Projecting demand for skilled foreign labor and meeting skills shortages: Selected country approach

Migration and Remittances Peer Assisted Learning (MIRPAL)

The World Bank,
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Prepared by Jacqueline Irving, Consultant Economist for the World Bank’s Migration and Remittance Peer-Assisted Learning (MiRPAL) network, under the supervision and guidance of Erwin Tiongson and Sudharshan Canagarajah. Jean-Christophe Dumont, B. Lindsay Lowell, Vanna Aldin and Laura Zanfrini provided many useful comments and suggestions. The paper also draws information from a series of seminars on the topic held at the World Bank in 2012, including a presentation on Singapore by Chia Siow Yue, and a workshop in Moscow in 2012, all sponsored by MiRPAL. The usual disclaimer applies. The views expressed in this paper are those of the authors, and do not reflect the view of the World Bank Group.
Key Messages

- Most migrant receiving countries appear to be taking a mixed approach in monitoring and projecting their demand for foreign skilled labor, combining, to varying degrees, bottom-up and top-down methodologies (an emphasis on collecting responses from individual stakeholders or stakeholder groups and an emphasis on aggregate indicators, respectively).

- Challenges in projecting an economy’s demand for skilled foreign labor may include bias and gaps in available data sources, as well as difficulty determining the most appropriate methodology and impediments posed by imperfect methodological assumptions. A difficult economic context may provide further challenges to projecting and filling foreign labor needs.

- Policy makers apply skilled labor gap projections to their immigration policies in a number of ways including: differentiating immigration policies by region, based on skills supply and demand mismatches; introducing more flexibility in admissions policies to acquire specific skills; and designing programs to actively attract immigrants with specific needed skills to specific occupations.

Introduction

Over the past two decades, the world’s top immigrant-destination countries have been granting entry to increasing numbers of highly-skilled immigrants in response to changes in global labor supply and demand (Lowell, 2008). Aging populations, falling birth rates and other demographic changes in many immigrant-destination countries, combined with the economic downturns a number of these countries have faced recently, have raised the profile of the policy debate on how and to what extent foreign labor should fill skills shortages. As unemployment rates have risen, particularly in Europe, even very highly-skilled foreign workers residing in these countries have met with resentment and hostility in some cases from disaffected locals, fearing declines in their job security and living standards.

Among the more contentious issues in the policy debate is the role of training and retraining of local populations to better meet labor skills shortages. While acknowledging that the US education system is in need of an overhaul to better equip the native-born population for highly skilled, technical jobs, a recent report drawing on US census data points out that such an overhaul would only bear real results in the long-term and, in the meantime, well qualified foreign-born workers can effectively fill these skills gaps (Partnership for a New American Economy et al, 2012). In some countries, such as Germany and the Netherlands, the policy framework for admitting skilled foreign labor has been one formally acknowledged component of a broader, more long-term policy for regearing training and education of native-born workers to better meet skills gaps (McLaughlin and Salt, 2002).

Another key issue in the policy debate is the role accorded to “natural corrections” to the inflow of foreign labor, depending on the economic cycle in the immigrant destination country. Somerville and Sumption (2009b) point out that policies that strongly and suddenly halt or even reverse inflows of skilled foreign labor during a recession can be damaging to an economy’s
prospects for and overall speed of recovery. A related issue is the extent to which skills gaps should be filled by temporary versus more permanent foreign skilled labor, as well as foreign students, with admissions of the two latter groups increasing rapidly in top immigrant-destination countries since the late 1990s (Lowell, 2008). Programs allowing for hire of foreign-skilled workers on a short-term basis and providing a structured means for facilitating their return with close cooperation of home and host countries may help minimize “brain drain” effects on immigrant-origin countries (Martin, 2003; Lowell, 2008). On the other hand, the predominance of permanent immigration in Canada is considered a feature of that country’s experience that has led to more successful integration of immigrants under the policy encouraging “multicultural integration” (rather than assimilation) and, consequently, produced relatively high levels of support for immigration among its citizens (Bloemraad, 2012).

The year 2000 was seen as a turning point in immigration policy in Germany, a major immigrant-destination country in Europe, as it sought to manage migration inflows to attract a specific category of skilled labor with its introduction of temporary (five-year) residency for eligible highly-skilled, foreign IT professionals (Oezcan, 2004). This landmark shift in immigration policy is also considered to have broadened the policy discussion to take note of the country’s aging population and declining birth rates. In addition to proposing legislation in 2000 that would provide a more selective points-based system for acquiring needed skills, the government underscored the importance of good German language skills as critical to the successful integration of immigrants in society (see also Box 3 below). The newly proposed legislation envisaged mandatory language classes for immigrants including a penalty for noncompliance that could lead to revocation of residence status. The proposed law was contested by Germany’s conservative opposition on a few occasions over the following few years, however, and was only put in place in 2005 once the points system provision was removed to meet the demands of the Christian Democrats, who had a majority in the upper chamber of parliament at the time. Citing security concerns in the wake of terrorist attacks in Spain and the US in the first half of the decade, the Christian Democrats, for their part, succeeded in including streamlined provisions in the law allowing for deportation of foreigners deemed possible threats to national security. The enacted law has come under criticism by those on the other side of the policy debate for failing to adequately address Germany’s labor market challenges and demographic shifts.

Drawing on the case of the UK during the global financial crisis and its economic fallout, Somerville and Sumption (2009b) argue that policymakers must confront the particular challenges that immigration poses during economic downturns by taking measures to better integrate immigrants, including those with specialized skills. These measures include increasing investment in social or community cohesion and ensuring enforcement and regular review of labor market standards, as well as making “carefully judged” changes to the national system for admitting immigrants. Government investment in programs and measures that seek to better integrate immigrants in broader society can also reap benefits in the form of providing the government with more scope and flexibility in policy making in this issue area, by virtue of reassuring native publics that the net impact of immigration can be beneficial rather than harmful (Somerville and Sumption, 2009a). Challenges to the ability of governments to put in place such programs have increased in recent years, however, as the need to reduce government budgets, particularly in EU countries, will likely to lead to cuts in spending on immigrant integration programs. Unfortunately, these cuts may come at a time when the impact of austerity measures in these countries may intensify local resentment towards immigrants.

While highly skilled immigrant workers often weather economic downturns better than unskilled workers because they tend to have more options available including switching sectors or accepting a lower skilled job, they often face significant wage declines if they remain in their host
countries under these circumstances. Papademetriou et al (2010) argue that the investments made by employers in bringing in and training highly-skilled immigrants may provide some relative job-security to these workers during an economic downturn, although this will vary by each destination country’s particular policy, economic and institutional contexts.

Like the UK, the US tightened criteria that employers must meet before hiring foreign workers during the recent recession, but immigrant destination countries in Europe and North America generally have not resorted to an outright “beggar-thy-neighbor” policy (Papademetriou et al, 2010). Although economic growth has remained sluggish in recent years, the policy debate in the US over whether to admit more foreign STEM workers—those highly skilled in science, technology and mathematics—reached a crescendo toward the end of 2012 as lawmakers considered a bill to meet critical high-tech skills shortages by granting 55,000 more visas to these workers. One reason the bill stalled, however, is the policy tradeoff that would accompany its passage: an increase in STEM worker admissions would be accompanied by a decrease in visas allotted randomly to immigrants under the US diversity visa program. Supporters of a wholesale increase in the number of STEM foreign worker admissions argue that these workers typically have very low unemployment rates and, rather than taking jobs from US-born workers, they may actually create jobs due to their positive impact on R&D and innovation (Partnership for a New American Economy et al, 2012).

In the past few years, academic and policy circles in the US also have been taking up the debate on whether a points-based system would improve the policy framework for admitting skilled immigrants. Points systems typically emphasize an immigrant’s employability by assigning points based on age, education, skills, work experience, and proficiency in the language of the destination country. Points systems often have been implemented by governments to meet certain political and policy aims, including to assure their publics that they are applying universal, data-driven criteria based on domestic economic and labor market interests in allowing entry of new immigrants. Some critics of these systems have argued that they are not an effective or efficient means of filling labor skills gaps, however, because they allot points to applicants for a prespecified set of factors that will not necessarily ensure the best match between employer demand and labor supply to fill a specific position.

The points-based systems in Australia and Canada, among the first such systems worldwide, are generally acknowledged as providing a relatively successful mechanism for managing immigration of skilled workers, lauded for their characteristics of flexibility, adaptability, and simplicity (Papademetriou, 2007). In response to the global recession, however, Australian policy makers narrowed the list of eligible occupations on the “critical skills” list in 2009 and also reduced the overall number of visas available for skilled foreign workers—the first such downsizing of the program in a decade (Fix et al, 2009). A year later, Australia revised its points system to attract more highly skilled and well-educated migrants. Canada, in contrast, opted to maintain the number of visas allocated to skilled workers under its points system in the aftermath of the global financial crisis, following a review of demand patterns for foreign labor in its regional markets. At the same time, it revised its system to accelerate processing of applications for immigrants in certain skilled occupations facing more acute labor shortages, including nurses and engineers.

This paper aims, in the first section, to provide a cross-country comparative overview of different approaches that selected migrant-receiving countries’ policy makers take to projecting their current and future demands for technically skilled labor. In comparing country approaches, the paper identifies several common challenges that policy makers face in projecting demand for skilled foreign labor and the ways that policy makers seek to ensure that the information and data
they evaluate are as robust as possible. The paper then surveys migrant-receiving countries’ various policy responses and processes used to determine the number of immigrants to be admitted to fill identified skilled labor gaps. The paper concludes with a section on lessons learned in addressing skills shortages in immigration policies, based on a selected review of migrant-receiving country practices.

**How do countries project demand for skilled foreign labor?**

The different methods and approaches countries take in assessing and projecting demand for skilled labor can be grouped broadly into three main categories:

- An emphasis on bottom-up approaches, which rely on collecting disaggregated responses from individual stakeholders or stakeholder groups. A common example of a bottom-up approach is employer surveys, which assess trends in individual occupations and concerning specific job functions;
- An emphasis on top-down approaches, which rely more strongly on national statistical data and aggregate indicators;
- More truly hybrid approaches, which seek to combine a balanced mix of elements of bottom-up and top-down methodologies.

Most migrant receiving countries appear to be taking a mixed approach, that combines, to varying degrees, bottom-up and top-down methodologies in monitoring and projecting their demand for skilled labor and identifying gaps by occupation that can be filled by hiring foreigners. Nevertheless, several countries, such as Germany and Singapore, seem to more strongly emphasize bottom-up over top-down methodologies, giving priority to the use of surveys and other methodologies that incorporate employers’ input on quantitative data such as estimated and projected vacancies by occupation and also qualitative information on experiences in hiring from abroad, future plans, and opinions on future policy in this area. The US, in contrast, while drawing on input provided by employers in projecting skills shortages, appears to rely more so on top-down methodologies compared with some other countries. Projected admissions of computer and engineering (C&E) workers under the US Senate’s Comprehensive Immigration Reform Act (S.2611) are calculated largely based on data for previous admissions, adjusting for estimated mortality, emigration and labor force departure.

**Emphasizing bottom-up approach.** Singapore provides an example of a strong policy emphasis on a bottom-up methodology in projecting and meeting demand for foreign skilled labor. Indeed, foreign skilled workers are admitted to Singapore based entirely on employer demand (Chia, 2012). In this market-tested system, each employer in this small country completes a form on a monthly basis providing information on the number of workers they hire and how much they are paid, enabling the government to closely monitor labor demand and supply gaps. A worker levy, determined entirely by the market (employers in collaboration with their industry associations), is used as a policy instrument for managing migration: narrowing gaps between citizens’ reservation wage for a particular occupation and corresponding foreign worker wage demands.

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1. In determining admission of foreign skilled labor, it is worth noting that the United States has an employer-driven system which relies on employer sponsorship of foreign workers, coupled with a job certification/attestation system that pre-screens sponsorship by requiring the employer to demonstrate a shortage of qualified workers in the domestic labor market and payment of a prevailing wage. At the same time, the number of workers that can be admitted is limited by legislatively set quotas.
In Germany, a survey of employers administered by regional chambers of commerce and initiated by the OECD aims to incorporate employer views in foreign labor demand projections so as to try to achieve better granularity of results (Liebig, 2012). Employer survey questions seek to collect information on job openings in the year prior to the survey year, as well as qualitative information. Doudeijns and Dumont (2003) explain how foreign employee admissions in information and communications technology (ICT) in the first half of the last decade were determined by an extended survey of ICT employers in Germany, together with estimates of the size of the labor supply shortages based on employment projections. With the ICT employers’ survey pointing to a need to fill 75,000 vacancies at the time, a Green Card scheme was set up to allow the sector to employ 20,000 foreign workers on five-year permits between 2000 and 2005. Germany continues to give priority in its immigration policies to the admission of skilled workers from countries who have higher education qualifications in the ICT field (European Migration Network, 2011).

An “employer-led” scheme has also been in place in Sweden since 2008 as a mechanism for gauging labor demand needs that cannot be met domestically (Collett, 2011). The Benelux countries also rely heavily on labor market demand in determining the number and type of skilled labor worker entrants, allowing employers to strongly influence these outcomes.

**Emphasizing top-down approach.** The U.S. has a system that functions within legislatively set or top-down limits, although employers tend to drive foreign skilled labor migrant admissions. For example, employers may sponsor immigrants only if they demonstrate the superior qualifications of the immigrant and/or that qualified workers are unavailable in the domestic labor market at the prevailing wage. While there are issues with how well employers’ own assertions of a lack of eligible workers in the US labor market actually functions in determining labor shortages, this approach attempts to directly gauge demand but places limits via regulatory mechanisms and static, numerical quotas. Those quotas are fairly static in that they were first put in place in 1964 and then revised most recently (trebled) in 1990. The failed Comprehensive Immigration Reform Act (S.2611) bill retained employer-driven demand for immigrants, but would have increased quotas roughly five-fold while building in an automatic escalator on future quotas for visas that reached current quotas. The arbitrary nature of those increases can be seen in that projections of the immigrant flow based on the proposed legislation could well have led to the admission of about one-fifth more foreign workers than projected employment demand in the IT field (Lowell, 2006). The latter estimate is in excess of the US Bureau of Labor Statistics biannual projection of future occupational employment.

It may be that Congress considered significantly expanding quotas because it had strong belief that the employer-driven system successfully matches demand to supply. That is to say the system is intensively employer driven (Martin and Ruhs, 2011). Indeed, in certain technical sectors that have experienced strong growth and, therefore, strong demand for skilled labor, the approach to importing skilled labor in the US, in practice, can be intensively employer driven

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2 Some consider the US system as “centrally driven”, thus introducing a fourth approach in this note’s typology, and generally refers to the legislative setting of numerical quotas and administratively set admissions determined by quasi-independent immigration agencies. We thank Lindsay Lowell for making this distinction.

3 At the same time, most US states and many cities have Labor Market Information offices that attempt to identify current and future occupational demand, although this is done as a service to employers and to students/other prospective workers.

4 The US BLS model for projecting labor demand is fairly comprehensive in scope, covering 82 occupational categories, 24 industry sectors, and 53 education types on five levels (Doudeijns and Dumont, 2003).
(Martin and Ruhs, 2011). Under the US H-1B program, visas are granted to foreign workers who hold at least a bachelor’s university degree, driven by the request of US employers seeking to fill jobs that typically require degrees. During the 1990s information technology boom, IT employers wielded considerable influence on immigration policy in the US: the ceiling on the number of foreign IT workers admitted was raised and IT employers were also able to securing exemptions from the cap and in many cases hire foreign workers even where US workers with requisite skills were in supply (Martin and Ruhs, 2011).

**Combining more balanced mix of top-down and bottom-up approaches.** The UK government set up the Migration Advisory Committee (MAC) in 2007 as an independent public body to “provide evidence-based advice” on how demand for skilled labor could “sensibly” be filled by foreign workers outside the European Economic Area. Collecting bottom-up evidence by occupation and even by specific job function from employers, workers and other stakeholders is central to the UK MAC’s approach to projecting labor shortages and how to fill them (Martin and Ruhs, 2011). However, in reviewing whether a particular occupation meets the main criteria for determining that it is facing a labor shortage, the MAC uses a combined methodology that also draws strongly on national-level data (top-down approach).

Since 2008, the UK’s MAC has drawn up shortage occupation lists that can inform decisions on the number of admitted skilled immigrants under the UK’s Points Based System for immigration (MAC, 2010). The Committee determines the occupations on these lists based on criteria that the occupation must be skilled, experiencing a labor shortage and, that it would be “sensible” to bridge the gap between local labor supply and demand by importing labor from outside the European Economic Area (see also Box 1).

In Australia, the government replaced the Migration Occupations in Demand List (MODL) system in 2010 with a more targeted Skilled Occupations List (SOL), expected to more closely suit the needs of Australia’s labor market (MAC, 2010). Changes to Australia’s approach to managing migration in line with labor market demands intend to give more focus to professions and trades that have the highest value to the Australian economy. Australia prepares occupational projections, differentiated by geographic region. A Job Outlook Report is prepared to project the skills likely to be in demand in the country’s labor market in future, based on projected labor demand and supply trends by occupation. The report lists nearly 400 occupations, providing an indication for each of projected future earnings, job growth and turnover over a several year period and includes explanations for expected labor skills shortages. The report is publicly accessible, posted and updated on the Internet. Lists are drawn up by region based on input provide by regional labor offices (Doudeijns and Dumont, 2003), which provide information on the extent of labor shortages (whether state wide, regional or metropolitan). Australia’s system will flag a particular skills shortage as national when it’s determined that the shortage exists in a number of states or at least three main metropolitan areas.

The Austrian Public Employment Service (Arbeitsmarktservice, AMS) monitors and forecasts up to a four-year horizon mismatches between skilled labor demand and supply to prepare and maintain an AMS-skills barometer (CEDEFOP, 2012). The methodology employed is one of compiling and “editing” a combination of quantitative and qualitative labor market information that is gathered using a mix of bottom-up and top-down approaches. In addition to compiling information on job vacancies, regional offices of the AMS conduct a survey of more than 20,000 firms that employ at least 20 people. Periodic discussions are held throughout the year with relevant stakeholders such as firm representatives and educational providers and labor market statistics are compiled from providers such as Statistics, as well as various other national and regional level sources. Qualitative “expert interviews” are also held as a means of validating and
supplementing data and information collected. Although its focus is national, the AMS collects regional data and information by Austrian province and integrates this into the barometer.

Italy, Portugal and Spain also project their demand for foreign labor by differentiating between different regions and industries within their countries (Doudeijns and Dumont, 2003; European Migration Network, 2011). These projections apply hybrid approaches that draw on economic forecasts and regional unemployment rates, as well as consultations with stakeholders and specific employer reports. In Italy, a decade ago, the government had monitored firms’ labor and training needs—including the need for foreign labor—by surveying samples of firms from among all private sector firms with at least one employee and registered with Italy’s Chamber of Commerce. Zanfrini (2002) explains the methodology that had been used for estimating demand for technically skilled foreign labor in 2001-02, which used telephone surveys in reaching firms employing up to 250 people and in-person interviews for obtaining input from the some 3,000 firms that employed more than 250 people. Zanfrini (2002) found that small firms of just under 50 employees were projected to provide for more than half of the jobs filled by foreign workers in 2002 to make up domestic labor shortfalls—and in industry, up to 70%. This is in line with small firms accounting for the vast majority of new hiring overall in Italy. Moreover, the services sector accounted for a larger volume of new hiring of foreigners than did manufacturing. More recently, in the several years since the global financial crisis and the ensuing recession, the system for gauging and filling skilled labor needs in Italy has changed to emphasize recruitment of foreign skilled workers that have already been residing in Italy, in cases where it is determined that there is a need to recruit non-Italians. Italy’s Ministry of Labor is looking, in future, to meet the economy’s demand for foreign skilled labor through recruitment of eligible foreigners from those migrant-sending countries with which Italy has concluded bilateral agreements specifically for importing needed foreign labor skills and which include a strong training component (Zanfrini, 2011).

Box 1. The evolution of the UK Migration Advisory Committee

A decade after Tony Blair’s Labor government had implemented fairly liberal admissions of immigrant workers in 1997, public reaction in the UK turned increasingly negative as the numbers of foreign workers admitted rose considerably. At the same time, expansion of the European Union’s member states over the period increased the pool of skilled labor that could be accessed by UK employers, calling for a review of the then-existing UK system for admitting skilled workers. This prompted the UK government to revisit its policies for managing immigration including by exploring how best to reform its system for determining the admission of skilled labor.

The UK transitioned from an immigration system that provided for more than 80 entry routes to a considerably more streamlined points-based system allowing for 5 entry routes, of which two tiers provide for the entry of skilled workers. A major impetus for change in the UK’s migration policy that led to creation of the Migration Advisory Committee (MAC) in 2007 was a desire to reform the UK system to move away from an employer-led model to a simpler and more transparent policy that sought to “maximize the benefits of migration for the entire British economy” (Ruhs, 2011). To this end, the UK Home Office set up the MAC as an independent and transparent public committee, although employers continue to form a critical part of the hybrid approach.

Notably, the government undertook a public consultation ahead of changing its immigration system during which just under 90 percent of participating stakeholders supported the introduction of the MAC. The MAC was initially charged with gathering and analyzing data and
other evidence from various stakeholders on skills shortages by sector and providing recommendations and advisory services on how these skills gaps could be filled. Although commissioned by the government, the MAC has no official affiliation to any ministry and the government is not obliged to accept the MAC’s recommendations. A generally acknowledged limitation of the MAC system, however, is that its skills shortage assessments can only be carried out at the specific request of the government.

In response to requests from the UK government, the MAC gathers bottom-up evidence on specific occupations from relevant stakeholders (both domestically and overseas) such as employers, trade unions, and sector skills councils, and analyzes this in combination with top-down data. Five economists form a committee that lead the work of the MAC, supported by a secretariat of economic researchers and policy officials. The secretariat carries out its information gathering and advisory functions by conferring with stakeholders, organizing monthly MAC meeting sessions, managing the research work, drafting reports and providing the MAC’s “public face.”

The MAC provides independent advice for particular occupations that are deemed skilled, facing a talent shortage, and that could “sensibly be filled by immigration.” Thus, a central distinguishing feature of the MAC, relative to the system in the UK that preceded it, is that it systematically assesses whether it is “sensible” to fill identified skilled labor shortages by admitting immigrants. Because it does not automatically conclude that skills shortages should be met by immigration, the MAC has highlighted linkages between skills shortages and training needs in the UK economy, which has led to improved cooperation between relevant government departments.

As a result of the relatively transparent process that culminates in public disclosure of the MAC’s recommendations, the government has adopted most of them, even though it has no obligation to do so (Martin and Ruhs, 2010). The MAC also has won credibility and respect for its work due to its hybrid approach that draws on top-down indicators balanced and supplemented by bottom-up indicators that give a voice to key stakeholders in the UK labor market.

In the several years since its creation, the UK government has expanded the MAC’s role including by requesting that it identify the occupations that should be on the Tier 2 shortage occupation list, make recommendations on revising the points for Tier 1 highly-skilled migrants and rules for admitting Tier 2 skilled immigrants, and analyze the impact of immigrants’ dependents on the UK economy. In the past few years, the Cameron government has further broadened the MAC’s remit by asking it to take into account the social as well as economic effects of immigration in conducting its assessments.

What are the challenges in projecting demand for skilled foreign labor?

Available sources may be biased and lack comprehensiveness. Referencing the case of Germany’s Green Card Scheme problems, Doudeijns and Dumont (2003) explain how bottom-up approaches that rely on employers’ estimates and projections may be biased and give an incomplete picture: foreigners had applied for only half of the available permits under this program by the end of its first year. An additional complication is that some employers may simply adjust production standards to the labor market shortage situation and therefore never report the shortage at all.

For the UK, although the official Standard Occupational Classification (SOC) provides a disaggregated breakdown for the UK labor market based on 353 occupations, some labor
shortages occur at the more detailed suboccupational level (MAC, 2010). In these cases, the top-down analysis based on the SOC disaggregations will not provide an accurate picture in identifying and projecting specific occupational skills shortages and how best to fill them with foreign workers, which may exist for specific jobs only or for a subset of the occupation.

Because an objective and universal measure of each of the three main criteria (skilled, labor shortage and, whether it would be “sensible” to bridge the gap with foreign labor), does not exist, the UK MAC must rely on further specific indicators that it has identified in conducting its reviews (MAC, 2010). For example, it has identified five main indicators in evaluating “skill” by occupation: the skill level defined in the SOC hierarchy; formal qualifications; earnings; on the job training or experience required to carry out the job; and the level of “innate ability” required. For “labor shortage,” it has identified a “range” of labor market indicators for top-down analysis (see Box 2 below), with “bottom up” labor market information providing more granular and context-specific information.

**Box 2. MAC indicator thresholds for assessing skills shortages by occupation**

For the purposes of its information gathering and advisory work on skilled labor shortages in the UK economy, the MAC refers to 12 different top-down indicators, as well as bottom-up evidence gathered from stakeholders. Three of the top-down indicators are employer-based and draw on the results of employer surveys to assess the proportion of job vacancies due to skills shortages. An additional three indicators are price- or earnings-based and assess changes in pay for particular occupations. Rising earnings beyond a predetermined threshold signify a labor shortage. Four volume-based indicators assess occupational hiring trends and average time worked and two “indicators of imbalance” assess data on employment vacancies.

In determining the thresholds for these indicators that indicate that an occupation is facing a shortage, the MAC decided to opt for relative, rather than absolute, thresholds. The MAC considers a particular occupation to be facing a skills shortage in instances where the indicator for that occupation is greater than the median plus 50 percent of the median. Where the distribution of data for a particular occupation puts the median at close to nil, however, this threshold is not effective and the MAC refers instead to the top quartile as the threshold. Each of the 12 indicators is updated as new data become available to ensure that thresholds are continuously adjusted over time and to reflect changing labor market conditions and characteristics.

Because the MAC relies on a set of 12 different indicators in assessing whether skilled labor shortages exist, it has adopted a “traffic light approach.” This means that, for the purpose of its top-down assessment, the MAC determines that an occupational shortage exists when the threshold is exceeded for 7 out of the 12 indicators. The MAC then carries out a bottom-up assessment, referring to similar indicators in gathering evidence on specific occupations from relevant stakeholders, before it makes its final decision as to whether an occupational shortage exists.

The MAC commissioned third-party research firms in 2010 to undertake a review of data sources, indicators, and the methodology for setting and aggregating threshold indicators. Following the review, the MAC rejected a recommendation to assign weights to the indicators, however, concluding that the assignment of different weights would be too arbitrary.

**Data gaps and inaccuracies.** Doudeijns and Dumont (2003) argue in favor of measuring labor market shortages by using “top-down” methodologies that include assessing actual unemployment rates against structural rates of unemployment. But a further challenge is that data
for structural rates of unemployment may not be readily available for a number of countries and, indeed, may be difficult to quantify in countries where data do exist.

In some instances, lack of data for specific subgroups of workers may impede the accuracy of projections. In projecting foreign C&E workers admitted to the US under Senate Bill S.2611, Lowell (2006a) concedes that he omits an estimate of certain subgroups, including notably the considerable number of temporary intracompany transferees (L Visas) that should also be included—as both those who later acquire LPR status as well as part of the temporary workforce. Lowell omitted these subgroups in his projections, however, because there were no available data for them in the US that he could draw on.

Some aggregate data used in the top-down approach may mask important regional variations. There are a number of countries, such as Australia, that address this issue by preparing occupational projections that are differentiated by geographic region, however (Doudeijns and Dumont, 2003). The UK has a separate entry route for employers with hard to fill vacancies that are not on the national shortage list, caused, for example, by regional shortages. Any firms in this situation have to subject the vacancy to a Resident Labor Market Test, whereby the vacancy has to be advertised for a month before being opened up to applicants from outside the European Union.

**Difficulty determining and implementing the most appropriate methodology.** Determining the appropriate frequency for review of the outcomes from a particular methodology for identifying foreign labor needs can be difficult (MAC, 2010). For example, HAC (2009) argued that the six-monthly review of the UK’s occupation lists provides for too infrequent a review, taking into account the speed with which the UK labor market changes. The MAC has since revised the frequency of these reviews to one year (MAC, 2012). Data limitations on the statistics used to calibrate the top-down evidence often restrict the frequency over which reviews can be undertaken.

Among the challenges is the need to institute and follow a process that combines rigorous, sophisticated selection procedures with a well-functioning and quick application process (Zanfrini, 2002). Both the foreign labor recruitment and projection processes are further complicated in Italy, where small firms do the majority of new hiring of foreign workers and thus are naturally consulted in any projection of future labor demand.

According to Bump and Lowell (2006), existing methods for projecting foreign skilled labor needs in the US vary substantially and offer conflicting guidance on the outcome of the Comprehensive Immigration Reform Act (Senate bill S.2611)—other than the obvious fact that the number of future immigrants would most likely be significantly larger than in the absence of the law. Reasons Lowell gives for variance in projections include that they make different assumptions; draw on different types of data; and “attempt either to project something in line with the visas made available under S.2611, or instead to project (lower) numbers that are assumed to be more realistic.” The latter itself may reflect biases in interpreting the legislation and other over- or under-projection errors, but can also reflect difficulty in forging consensus on the appropriate projection methodology.

**Methodology assumptions may be flawed.** While they concur that the US will likely face labor shortages over the next few decades, particularly as baby boomers retire, Bump and Lowell (2006) argue that many sources have overestimated future labor shortages. Most sources’ projections of skilled labor gaps in the US are too high because they fail to take into account a number of factors including the role of new technologies, the use of business strategies such as
outsourcing, and the related fact that the US economy is not replacing a lot of older workers. According to Bump and Lowell (2006), the Congressional Research Service (CRS) projections, which are based on a ten-year horizon of simple linear trends for future admissions of temporary visa holders, fail to take into account the number of temporary migrants who might adjust to permanent residency. They also point out that the US BLS employment and occupational projections, for their part, have been more successful in projecting macro labor market trends, than trends for specific occupations.

Bump and Lowell (2006) point out that, in the US, “visa-class” projections begin with assumptions about the actual number of visas as a starting point, rather than “the state of the future economy or foreign development.” Visa-class projections then extrapolate these numbers into the future, which can lead to complicating problems, especially in the context of S.2611 because: the number of visas for specific classes of admission, as provided for by the US government under S.2611, is not always clear; certain specific visa-classes and occupations are exempted from S.2611’s ceilings on numbers admitted; and the number of specified visas allowed per year are increased under S.2611 if the visa quota for a particular class or occupation is over-subscribed during the previous year.

One of the main methodological flaws of Germany’s survey of employers is that it draws on a relatively small sample size and representation of participating firms is voluntary. These characteristics have produced low response rates in certain German states and sectors and overrepresentation of large firms, overall.

Defining “skilled labor” for the purpose of assessing shortages is itself difficult including due to lack of consensus over the competencies and attributes for a particular skill and categorizing different work activities as definitively skilled or unskilled (Ruhs, 2011). Defining “labor shortage” is similarly challenging.

**Economic context may impede accurate projections.** The economic context may also provide challenges to projecting the amount and type of foreign labor needed to bridge specific skills shortages in domestic labor markets, specifically when the migrant-importing economy is experiencing an economic downturn (MAC, 2010). The House of Commons Home Affairs Committee (HAC, 2009) argued, in the context of the then-economic downturn, that the shortage occupation lists should only be consulted in filling short-term or cyclical skills shortages.5

**Obtaining robust data and information for skilled labor demand projections**

In seeking to ensure the robustness of the data and information on which they draw in projecting an economy’s skilled labor needs, policy makers employ various processes and measures. They can confront a number of challenges to this end, however. A common problem, particularly where employer surveys are the chosen methodology, is obtaining data and information that are

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5 The MAC builds in “automatic stabilizers” into its shortage lists since many of its top-down indicators are referenced to the levels experienced in times of height of a boom, when shortages are, presumably, at their peak. Employers wishing to bring in migrant labour in a recession will only be allowed to do so if the shortage statistics for their chosen occupation exceed the levels experienced at the height of the preceding boom. The MAC has identified four types of labor shortages: cyclical, structural, global talent, and public-spending related. Most of the occupations that have been in the shortage occupation list for a long time (at least five years) can be categorized as structural shortages, with relatively few under the global talent (ballet dancer) and the public-spending related categories (social workers).
compiled uniformly and comprehensively. For example, in administering a survey of employers through regional chambers of commerce in Germany with the aim of achieving better granularity of results, policy makers have confronted this problem in seeking to incorporate employer views in foreign labor demand projections (Liebig, 2012). Chambers are used as the conduit for reaching out to SMEs because SMEs are obliged to be members of regional chambers of commerce in Germany. Results have been, at best, mixed, however, due to factors including voluntary participation.

The hybrid method used by the UK aims to combine the consistency and comprehensiveness that results from evaluating national data including the Labour Force Survey, the Annual Survey of Hours and Earnings (ASHE), the National Employers Skills Survey and Jobcentre Plus claimant count unemployment and vacancy data (top-down approach) with a more granulated “bottom-up” approach to compiling data and other evidence on skills shortages. The MAC (2010) report states at the outset that it is “satisfied” with the overall combined top-down and bottom-up approach to determining shortage occupation lists, as well as the three-pronged test criteria for drawing up the lists themselves.

However, the use of a hybrid top-down and bottom-up approach means that there may be instances where the collected data and other input will point to conflicting conclusions (MAC, 2010). This can both present challenges while simultaneously reinforcing the robustness of these data and other information. MAC (2010) summarizes the solution to this dilemma as having to apply a degree of judgment in assessing “strong” top-down evidence in tandem with “weak” bottom-up evidence—or vice versa. One example of this is provided in the MAC’s evaluation of cook/chef and home carer jobs, concluding based on top-down data that these occupations typically do not meet the skills test, but determined based on bottom-up input that in a number of instances subsets of these occupations would be considered skilled.

In implementing the bottom-up portion of its approach to preparing shortage occupation lists, which collects more granular information on specific occupations within the UK economy, the MAC has increased both the “quantity and quality” of input from and its overall engagement with key stakeholders such as employers and industry bodies, since the approach’s introduction in 2008 (MAC, 2010). This “engagement” takes the form of face-to-face meetings, workshops specifically set up to obtain this input, written submissions of evidence, and visits to workplaces. The MAC maintains a stakeholders’ database, which it uses to contact particular stakeholders, as needed, but also advertises each new call for evidence on the internet. The MAC has produced a “guide” that it provides to stakeholders submitting input, so as to encourage input submitted in a standard format that would better allow for a cross-occupational evaluation.

In seeking to ensure that US employment trend projections including for skilled labor demand, draw on the most robust possible data, specialists in various different areas, both within and exterior to the US BLS, review all the relevant results from their own unique perspectives. At the same time, these specialists focus on specific sectors in the model. The intention is to render the BLS projection process as internally consistent as possible in making employment projections across sectors and occupations.
How do policy makers use these skilled labor gap projections to attract immigrants?

Differentiation of immigration policies by region, based on skills supply and demand mismatches. Several countries, including Italy Spain, and Switzerland set immigration quotas by region for specific sectors or occupations. In fact, regional authorities in Italy have been pressing recently for more involvement in policy on immigration quotas, arguing on the basis of their knowledge of labor shortages by sector for their regions (European Migration Network, 2011). Drawing on advice from regional cantons and social partners, Switzerland issues annual quotas for work permits. The process Switzerland follows has been described as fairly complicated, however, with quotas issued based on a three-tier process involving the Federal Department of the Economy and cantons facing labor shortages as distributors of the quotas through different, although sometimes overlapping, channels.

Canada permits its northern provinces to preferentially admit workers, while the US admits a small number of medical professionals in “underserved” rural areas. Drawing on occupational outlooks prepared to project labor demand, Australia links indicators showing regional labor shortages to its immigration policies by more easily admitting in skilled and other immigrants to regions where labor shortages exist for specific occupations (Doudeijns and Dumont, 2003). Australia aims to match foreign workers seeking jobs with Australian employers seeking to fill vacancies via a Skills Matching Database. The UK has a separate entry route for employers with hard to fill vacancies that are not on the national shortage list, caused by regional shortages. Any firm in this situation must subject the vacancy to a Resident Labour Market Test, whereby the vacancy has to be advertised for a month before being opened up to applicants from outside the European Union.

Introducing more flexibility in admissions policies to acquire certain needed skills. One way in which policy makers have incorporated more flexibility in immigration policies to fill labor skills gaps is by relaxing admission requirements for migrants with specific needed skills. Policy makers in migrant-receiving countries often seek to incorporate an element of flexibility into their immigration policies so as to be able to meet specific labor demand needs. Doudeijns and Dumont (2003) acknowledged, at the time of writing, that competition among OECD countries to attract skilled labor to fill labor shortages and retain that labor once secured had intensified. As a result, many OECD countries have liberalized their restrictions on immigration of skilled workers to make their entry easier under certain circumstances. France, Ireland, the Netherlands and the United Kingdom have simplified the recruitment of immigrants for certain occupations where there are identified labor shortages—for example, certain skilled workers in science and medical professionals, for which the usual “labor-market testing” requirements are waived.

Germany reformed its immigration laws in 2002 to facilitate admission of highly skilled workers that had received job offers for annual salaries over a prespecified threshold (Doudeijns and Dumont, 2003). This annual salary threshold has been further relaxed under the more recent reform of immigration policy in Germany in 2012, implementing the EU Blue Card Directive (see Box 3). This most recent reform of German immigration policy followed government agreement in 2009 to further reduce “red tape” barring the entry of skilled workers and enhance the country’s attractiveness to highly skilled foreigners seeking to work and reside in Germany (European Migration Network, 2011).

A number of migrant-receiving countries have put in place programs and policies that admit temporary skilled labor to meet short-term skills shortages. Several countries such as the US, Australia, Canada and New Zealand have made it easier for skilled immigrants to reside in their countries on a temporary basis (Doudeijns and Dumont, 2003). Lithuania put in place a bilateral
agreement with Russia that admits certain categories of highly skilled workers for employment on a temporary basis, although the use of the agreement has declined in more recent years as the labor market system has become more flexible (European Migration Network, 2011). Korea and Japan strictly limit immigration to skilled labor and largely only on a temporary basis.

**Designing programs to actively attract migrants with specific needed skills to specific occupations.** Several OECD countries also make it possible for foreign students meeting certain skills and other criteria to convert to permanent resident status (Doudeijns and Dumont, 2003). Korea and Japan have launched programs that admit trainees in certain occupations on a temporary basis and offer competitive, limited opportunities for conversion of small numbers of these temporary migrants to permanent residence status. Korea encourages indefinite residence of foreign workers who are able to help fill the most critical skills gaps, however (see Box 4).

**Box 3. Germany: More flexible admission policies seek to attract needed labor skills**

Within five years after the end of World War II, Germany had become a top destination country for immigrants—reversing its status a century earlier, when it had been a net emigration country. Similar to other net immigration countries, Germany’s admissions policies, including for skilled labor, have undergone a series of reforms over the years.

A large proportion of those immigrating to Germany in the post-War period have been ethnic Germans, returning from eastern Europe, the former GDR and the former Soviet Union. During the latter part of the 1990s, Germany’s government maintained a quota of 225,000 per year for admission of ethnic Germans, which was subsequently reduced to 103,000 in 2000.

For more than two decades, policy makers in Germany have been acutely aware of the need to counter the country’s rapidly aging workforce with a relatively open policy vis-à-vis immigration. German policy makers also seek to address labor skills gaps, particularly in the medium- to long-term, by improving training available to current native and other permanent residents, as well as encouraging more women and older people to remain in and enter the workforce (European Migration Network, 2011). But most policy makers in Germany, as in other developed economies, recognize the ongoing need to rely on foreign workers to fill important skills shortages.

Unable to meet demand for information technology experts, in 2000 Germany introduced a green card for highly qualified foreign workers with these skills, which granted residency for five years. Nearly 1,000 of the 9,614 skilled IT professionals through end-2012 granted the right to work and reside in Germany were students at German universities who opted to remain after completing their studies.

The German government launched a wide-ranging review of immigration policy in 2000, mindful of the increasingly important need to fill critical skills gaps as the working population declined and seeking to reduce some of the bureaucratic obstacles impeding entry of foreigners with requisite skills, such as a relatively high job offer salary required for entry and the limited duration of residence permits (Wogart and Schuller, 2011). Perceiving the experiences of Canada and Australia in operating point systems as positive, German policy makers produced a legislative proposal for introducing a point system. Under the proposed system, 20,000 immigrants would have been selected for entry annually based on criteria including education level, age, and language skills. The proposed system also envisaged a trigger for meeting unanticipated, urgent labor skills shortages, by allowing up to 20,000 additional immigrants to enter Germany on a five-year basis.
Over the next several years, the proposed law was contested by the conservative opposition on a few different occasions, however, and Germany’s government only achieved the required consensus to implement it in 2005. Passage of the law was only possible once the proposed point system was omitted, as required by the Christian Democrats, who dominated parliament’s upper chamber of parliament at the time. The 2005 law allowed the entry and unlimited residence in Germany of eligible highly skilled non-EU workers such as scientists and senior managers—going a step beyond the 2000 law allowing their entry and residence on a temporary, renewable basis. The 2005 law put the onus on German firms to prove that it could not identify and recruit a qualified EU worker in filling a specific vacancy under the law. The 2005 law also set relatively flexible admissions criteria for entrepreneurs seeking to establish a viable business in Germany, setting no ceiling on the numbers of such workers admitted, so long as they meet criteria of investing a minimum €1m in the new business and create a minimum of ten jobs. After a two-year period, eligible entrepreneurs entering Germany under this provision may qualify for permanent residence. To better ensure immigrants’ successful integration with German society, all new non-EU entrants under the law are required to enroll in German language and integration classes. To assuage the conservative opposition’s national security concerns, the 2005 law also makes it easier to deport skilled (and other) foreigners deemed threats to national security.

In 2012, Germany put into effect legislation that implements the Blue Card Directive (EU Directive on Entry and Residence of Highly Qualified Workers), which constitutes the first EU-wide policy intended to attract highly skilled foreign workers and replaces Germany’s previous permanent residence program for skilled foreign workers. This directive puts the onus on the migrant seeking residence to provide evidence of a binding job offer or work contract that indicates payment of a salary that is 1.5 times the amount of the average gross annual salary in Germany. The migrant also must present valid travel documents, a residence permit, medical insurance and documents certifying possession of the necessary educational and professional qualifications.

Once residence status is conferred under the Blue Card Directive, an immigrant gains the right to work in the particular sector and receive treatment equal to German nationals with regard to working conditions and benefits. The immigrant and his family gain the right, under an expedited application process, to reside in and reenter Germany, as well as travel through other EU member states. Following two years of residence under Blue Card status, the immigrant is entitled to accept any “highly qualified employment” that he is offered in Germany and reside there indefinitely, as long as he meets the German language requirement.

Notably, to encourage foreigners to set up a wider range of start-up firms, the German government also eliminated the minimum thresholds for investment and job creation to which foreigners establishing new businesses had been subject under the 2005 immigration law. These provisions have been replaced by a review process that considers the quality and sustainability of an applicant’s idea. The Blue Card also increases the flexibility of Germany’s immigration policy vis-à-vis non-EU origin students, expanding their rights to work and reside in Germany. University students may remain in Germany up to 18 months after graduation to search for a job, up from one year prior to implementation of the Blue Card directive, and they may accept jobs that pay a salary of €44,800 annually, down from a threshold of €66,000 annually.

Because it has only been in effect for several months, it is generally considered premature to assess the effectiveness (or not) of the Blue Card in attracting needed skilled workers to Germany by easing of restrictions on their entry. One challenge to be overcome is that a number of target highly skilled immigrant origin countries, such as India, are emerging market economies that are
growing more rapidly than Germany’s economy and thus eager to attract back and retained their skilled workers (Wogart and Schuller, 2011). Critics claim the initiative must be accompanied by an effective public information campaign, targeted to raise awareness overseas of the groups of skilled workers who Germany is seeking to attract. Other measures to enhance the Blue Card’s effectiveness in attracting foreign workers include the forging of partnerships by Germany’s overseas embassies with chambers of commerce, particularly in countries and cities where sizeable numbers of foreigners with needed skills are known to reside.

Box 4. Singapore: Managing skilled foreign labor inflows to support a knowledge-based economy*

Similar to other high-income countries worldwide, Singapore faces a future of an aging and declining working age population. Consequently, the country’s still-relatively open admissions criteria to attract foreign workers with critical skills is one central prong of the government’s overall policy in this area, supporting its aim to build a knowledge-based economy. Other measures to boost the country’s skills supply include encouraging more women and older workers to remain in and rejoin the work force, expanding access to tertiary education and key training programs. The government has also taken steps to reform the economy to reduce its reliance on labor-intensive activities and put in place incentives to improve businesses’ overall labor productivity including by encouraging increased R&D spend to foster innovation.

Singapore has one of the most open admissions policies in Asia, but high penalties are imposed on companies that illegally hire foreign workers. Singapore’s overall policy stance has become more restrictive in the past few decades, especially as it relates to unskilled labor. During the 1970s, when the economy was industrializing and growing rapidly, the government introduced a system issuing work permits, but the severe labor shortage implied a very liberal admissions policy. Since the 1980s, Singapore has sought to restrict foreign labor inflows periodically, typically for unskilled and semi-skilled workers during times of economic downturn, and it has put in place a more open policy during times of economic prosperity. Unskilled workers also are subject to differing treatment depending on country of origin. It is possible for unskilled foreign workers to upgrade their skills to meet criteria for higher skilled workers, however.

In contrast to this “see-saw” policy in admitting unskilled labor, which tends to shift in line with changing economic cycles, Singapore actively seeks to identify and hire foreign skilled workers to meet its labor skills gaps through overseas missions, websites and specialized liaison agencies for recruiting talent. It also seeks to ensure an adequate supply of young skilled employees in the workforce by offering fellowships and scholarships to foreign students interested in undertaking tertiary studies in Singapore.

In the aftermath of the global financial crisis and ensuing economic downturn, however, as skilled Singapore natives lost their jobs, public calls for a more restrictive policy controlling immigrant inflows including of skilled workers, increased. This prompted Singapore’s prime minister to publicly declare that he would consider imposing a ceiling on all foreign workers at 30 percent of the total workforce. The government sought to quell the rising discontent by according citizens preferential access to housing and social services over immigrants. The government also undertook a regearing of its overall policy direction by aiming to reduce the economy’s dependence on foreign labor inflows over the long term.

The government currently issues several different types of employment passes to foreign skilled workers, differentiated by skills levels, ranging from mid-level to highly skilled. Foreign workers
Semi-skilled and unskilled foreign workers, on the other hand, are subject to quantitative restrictions on their entry, and dependents are not eligible for passes allowing entry in Singapore. However, such workers are eligible for passes allowing residence with them in Singapore. Workers in all but one of these categories of employment (mid-level “S”) are not subject to quantitative restrictions on their entry and they are eligible for passes allowing their dependents to reside with them in Singapore.

Singapore encourages indefinite residence of foreign workers who are able to help fill critical skills gaps. Foreign skilled workers are initially hired on 1- to 5-year contracts and are also eligible to apply for permanent residence and, after 2- to 6-years of residence, citizenship.

Several factors facilitate Singapore’s management of immigration to meet critical skills gaps. The country’s borders are well monitored and it is difficult for illegal immigrants to go undetected in such a small country, with virtually no rural informal sector. Respect for rule of law, relatively high levels of governance and good quality institutions support efficient and transparent operation of the system.


**Lessons learned in addressing skills shortages in immigration policies**

A selected review of migrant-receiving countries’ various policy responses and processes used to determine the number of immigrants admitted to fill identified skilled labor gaps yields several key policy lessons.

**Taking measures to ensure that the data and qualitative information that inform projections are as robust and comprehensive as possible, and draw on input from numerous different stakeholders** are clearly important to ensuring that skills gaps are identified and thus filled most effectively. Challenges in projecting an economy’s demand for skilled foreign labor may include bias and gaps in available data sources, including aggregate data that may mask important regional variations, as well as difficulty determining the most appropriate methodology and impediments posed by imperfect methodological assumptions. A key concluding point in MAC (2010) is the importance of further developing the strategic relationships put in place with the UK Commission for Employment and Skills (UKCES). This Commission is the public body that provides leadership on skills and employment issues in the UK.

**It is also important to ensure that mechanisms provide for an ongoing review of all the relevant results and, in so doing, take a forward-looking view in enlisting the unique perspectives of different stakeholders.** Doudeijns and Dumont (2003) argue that programs to admit immigrants to fill skills gaps must be accompanied by “sustained and concerted efforts” to compile statistical data on integration of new immigrants as well as labor market changes.

**Zanfrini (2001) also underscores the importance of providing for, and monitoring, the integration of immigrants, once admitted to a country.** She discusses how Italy’s local firms have co-responsibility for projecting immigrant admission numbers based on their anticipated demand for labor. She argues that this has been a positive aspect of Italy’s approach to importing skilled labor as it links sociological reality and legal procedure, thereby providing relatively well for the necessary monitoring and integration of these migrants into society. In more recent years in Italy, the system has changed to emphasize recruitment of foreign skilled works who have already been residing in Italy, where a need for such labor is found, as the recent recession increased the uncertainty associated with employment generally and particularly for foreigners
This shift in recruiting strategy could be expected to lessen at least some of the challenges associated with integrating migrants into Italian society.

This survey of migrant-receiving countries’ immigration policies also highlighted the importance of providing for an element of flexibility so as to be able to meet specific labor demands, as well as operating a mechanism that functions in a way that is not overly encumbered by bureaucratic obstacles or bottlenecks. In this latter regard, it is important for policy makers to encourage and maintain an active dialogue with stakeholders and the firms themselves that are intended to participate in a country’s system for identifying and filling foreign labor market needs—including to clearly relay how procedures and to invite continuous feedback on how to improve these procedures. According to Liebig (2012), a survey of employers initiated by the OECD administered by German regional chambers of commerce to incorporate employer views in foreign labor demand projections has shed light on the need to simplify foreign skilled labor recruitment procedures, particularly for SMEs—or at least address SME perceptions that the process is complicated.

For very small countries, a different approach may be required, taking into account limitations on the number of new immigrants—even those that contribute well-needed skills to the economy. Hashmi and Hui (2004) do not discuss how forecasts of foreign labor demand and supply can be used to attract the migrants to bridge labor supply and demand gaps per se. Rather, based on their stated assumption that permanent immigration is fixed at the current level, the authors consider four policy options available to Singapore for meeting labor demand including improving labor productivity, raising total fertility rate, increasing labor force participation of older workers and lowering the targeted rate of economic growth. Hashmi and Hui (2004) propose an approach that, for Singapore, as a small economy, would increase the economy’s productivity level and/or reduce the economy’s targeted growth rate as the best of the available policy options for moderating the nation’s dependence on foreign labor overall.

In instituting the MAC in the UK, closer links were also forged between immigration and other public policies (especially future training needs) including by improving cooperation between relevant government departments (Ruhs, 2011). More specifically, if an occupation is included on the shortage occupation list, this becomes a trigger for a government review of whether training made available in the UK for this occupation should be increased so as to reduce the future need for importing skilled labor from abroad.

Changes to Australia’s approach to managing migration in line with labor market demands intend to give more focus to professions and trades that have the highest value to the Australian economy. In 2010, the Australian government replaced the Migration Occupations in Demand List (MODL) system in 2010 with a more targeted Skilled Occupations List (SOL), expected to more closely suit the needs of Australia’s labor market (MAC, 2010). Under the MODL system, a Job Outlook Report had been linked to a list of occupations where demand exceeded supply, in implementing immigration policy to bridge labor skills gaps (Doudeijns and Dumont, 2003). Skills Australia, an independent advisory body set up by the Australian Government, assesses the skills and development needs of Australia’s current, emerging and future workforce.

Countries that are members of a common market—such as the European Union—allowing for the free movement of labor, faces special challenges in projecting and meeting demand for foreign skilled labor. Tamas (2011) argues for initiatives organized at the EU level to better address skills shortages in migration policies in that subregion, such as setting up networks of employers, employment agencies and recruiters to ensure that labor demand and supply are
better matched across the EU. Similarly, Collett (2011) argues in favor of more coordination of and practical cooperation concerning migration policies within the EU to address unmet labor demand needs, although not outright harmonization of these policies into a common policy, for which she found little support in the context of the economic downturn in many EU receiving countries. Ruh (2011) states the case for an independent expert advisory body to the European Commission providing evidence-based input to facilitate decision making on immigration policy, including areas where harmonization of such policy could EU benefit members.

Finally, it is important to note that many developing countries may face capacity and implementation challenges, depending on their current institutional contexts and settings. Systems such as the UK MAC take time to develop and rely on relatively well-functioning underlying data systems in the form of regularly conducted firm-level surveys, etc.

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