the US
There are relatively few studies that examine the effect of recent immigration on the high skills labor market in the US. This is not surprising since immigrants are overwhelmingly low skilled; they cannot therefore exert competitive substitution effects upon highly skilled US workers. As discussed earlier, low skilled labor complements high skilled labor, permitting the latter to specialize more completely in knowledge-intensive and high-productivity activities. The presence of such complementarities has been validated in one form or another by various scholars, including Ottaviano and Peri (2006).

What about the effects of immigration of high skilled foreign labor? Clearly, in this case there will be no complementation of native high skilled labor and substitution effects may look large. Should this be the case, one

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16 In fact, Ottaviano and Peri assume that full capital stock adjustment takes place within one year. Some may find this period to be excessively short for full adjustment of fixed capital stock.

17 Borjas and Katz (2007) points out that among the recent immigrants to the US, those from Mexico (who comprise a large proportion of the total) are most likely at the bottom of the skill and education spectrum.

18 For instance, the provision of housekeeping services, lawn care etc. by low skilled labor may free up valuable time resources for high skilled labor, enabling the latter to raise effort levels in skilled activities.
would expect the high skilled labor market in the US to experience adverse effects following an inflow of direct foreign competition.

A recent paper by Borjas (2005c) uses data from the Survey of Earned Doctorates and Survey of Doctoral Recipients in the US to demonstrate that the inflow of foreign doctoral students into the US, most of whom enter the US labor market after successfully obtaining Ph.D. degrees, leads to significant negative effects upon the salaries of competing workers in the specific fields in question, whether the competing workers are US-born or prior immigrants or both. The estimated elasticity is approximately –0.3 for all doctorates in the particular fields considered. Some 23 separate fields in the sciences, engineering and some social sciences are included in the sample. The total numbers involved are naturally small; approximately 41,000 doctorate degrees in all fields were awarded by US universities, but even when stratified across 23 fields, the sample sizes utilized are large enough for accurate statistical analysis.

There appear to be a few studies specific to computer programmers/software designers entering the US under the H-1B specialty occupation visa. The H-1B visa was created in 1990 as a guest worker program to permit US industry to alleviate shortages in specific technical skills. Either a college degree (not a Ph.D.) or equivalent professional experience is required for the petitioning employer to obtain such a visa for a foreign beneficiary, who must be paid the ‘prevailing wage rate’ for the particular occupation and locale (8 USC section 1182 (n)). Utilizing data on approved Labor Condition Applications (LCAs) from the US Department of Labor for 2004, Miano (2005) found that foreign-born H-1B professionals were paid significantly less than their US counterparts. Although the author does not directly address the effects of the H-1B program on the work conditions of US workers, it seems clear that salaries of existing US-born workers in these occupations were not depressed. The findings are consistent most likely with the fact that US employers utilized the H-1B program as a source of inexpensive labor segmented from their US counterparts. It

19 The percentage of foreign-born doctorates in particular fields varies from around 5 percent in psychology to close to 50 percent and over in civil and mechanical engineering and about 40 percent in computer and mathematical sciences (Borjas 2005c, Table I). The medical professions do not grant Ph.D.s and are not reflected in the data. It should not be surprising that fields that require extensive verbal articulation such as psychology have a relatively low percentage of foreign born doctorates compared with the mathematical or computer sciences.

20 Miano reports that in 2004, H-1B workers in computer programming were paid approximately $13,000 less than Americans in the same occupation and state.
may also be that the shortage of such specialty workers in the US was more illusory than real; had there been a genuine and pressing shortage, perhaps, the wages of all H-1B professionals would have been bid upward. Another study (Zavodny 2003) concluded that the H-1B program may affect wages of US-born workers, but likely increased their unemployment rate, or at least job search times. A possible reason for the conflicting evidence for specialty occupations and those for Ph.D.s may be that Ph.D. markets may be small and the effects of foreign competition correspondingly much more evident than in the computer programmer market, which is much larger. In addition, H-1B workers are temporary guest workers tied by their visa restrictions to specific employers, whereas Ph.D.s who enter the US market usually do so under the first preference of permanent employment-based immigration and are free to choose and move between employers.

In any case, it is amply clear that high skills markets in host countries are characterized by substitution effects and, to this extent, are adversely affected when such effects are sufficiently discernible.

5 Results from other countries

In this section, I briefly review empirical results for two countries other than the US, namely Germany and the UK. There appear to be relatively few studies published in English for other countries.21

5.1 Germany

Labor markets in Germany have received a good deal of attention.22 It is generally agreed by most scholars that German labor markets are characterized by much more structural rigidity than the US or UK. To this extent, adverse labor market shocks in Germany are likely to result in an increase in unemployment rather than a decline in wages and, in fact, recent empirical research bears this out (D’Amuri et al. 2008).

Germany experienced two large inflows of immigrants after the end of World War II. These labor market shocks can be viewed as large-scale variations of the Mariel Boatlift in the US, although they occurred over a somewhat longer time frame. The first inflow began in the mid-1950s

21 For Israel see Friedberg (2001) and for the Algerian influx into France, Hunt (1992). A comparative analysis of migration from and in Canada, the US and Mexico is contained in Aydemir and Borjas (2006).

22 See for example, Zimmerman et al. (2007), Glitz (2006), Bauer and Zimmerman (1997), D’Amuri et al. (2008) etc. Well-known think tanks and research institutes in Germany such as the IZA in Bonn produce a large quantity of high quality research (in both English and German) relating to labor market and migration.
with the recruitment of guest workers (Gastarbeiter) from Southern and Eastern Europe for the reconstruction of German industry following its devastation during the war. The temporary workers were not of German ethnic ancestry and assimilated poorly in German society and culture.

The guest workers were intended to be temporary with no rights to family reunification. Nevertheless, many such workers did circumvent the rarely enforced ban on accompanied stays and continued to stay permanently in Germany with their families. Neither they nor their descendants could ever aspire to participate in German civic life through citizenship because German citizenship was limited to *jus sanguine* principles until after 1999 (Joppke 2000; Fertig and Schmidt 2001). Finally, under the strain of the economic downturn in 1973 following the first OPEC crisis and under pressure from the powerful German unions, the German government moved to ban further recruitment of temporary workers. By that time, the German Federal Statistical Office estimated that the foreign-born population accounted for 6.4 percent of West Germany’s total population.

After the end of the Cold War, Germany resumed its policy of permitting temporary migration from Eastern and Southern Europe (including Turkey). Parallel to this were two other labor inflows—those of ethnic Germans with German citizenship who had lived abroad for a long period and also former East Germans who decided to re-locate to the western part of the now united country. Over the period 1990–2001, some 2 million former East Germans moved to the West (Statistisches Bundesamt Deutschland 2006a) while the flow of ethnic Germans (not from former East Germany) accounted for another 2.8 million persons (Statistisches Bundesamt Deutschland 2006b). By 2006, foreign-born citizens accounted for 10 percent of the German population, but in quantitative terms, Germany had the highest number of foreign-born persons in Western Europe.

While the interested reader is referred to Zimmerman et al. (2007) for more detailed discussion of the German labor market and immigration, recent work by D’Amuri et al. (2008) is instructive. These authors extend the general equilibrium framework of Ottaviano and Peri (2006) mentioned previously and utilize data from the period 1987–2001 to determine the effects of the sharp increase in the non-West German share of workers in the total German labor force. Migrants arrived from both former East Germany and Southern European countries. In addition, large numbers of ethnic Germans holding German nationality under the *jus sanguine* principle but living abroad returned to the united Germany. All three groups are treated as immigrants for purposes of analysis and the share of all immigrants in the total labor force increased from 9.3 percent in 1987 to
over 13 percent in 2001.\textsuperscript{23} The authors separate the effect of migration upon natives and on prior immigrants in former West Germany. Panel data analysis disaggregated by education and experience indicates that the mass migration had no discernible impact upon wages or employment rates of native West Germans (that is, the new immigrants were viewed as being very distant substitutes), whereas prior immigrants to West Germany experienced employment losses but not adverse wealth effects. This finding is consistent with the structural rigidities in the German labor market and with prior work in this area.

\textbf{B The United Kingdom}

As may be expected, there is a considerable amount of literature on the effects of immigration on UK labor markets, social cohesion, public congestion etc.\textsuperscript{24} Recent papers include those by Manacorda et al. (2006), Dustmann et al. (2007) and an extensive report by the Select Committee on Economic Affairs of the House of Lords (2008) (hereafter, HL Report (2008)). Manacorda et al. (2006) note that, similar to the German experience, despite the increase in immigration to the UK, wages of UK-native-born workers have not exhibited any measurable effect. However, prior immigrants in the UK, as in Germany, have experienced an adverse impact.

The HL Report (2008) takes issue with the position of the British Government that immigration is necessary to reduce the number of vacancies in the British labor market and that immigration has generated fiscal benefits for the public coffers and that at least some portion of the increase in per capita GDP is due to immigration. The British Government’s positive view of the economic benefits of immigration is similar to the sanguine views expressed by the Council of Economic Advisors to the President of the United States (CEA 2007).

The House of Lords Committee conducted a detailed analysis of immigration’s economic impact and of the government position after extensive consultation with academics and researchers and arrived at several conclusions. Note at the outset that since immigration from the European Economic Area (the EU 27 plus Norway and Lichtenstein) is not subject to controls, analysis of immigration to the UK is limited to source countries


\textsuperscript{24} The effect of social cohesion of immigration in the UK was the subject of study by a Parliamentary Committee of the House of Commons and its first report was recently released. See http://www.publications.parliament.uk/pa/cm200708/cmselect/cmcomloc/369/36902.htm.
outside the EEA. First, there is a pressing need to improve the current entirely inadequate migration statistics in order to conduct analysis and to make informed policy judgments. While it is known that immigrants in the UK are highly concentrated in London and to some extent Yorkshire and Humberside (together these areas may account for about three-quarters of all new immigrant settlement over 1991-2006), there is very scanty data on local levels other than London. In addition, record-keeping on emigration still appears to be very unsatisfactory. Improved data collection and access will be especially necessary as the British Government phases in its new points-based system starting in 2008. With the introduction of the merit-based points system, Britain joins Canada and Australia, leaving the US as the sole, large advanced country in the English-speaking world to rely principally on family-based chain migration. Second, the Report questions the wisdom of the British Government’s reliance on the number of vacancies in the British job market as indicating a need for additional migration. A certain number of vacancies in the job market are consistent with an active and dynamic labor market. Third, the Report rejects the government’s position that immigration may also be necessary to diffuse the ‘pension time bomb’ (referring to the impending insolvency of the pension funds scheme). Immigrants too will draw pensions as they age in Britain. At most, an influx of tax-contributing working immigrants can postpone the day of reckoning without an increase in the retirement age and in tax rates. For this reason, the long-term fiscal impact of increased immigration is likely to be small at the national level. While the overall employment rate of immigrants is currently lower than for UK-born natives (68 percent versus 75 percent), the gap is declining and the additional incremental drain of immigration on the public coffers is diminishing.

Turning to the direct labor market impact of immigration, the Report carefully points out that the labor market effects of immigration are best analyzed separately for four groups: source country residents who are left behind, native-born UK workers, prior immigrants residing in the UK and the new migrants themselves. There is little question that new migrants are large economic beneficiaries once they enter the British labor market. Wages, even when adjusted for the cost of living in Britain or

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25 It is also known that since 2004, immigration from the A8 countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia and Slovakia) comprises a full one-third of all new immigrants.

26 For an interesting discussion of portability of pensions across countries or their possible role in encouraging return emigration (if this were desirable) see Koettl (2006).

27 This finding is similar to that for the US. See generally, Hanson (2005).
other advanced countries, are several times those in the source countries. The impact upon residents remaining in the source country is very likely positive. Remittances sent home by foreign migrants are often a significant source of income for families remaining in the source country. In smaller source countries, the exodus of labor may also ameliorate excess supply in labor markets. The social cost of migration is of course the ‘brain drain’, which is more properly the subject of another paper on emigration. As observed for the US, the Report points out that immigration may have a positive effect on wages for complementary labor in principle, and a negative impact on substitute labor in the short run. If labor markets are structurally rigid, the principal effect may be upon unemployment rather than on wage levels. If rising aggregate unemployment is the short-term impact, existing inflationary pressures may be moderated and monetary policy loosened.

Empirical evidence for Britain is cited in a Ernst & Young ITEM Club study released in December 2007. The study indicates that the short-term impact on per capita GDP in Britain is either negligible or slightly negative. As pointed out in the HL Report and in some other studies (Dustmann and Fabbrì 2005), isolating the effects of immigration upon wages is confounded by endogeneity problems. For example, immigrants are attracted to areas of economic growth and demand expansion, that is, wage growth and demand expansion fuel inbound immigrant flows, which in turn feed back upon market-clearing wages (or unemployment rates). Appropriate instrumental variable techniques are often utilized to find suitable regressors to circumvent the estimation bias that may result from such two-way causality.

6 Conclusion
In this contribution, I have selectively reviewed some of the large literature dealing with the labor market impact of international migration upon developed host countries. It should be observed that there is also a large amount of migration to the oil-rich Middle Eastern countries (principally

28 The ‘brain drain’ refers to the exodus of skilled individuals from source countries or those who acquired secondary education there and then departed as foreign students (never to return and contribute to taxes) to advanced countries. The ‘drain’ is the public resources expended upon education of the individuals in the source countries that will not be repaid by way of tax contributions later or by participation of these individuals in civic life at home. There is a very large literature on the subject of remittances and ‘talent mobility’. One contribution dealing with the interrelation between remittances and the brain drain is by Ozden and Schiff (2005). See also Martin et al. (2006).
from South and East Asia), but the issues raised by this variety of migration are of a different nature than for advanced countries where the displacement of native-born labor may occur. In addition, this chapter has not dealt with the effects of migration upon source or sending countries, that is, the ‘brain drain’ or in some cases the ‘brain gain’. Finally, I have also not reviewed the considerations and issues involved in intra-EU labor mobility. Labor mobility within the EU is one of the ‘pillars’ of the EU Treaty and was never expected to raise the same issues of native labor displacement by low cost foreign labor as the type of traditional immigration from less developed to advanced countries discussed in this contribution.

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