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ABSTRACT

Labor Market Integration of New Immigrants in Spain^{*}

This paper assesses how new immigrants to Spain fare in the country's labor market, evaluating the conditions under which they are able to find employment, and their progress out of unskilled work into middle-skilled jobs. Using Spanish Labor Force Survey data from 2000 through 2011, we find that immigrants who arrived before the 2008 recession had little trouble finding work immediately, but those who arrived after 2008 struggled to find work as Spanish unemployment rates skyrocketed. Immigrants' individual characteristics had a limited effect on their employment trajectories. Although many immigrants who arrived in Spain between 2000 and 2007 were able to find work and eventually move out of the low-skilled positions, the nature of their jobs meant that they were not protected from the recession, and many became unemployed as the economy shed low- and middle-skilled jobs in sectors dominated by immigrants. In the long term, Spain will likely need immigrants to cover labor shortages because of its aging population and the emigration of native-born workers to other countries. The findings suggest that for many workers, finding middle-skilled work alone isn't enough, and integration policies could aim to help workers transition from the secondary to the primary labor market in order to find their way into more stable employment.

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1. Introduction

Beginning in 2000, the Spanish economy experienced an economic boom--partly driven by the real-estate market--that generated a significant expansion in low-qualified jobs in the construction, food preparation and serving sectors, as well as in domestic services. At the same time, Spain received an impressive inflow of immigrants—approximately 500,000 per year between 2002 and 2007—who were quick to find jobs in the thriving economy.¹ However, after the international financial crisis of 2007, the economy suffered a major reverse with the burst of the Spanish real-state bubble. Quickly thereafter, GDP growth collapsed and the unemployment rate soared to 23 percent in 2011.

Since the labor market reform from the mid-1980s, Spain has developed a segmented labor market where mature workers hold permanent (and highly protected) jobs on the one side, while young workers experience high turnover within precarious and fixed-term contract jobs on the other. While fixed-term contracts often coexist with permanent contracts within the same firms, they impose penalties in the form of forgone experience, delayed wage growth and higher levels of unemployment risk to those workers who hold them. In a segmented labor market workers with little access to the primary labor market (permanent jobs in Spain) enter the secondary sector (fixed-term contracts) while waiting to enter higher wage or salaried jobs. More vulnerable workers, such as low-skilled workers, youth, women, and immigrants tend to be concentrated in the secondary labor market (see Amuedo-Dorantes and Serrano-Padial 2007; Kahn, 2007; and Estrada et al. 2009, among others).

There have been important changes in the composition of immigrants' origin over time. While in the beginning of the century, immigrants from the EU-15 countries represented over one third of the immigrant population in Spain, eight years later, their weight had been drastically reduced to only one tenth of the total share. Over

¹ Free-entrance of foreigners as tourists together with a lax implementation of immigration laws and several generous amnesties that have granted legal residence to illegal immigrants (in 1985, 1991, 1996, 2000, 2001, and 2005) have made Spain an attractive destination for both legal and illegal immigration flows—see Amuedo-Dorantes and de la Rica 2005, 2007; Dolado and Vázquez 2007; and Izquierdo et al. 2009.

this same period, Africans have seen their weight remain relatively stable, as their share has just decreased from one fifth to one sixth of the total immigrant population. Among Africans, Moroccans are by far the largest group of immigrants in Spain with a share of 11.6 percent.

In contrast with Moroccans who have a long tradition of migrating to Europe and Spain, South Americans and, in particular, Ecuadorians, have only recently changed their country of destination from the US to Spain. The timing coincides with a period of hyperinflation and large GDP losses in the late 1990s in Ecuador that led to the dollarization of the domestic currency and to an extreme vulnerability of the country to external shocks. At the same time, post-9-11-2001 made it more difficult to enter the US. As a consequence, the size of the Ecuadorian community in Spain has soared within five years, going from 76,000 to 457,000 individuals by 2006, and representing 9.2 percent of all migrants in Spain in 2007. Similarly, the share of Latin Americans grew from 20 percent of the total immigrant population in the year 2000 to over 35 percent in the year 2004. Thereafter, their inflow has slowed down. Finally, since the turn of the century, there has also been a steady but nonetheless important inflow of Eastern Europeans that did not reach its inflexion point until after the great recession in the year 2008. When all said and done, Eastern Europeans share grew from 7 percent of the total immigrant population in Spain in the year 2000 to 20 percent.

This study uses cross-sectional data from the Spanish Labor Force survey (LFS) covering the years 2000 to 2011 to analyze the ease with which immigrants have moved up into middle-skilled jobs in Spain, the sectors of the economy that have proven most amenable to this progression, and the barriers to upward occupational mobility they may have encountered. Immigrants are defined as foreign-born individuals who are between 18 and 64 years old. We follow three distinct immigrant cohorts—those who arrived between 2000 and 2003 (both included); those who arrived between 2004 and 2007, and those who arrived between 2008 and 2011—the first post-crisis cohort.^{2 3}

² This study uses a synthetic cohort approach to group immigrants by reported year of arrival in the LFS and then track each group's labor market outcomes over time. While this approach is generally

The paper is organized as follows. We begin by considering how newly arrived immigrants assimilate into employment. Section 3 then evaluates immigrants' pathways from the lowest-skilled jobs into middle-skilled work, with a special emphasis on immigrants who lack high-level education. Next, we identify the sectors in which immigrant workers are concentrated, and analyze the key characteristics of these sectors. Finally, we conclude with a summary of the key findings and their implications for policymaking.

2. Immigrants' Employment Assimilation

How do newly arrived immigrants' employment rates evolve over time? Have successive cohorts of immigrants who arrived since 2000 fared similarly or have there been differences between them? To study this, Figure 1 plots the average employment rate for the three cohorts of immigrants under analysis from the year 2000 to the year 2011. In addition, the average employment rate of natives is also plotted as a reference.

Focusing on the first cohort of immigrants, that is those who arrived between 2000 and 2003, we observe that their average employment rate at arrival was 56 percent in 2000 and close to 70 percent between the years 2001 and 2003, higher than the native-born population. By 2006, this share has increased to about 80 percent, on average, indicating that newly arrived immigrants fared quite well in terms of employment both at arrival and thereafter during this period. This is somewhat to be expected in Spain where most immigration is labor-based (Fernández and Ortega 2008). Spain was an attractive destination for immigrants because of its booming economy and large demand for low-skilled workers, but not because of its welfare (Rodríguez-Planas 2013).

considered to be the best tool available to track integration over time, and is preferable to a strictly cross-sectional analysis, the results are susceptible to bias from return migration.

³ The LFS includes both legal and illegal immigrants, in contrast with alternative datasets that *only* cover legal residents, such as administrative data from Social Security Records or the Wage Survey Structure. That said, under-reporting of illegal immigrants is likely (as the LFS is voluntary, in contrast with the Census, which is mandatory), and it is not possible to identify legal status in the LFS data.

After the beginning of the crisis in 2008, the employment rate among immigrants dropped almost 20 percentage points to 60 percent. Although natives' employment rate was also affected by the economic slowdown, the employment losses among immigrants were considerably larger than those of natives. As a result, after 2009 the native employment rate was once again higher than that of immigrants.

Immigrants who arrived from 2004-2007 displayed a similar employment pattern to that of the first cohort. The major difference between the two cohorts is that the employment growth is more modest in the second cohort than the first cohort. The onset of the financial crisis just four years after arrival—likely stalling immigrants' progress into the labor market—may explain part of this cohort's poorer performance. Alternatively, it may well be that there has been a compositional change in the characteristics of immigrants arriving in Spain between the first and second cohorts.

Finally, the post-crisis cohort was clearly at a disadvantage in terms of employment integration relative to the older cohorts. First, the average employment rate at arrival for this cohort was around 50 percent, ranging between 5 and 10 percentage points lower than the 2004-2007 cohort and between 5 and 20 percentage points lower than the 2000-2003 cohort. Second, they did not experience the employment growth that was typically observed among immigrants within the first couple of years after arrival. Again two potential explanations emerge: differences in the characteristics of migrants or in the economic conditions at the time of arrival.

Figures 2 and 3 explore the extent to which these alternative hypothesis are behind the differential employment patterns across cohorts. Figure 2 plots the average employment rates for the three cohorts of immigrants and for natives controlling for individuals' observable characteristics such as age, gender, education, marital status, relative stock of immigrants in Spain at the time of their arrival and continent of origin (in the case of immigrants). Any differences between Figures 1 and 2 will reveal differences in employment rates due to the individuals' characteristics. Figure 3 then explores the other hypothesis, plotting the average employment rates of natives and the three migrant cohorts while controlling for economic conditions.

Two interesting results emerge. First, the differential pattern between the 2000-2003 cohort and the 2004-2007 cohort observed in Figure 1 practically fades away in Figure 2. This suggests that there has been a change in the composition of migrants across the two cohorts, with those in the latter cohort being at a relative disadvantage. Comparing characteristic differences between the two cohorts (shown in Appendix Table A.I) reveals that the share of women and of immigrants from Eastern European countries is higher among the 2004-2007 cohort than the 2000-2003 cohort, and the share of Latin Americans (who are native Spanish speakers) has decreased. Second, we observe that, in contrast with the other two cohorts, no changes are observed among immigrants arriving after 2007 suggesting that, for this cohort, quality composition is not behind its relatively lower labor market performance.

Figure 3 plots the average employment rates for the three cohorts of immigrants and for natives controlling for the economic conditions, namely the unemployment rate and the GDP growth. Any differences between Figures 1 and 3 will reveal that different cohorts of immigrants react differently to the business cycle. While the employment pattern observed in Figure 3 is smoother than that of Figure 1, cohort differences remain. The 2000-2003 cohort outperforms the 2004-2007 cohort by 10 percentage points before the recession, and thereafter, these two older cohorts outperform the 2008-2011 cohort by 10 percentage points. It is interesting to note that immigrants arriving after 2007 are clearly at a disadvantage in terms of labor market performance despite being more college educated (shown in Appendix Table A.1).

Influence of individual characteristics on employment outcomes

Generally, immigrants appear to experience the same basic pattern of employment in the Spanish labor market regardless of education, age at arrival, gender, or other individual characteristics. All groups from the first two cohorts (2000-2003 and 2004-2007) see gradual improvement in their employment rates over time, but this improvement then disappears after 2008. By contrast, employment rates for the third

cohort (2008-2011) remain almost entirely stagnant for all groups. Individual characteristics do, however, appear to influence immigrants' starting position in the labor market and their vulnerability to unemployment after the onset of the recession in 2008.

The data show that having more than a high school diploma, for example, seems to have insulated immigrants somewhat from falling employment after 2008. But prior to the onset of the recession, employment outcomes for lower educated immigrants and those with post-secondary education were quite similar (see Figure 4).

Gender also has an impact. Across cohorts, men entered the labor market with higher employment rates, although women had larger gains over time (shown in Figure 5). Women also appeared to maintain employment better than men during the recession. Despite an almost 20 percentage point advantage over female immigrants in 2007, employment among immigrant men declined to almost equal that of immigrant women in the first two cohorts by 2010.

Finally, Figure 6 shows that there are also clearly different employment patterns among immigrants by country of origin. EU-15 immigrants, for example, maintained a very stable employment rate across cohorts and throughout the observed period. Immigrants from other European countries, however, initially showed a strong trend of assimilation, but then saw their employment rates fall after the onset of the recession. Latin Americans experienced a similar employment pattern while Africans, who have consistently had the lowest employment rates, also saw a decline in their employment across cohorts.

3. Immigrants' Upward Mobility

Securing employment is, of course, not the sole measure of successful integration into the labor market. Immigrants who find work but become stuck in low-paid, insecure jobs remain at risk of marginalization and exclusion. It is therefore also important to ask whether immigrants are able to make their way into more secure, higher skilled jobs after several years in the labor market.

To explore this, this section first analyzes the proportion of migrants in vulnerable positions, such as those out-of-employment (including both unemployment and out of the labor force) or those in the lowest skilled jobs. Second, it studies how the proportion of immigrants working in jobs requiring different types of skills (low, medium and high) or not working varies with years since arrival. Finally, we consider the impact of immigrants' individual characteristics on their occupational trajectories and evaluate the extent to which the pathways into middle-skilled work for immigrants hold up for those who lack high-level educational qualifications.

Figure 7 plots the average proportion of immigrants in the lowest-skilled jobs and out-of-employment over the 2010-2011 period.⁴ Forty-one percent of immigrants in the first two cohorts were out-of-employment during this period, and the proportion rose to 49 percent of those in the most recent cohort. In comparison, over the same period, 39 percent of natives were out-of-employment.

In addition, between 19 and 23 percent of immigrants from these three cohorts were employed in low-skilled jobs, raising clear concerns about the precariousness of their economic situation in Spain. This concentration of immigrants in low-skill jobs is not observed among natives, among whom only 6 percent are in low-skilled work (see Appendix Table A.1).⁵ Altogether, close to 70 percent of migrants from the 2008-2011 cohort were either out-of-employment or unemployed during the 2010-2011 period. While this share may decrease with time, it will likely remain significant as between 60 and 64 percent of immigrants from the 2000-2003 and the 2004-2007 cohorts, respectively, were still out-of-employment during the 2010-2011 period. While low-skilled work is an essential part of the economy, a lack of upward mobility from low-skilled work to more stable forms of employment implies an overall precarious situation even for employed migrants, and one that persists over time.

⁴ Lowest-skilled jobs are defined as International Standard Classification of Occupations (ISCO) code 9: Elementary Occupations. "Elementary occupations consist of simple and routine tasks which mainly require the use of hand-held tools and often some physical effort." See International Labor Organization, "Major Group 9: Elementary Occupations," September 18, 2004, www.ilo.org/public/english/bureau/stat/isco/isco88/9.htm

⁵ Other researchers have also highlighted the predominance of over-education among immigrants in Spain (see Fernández and Ortega 2008, and Sanromá et al. 2009).

Changes in employment among immigrants

The data presented above provides a cross-sectional look at the labor market position of each cohort, but immigrants' employment and occupational status are likely to change with time spent in Spain.

Focusing first on the 2000-2003 cohort, Figure 8 shows that at arrival as many as 40 percent of immigrants are not employed. However, they quickly move into low- and medium-skill jobs within 3 to 5 years after arrival.

Nonetheless, Figure 8 reveals a striking change in trends in the fifth year after arrival, which for those who arrived in Spain between 2000 and 2003 represents the year 2008. As the recession hit the Spanish economy in 2008, the share of out-of-employment immigrants more than doubled, and the proportion of immigrants working in medium-skill jobs fell by over ten percent. Similarly, the proportion of immigrants in low-skilled jobs--which had begun to decline as migrants found higher skilled jobs that better matched their human capital endowment--continued to fall reflecting that, with the worsening of the economy, immigrant workers were losing low-skill jobs. In contrast, the share of migrants in high-skilled jobs remained unaffected by the economic conditions.⁶

Employment and occupational paths of low-skilled immigrants

How robust are the pathways into middle-skilled work for immigrants who lack high education? To explore this, Figure 9 replicates Figure 8 using *only* migrants who have at most a secondary degree.

As migrants with education at the level of a secondary degree or lower comprise about 85 percent of all migrants, it is not surprising that the trends for low-skilled immigrants are extremely similar to those for immigrants as a whole. The major difference is the proportion of migrants in high-skilled jobs, which falls to 3 percent. But as with immigrants over all, there is a clear increase in the share of the workforce employed in middle-skilled jobs up until 2008. Thus, we can conclude

⁶ Appendix Figures A1 and A.2 show the results for the other two cohorts. The patterns follow closely those observed for the 2000-2003 cohort.

that assimilation into medium-skilled jobs among low-skilled migrant workers occurs in Spain.⁷

Influence of individual characteristics on skill level of employment

Individual characteristics, such as education level and country of origin, clearly affect the ability of different immigrant groups to enter employment or exit lowest skilled jobs.

The Labor Force Survey data shows that immigrants with more than a secondary education are less likely to be out-of-employment and less likely to work in low-skilled jobs than those with lower levels of education. However, the benefits of higher education decrease for later cohorts—likely a result of the recession, and immigrants with more than a high school degree remain more vulnerable than similarly educated natives to being out-of-employment or in low-skilled work. While having more than a high school diploma nearly eliminates low-skilled employment for natives (reducing the share in low-skilled jobs to just 2 percent), the share of more educated immigrants in low-skilled work remains quite large for all three cohorts.

Female immigrants are more susceptible to being out-of-employment or in low-skilled work than immigrant men (see Figure 10). Relative to natives, immigrant women are at a similar risk of being out-of-employment but are much more likely to find themselves in low-skilled work—despite having educational profiles very similar to those of the native workforce. For example, during the 2010-11 period, 24 percent of female immigrants who arrived between 2000 and 2003 were employed in low-skilled jobs, as compared to 13 percent of immigrant men in the same cohort. Among natives, by contrast, the gap between women and men in low-skilled employment was only 2 percentage points.

The share of immigrants in low-skilled work or out-of-employment varies most by country of origin. Immigrants from EU-15 countries, for example, have particularly small shares in low-skilled jobs but are overrepresented relative to both natives and

⁷ This finding is similar to that of Rodríguez-Planas 2012.

immigrants from other countries of origin—with the exception of those from Africa who have the highest share out-of-employment—in the out-of-employment category.

By contrast, both Latin American and other European immigrants have much lower shares out-of-employment (with the exception of the last cohort) but are overrepresented in low-skilled work. This could indicate a greater willingness among these two groups to escape unemployment by entering low-skilled jobs than is the case for EU-15 immigrants.

It is worth that, regardless of education level, gender, or country of origin, immigrants in the third cohort are more likely to be out-of-employment than either of the two preceding cohorts—almost certainly a result of entering Spain after the beginning of the recession. Interestingly, EU-15 immigrants are the only exception to this trend, as they maintain nearly the same levels of representation in low-skilled work across all three cohorts.

Employment and occupational paths of low-skilled immigrants by country of origin

The Spanish LFS data show that the country of origin of immigrants also affects their changes in employment over time. Figure 11 analyzes how the share of the first cohort out-of-employment or in different types of jobs changes over time by country of origin. Except for EU-15 migrants, we observe that soon after arrival immigrants move from out-of-employment first into low- and then medium-skill jobs within 3 to 5 years after arrival. The major differences across origins is how long do immigrants take to move into the medium-skilled jobs. While non-EU-15 Europeans quickly transition from out-of-employment to medium-skilled jobs, Latin Americans and Africans taking longer. In addition, we also observe that in 2008 there is a break in trends reflecting that immigrants began jobs and exiting employment. Again, EU-15 migrants do not follow this pattern.

4. Sectors in Which Immigrants Work

While immigrants in Spain may have had little difficulty entering employment prior to the recession, many found work in sectors with a high degree of insecurity or little room for upward progression. Considering in which sectors immigrant workers are concentrated will help us to understand which types of employment offer the best chances of movement into more secure, higher skilled jobs for immigrants.

Figure 13 shows the proportion of each sector that is filled by immigrant or native workers. While immigrants represent less than 10 percent of workers in most sectors and as little as 2 percent in the public sector, they represent 21 percent in "other services," which include domestic services. Three other sectors worth mentioning are construction; agriculture, forestry, and fishing; and wholesale and retail trade; in which immigrants represent approximately 9 percent of the workforce.

These findings are consistent with previous studies that have found high levels of segregation of immigrant workers in the construction, food preparation and serving, and domestic services sectors (Sanromá et al. 2009; and González and Ortega 2010). The high proportion of immigrants in these sectors could be explained by the growth of the construction, tourism, and personal service industries in Spain during this period, together with poor government regulation of immigration (Rodríguez-Planas 2012).

The Labor Force Survey data also reveal that immigrant workers are concentrated in wholesale and retail trade (28 percent of immigrants are employed in this sector), other services (22 percent), construction (12 percent), and industry (10 percent). For the native-born workforce, wholesale and retail trade is also a significant sector (22 percent are employed here), but native workers are more represented than immigrants in the public sector (26 percent), industry (excluding construction; 15 percent) and financial services (12 percent).

Many of the sectors in which immigrants are concentrated have particularly high shares of low-skilled jobs. In the other services sector, for example, almost 40 percent of natives and over 70 percent of immigrant workers are employed in low-

skilled work. In construction, 15 percent of natives and 30 percent of immigrants have low-skilled jobs, while 11 percent of natives and just 3 percent of immigrant workers hold high-skilled positions.⁸

Not only do sectors with a high concentration of immigrants have a large share of low-skilled jobs, they also tend to have more poor quality work than other sectors. These sectors have a lower proportion of permanent contracts. For example, the construction sector, where immigrants are particularly overrepresented, has the second lowest share of permanent contracts of any sector.⁹

Another form of flexible work arrangement is part-time work, which in Spain has traditionally been a second-best job because it used to heavily penalize workers in terms of higher social security costs and be only legal for certain types of workers considered at-risk of social exclusion. Despite eliminating the hiring restrictions and legalizing (for the first time) the conversion from full-time to part-time contracts in 1984, this reform was unsuccessful at making part-time work a preferred option as both employers preferred hiring workers under full-time fixed-term contract than a part-time job.¹⁰ As a consequence, it is highly involuntary—according to a 2013 Eurostat survey, as many as one fourth of part-time workers in Spain would prefer to work full-time if they could find such a job.¹¹ Part-time work is not only less frequent in Spain than in the neighboring European countries (with only 15 percent versus 20 percent of the workforce working part-time according to the 2012 European Labor Force Survey), but it is also less stable (Buddelmeyer et al. 2005; Muñoz de Bustillo Llorente et al. 2008; and Fernández-Kranz and Rodríguez-Planas, 2011). Moreover, just as in the case of fixed-term contracts, there is significant evidence that those working in part-time jobs in Spain are in secondary employment, as these workers are more likely to be working under a temporary contract than a permanent one, and they tend to be concentrated among certain industries—especially services, such as retail sales, janitors, real estate, restaurants,

⁸ See Appendix Table A.2 for a full mapping of job characteristics of immigrants and natives by sector. See also Bentolila et al 1994; Blanchard and Landier 2002; and Dolado et al., 2007.

⁹ Other researchers have also found evidence that the incidence of temporary contracts is much higher for newly arrived immigrants than for comparable natives, see Fernandez and Ortega 2008.

¹⁰ As shown by Fernández-Kranz and Rodríguez-Planas 2011.

¹¹ This information is published by Eurostat 2013, based on the 2012 results of the European Labor Force Survey. http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/introduction.

education, and other social and personal services—and in low-skilled occupations, such as non-qualified occupations or non-professional white-collar jobs (Muñoz de Bustillo Llorente et al. 2008; Fernández-Kranz and Rodríguez-Planas 2011). Part-time work is more prevalent in finance services, other services and trade sectors, of which both other services and trade have an above average concentration of immigrants.

On average, job tenure is lowest in construction, trade, finance services and other services, which are also sectors with a high concentration of migrants (with the exception of finance services). In addition, the proportion of immigrants employed jobs with less-desirable working conditions is higher than that of natives in each sector. For instance, the share of workers under a fixed-term contract in construction is 9 percentage points higher among immigrants than natives, and the share of workers in part-time work in trade is 7 percentage points higher for immigrants than natives. Overall then, the sectors under discussion—including services, construction and trade—contain the most precarious types of employment for immigrant workers.

Movement Between Sectors

Figure 14 shows whether the share of immigrants in sectors with a greater share of immigrants changes with time spent in Spain. We observe that except for construction, the share of immigrants in trade, industry and other services remains flat. In contrast there is a downward trend in the share of immigrants in low skilled-jobs suggesting that in this sector immigrants may be more able to progress into more skilled jobs over time. While this trend starts well beyond 2008, it is important to note that after the crisis it may be due to the fact that employers prefer letting immigrants go before laying off natives.

Figure 15 shows how the share of the immigrant workforce from the first cohort participating in each sector has changed overtime. It is interesting to note that there is an overall positive trend in transport, public sectors, and trade. In addition, prior to the recession in 2008, immigrants flow from agriculture and other sectors to construction. However, this pattern comes to a halt in 2008 when it becomes clear

that construction has been hit by the recession. From there on, the share of immigrants in agriculture stabilizes, suggesting that immigrants fled from construction to agriculture (in addition to the other sectors for which an upward trend has already been mentioned).

Influence of individual characteristics on sector of employment

Segregation into sectors with less-desirable characteristics is more intense for some immigrant groups than others.

Figure 16 suggests that less educated immigrant workers tend to be more represented in sectors with poor job characteristics (such as construction and other services) than more educated immigrants. Interestingly though, even immigrants with higher levels of education remain concentrated in these sectors. This suggests that more education may have a lower pay-off for immigrants in terms of occupational mobility than for is the case for natives.

Immigrant women are also clearly more likely than men to be employed in poorer sectors. Almost 40 percent of immigrant women are employed in the other services sector, which has a larger share of low-skilled jobs than any other sector (Figure 17).

Men, by contrast, are more likely to be employed in the construction sector. As the construction sector was particularly hard hit by the economic crisis, the high proportion of immigrant men employed in construction explains to some extent why immigrant men saw a larger drop in employment after 2008 than women.

Finally, immigrants' distribution among the sectors differs according to country of origin. While EU-15 immigrants are employed in approximately the same sectors as natives—with the exception of being underrepresented in the public sector—Latin American, other European, and African immigrants are all highly overrepresented in other services, construction, and agriculture—sectors with some of the highest shares of low-skilled jobs.

5. Conclusions

During most of the last decade, newly arrived immigrants in Spain had no trouble finding jobs and quickly moved from low-skilled to medium-skilled jobs. The booming economy and excess demand for low-skilled workers in construction, trade, and other services sectors enabled easy integration into the labor market for most immigrants.

Immigrants who arrived prior to 2008 seemed able to move quickly into employment and then from low-skilled to medium-skilled jobs within the first 3 to 5 years after arrival. But for many their economic situation in Spain has remained precarious. On average, one quarter of immigrants who arrived prior to the recession work in low-skilled jobs (compared to only 8 percent among natives), and the situation is worst for women and for migrants from Africa. Most immigrant workers have tended to be concentrated in construction, trade, agriculture, farming and fishing, and other services--all of which have a larger proportion of fixed-term contracts and part-time jobs. In addition, these sectors also have a prevalence of low-skilled work and, on average, shorter job tenure.

Given their precarious situation in the labor market and overrepresentation in sectors that were particularly hard hit during the economic crisis, the recession has had a clear, negative impact on immigrant patterns of employment in Spain. As the economy shed low- and medium-skilled jobs, many immigrant workers moved back into unemployment or exited the labor market entirely. Only those in high-skilled positions appeared to weather the crisis with some success. The first immigrant cohort to arrive after the beginning of the recession had less luck. This group's greater difficulty entering the labor market is likely due to both the decreased demand for low-skilled workers caused by the recession and an increase in the share of non-native Spanish speakers and women among more recent immigrant flows.

The long-term implications of the recession for immigrant workers in Spain remain to be seen. In the long run, Spain will need immigrants to cover labor shortages because of its ageing population and the emigration of people to other countries. As a result of the recession many skilled natives (i.e. engineers, business men and

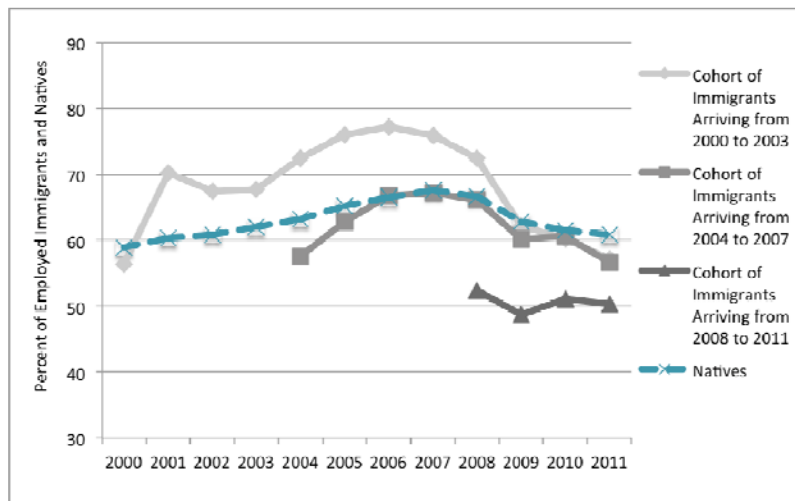
architects) are leaving the country to find better job opportunities in Western Europe, the US or the booming economies in Latin America. Analysts are not very optimistic about the recovery of the Spanish economy, thus most of those emigrant workers are not likely to return. In turn, skilled immigrants, with lower reservation jobs, are good candidates to cover those vacancies. In addition, the ageing population will increase the demand for elderly care services. The Spanish experience suggests that immigrants, in particular women, cover these vacancies, at least during their first years upon their arrival to Spain.

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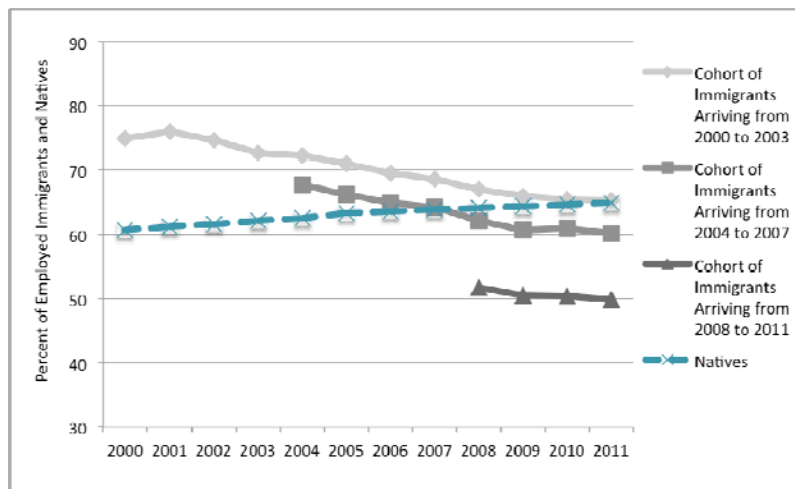
Figure 1. Employment Rates of Natives and Immigrants by Cohort, 2000-11



Note: This figure displays the results from estimating a linear regression where the LHS variable is a dummy variable indicating whether the individual is working or not and the RHS variables are year dummies interacted by cohort. The cohort is defined according to the period of arrival: 2000-2003; 2004-2007; or 2008-2011.

Source: Produced by the authors based on Spanish Labor Force Survey microdata.

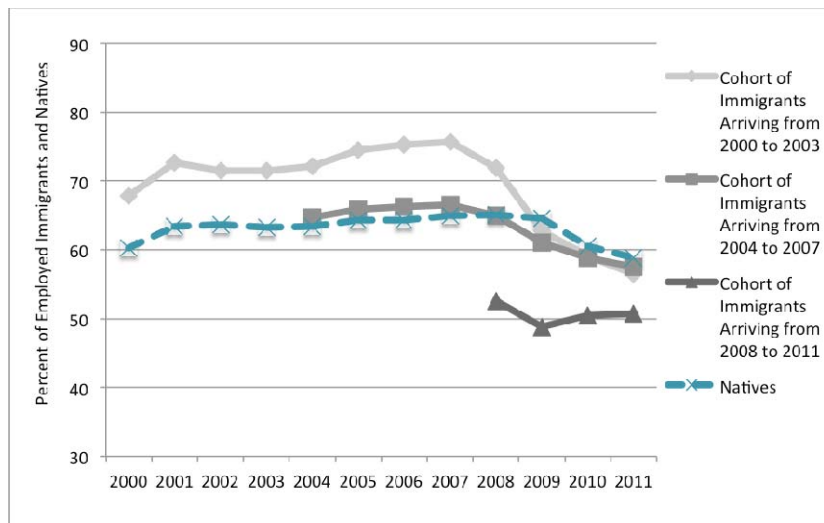
Figure 2. Employment Rates of Natives and Immigrants by Cohort, Conditional on Relative Stock of Immigrants and Individual Characteristics, 2000-11



Note: This chart displays the results from estimating a regression in two stages. In the first stage, the LHS variable is a dummy variable indicating whether the individual is employed or not and the RHS variables include individual characteristics (age, sex, marital status, education level, and continent of origin) and the relative stock of immigrants (immigrants/ total population). The second stage uses as LHS the predicted probability of employment in the first stage, and the year dummies as RHS. The analysis of each stage was run separately by cohort of immigrants and natives.

Source: Produced by authors based on Spanish Labor Force Survey microdata.

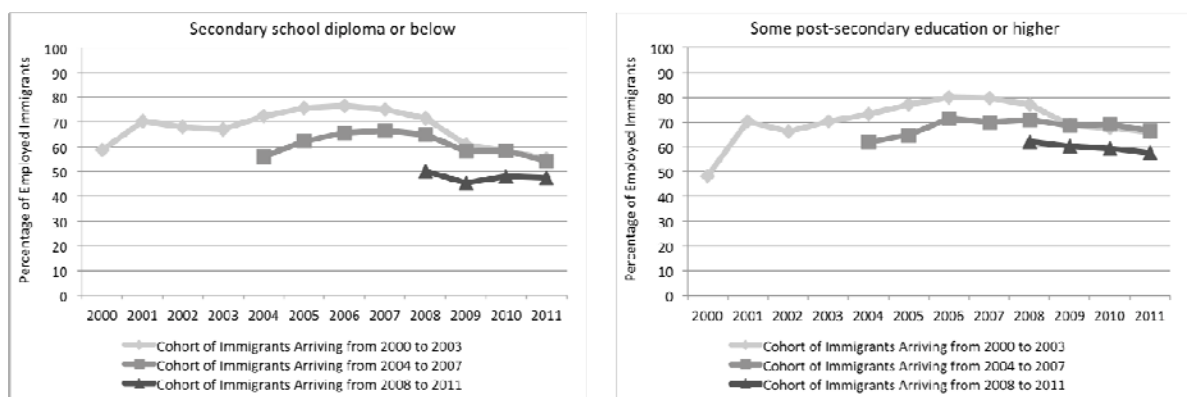
Figure 3. Employment Rates of Natives and Immigrants by Cohort, Conditional on Economic Conditions, 2000-11



Note: This chart is estimated using the same method as in Figure 2, but replacing individual characteristics and the relative stock of immigrants by the GDP growth and the unemployment rate.

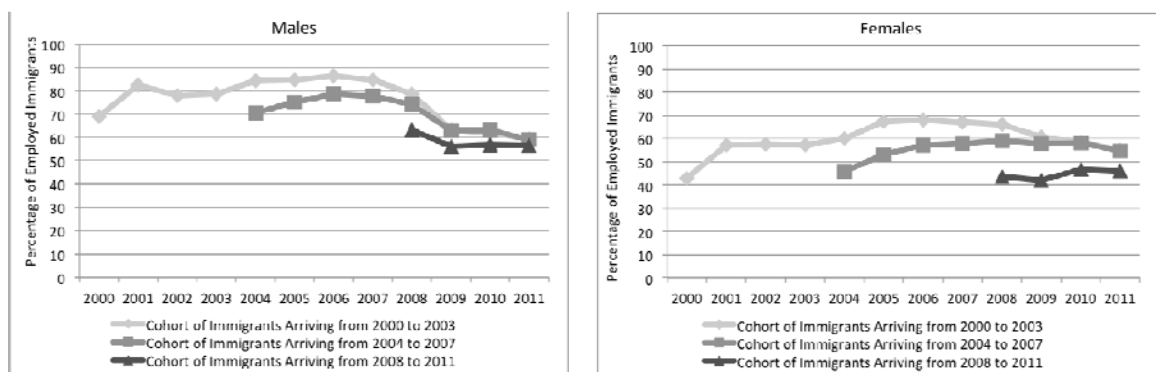
Source: Produced by authors using Spanish Labor Force Survey microdata.

Figure 4. Immigrant Employment Trends in Spain by Education Level, 2000-11



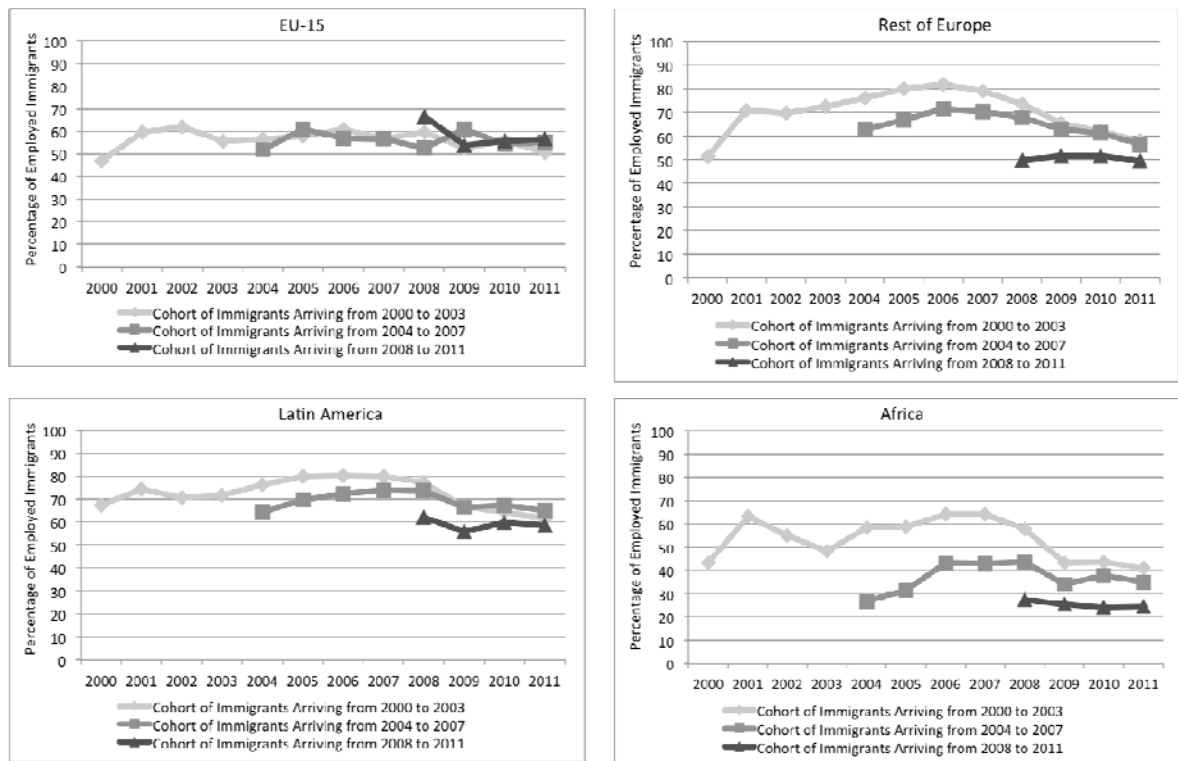
Source: Produced by authors using Spanish Labor Force Survey microdata.

Figure 5. Immigrant Employment Trends in Spain by Gender, 2000-11



Source: Produced by authors using Spanish Labor Force Survey microdata.

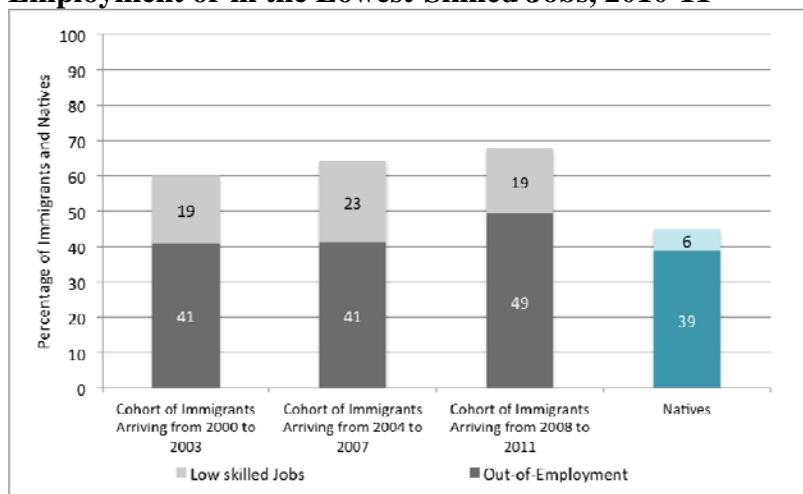
Figure 6. Immigrant Employment Trends in Spain by Country of Origin, 2000-11



Note: “Rest of Europe” includes both non-European Union (EU) and EU countries (excluding the EU-15). Latin America includes South America, Central America, and the Caribbean.

Source: Produced by the authors using Spanish Labor Force Survey microdata.

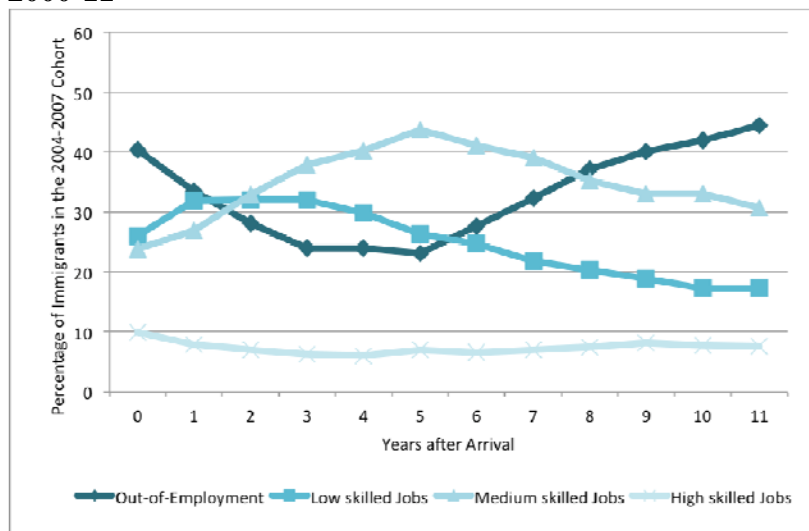
Figure 7. Proportion of Immigrants and Natives in Spain who are Out-of-Employment or in the Lowest-Skilled Jobs, 2010-11



Notes: Lowest-skilled jobs are defined as International Standard Classification of Occupations (ISCO) code 9: Elementary Occupations. “Elementary occupations consist of simple and routine tasks which mainly require the use of hand-held tools and often some physical effort.” See International Labor Organization, “Major Group 9: Elementary Occupations,” September 18, 2004, www.ilo.org/public/english/bureau/stat/isco/isco88/9.htm. Out-of-employment includes both unemployment and being out of the labor market.

Source: Produced by the authors using Spanish Labor Force Survey micro-data.

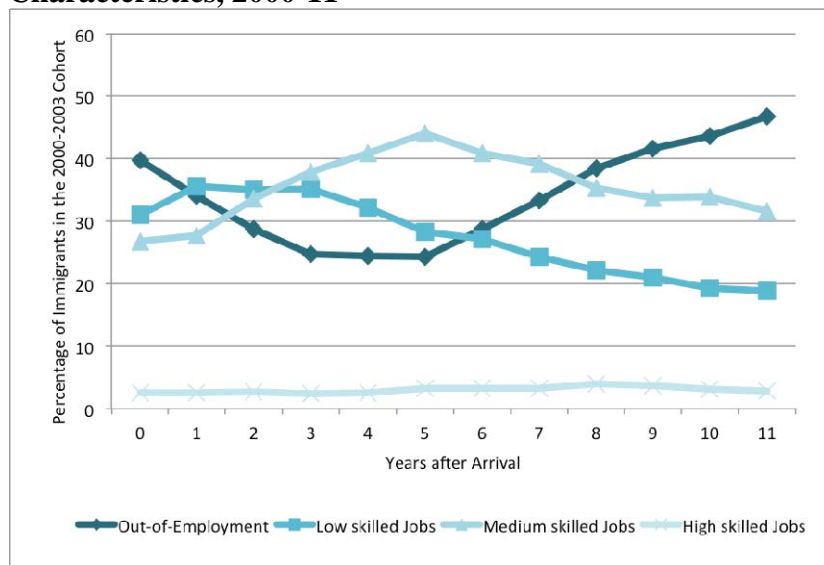
Figure 8. Employment Characteristics of Immigrants in the 2000-03 Cohort, 2000-11



Note: Lowest-skilled jobs are defined as ISCO code 9. Out-of-employment includes both unemployment and out of the labor market.

Source: Produced by the authors from Spanish Labor Force Survey microdata.

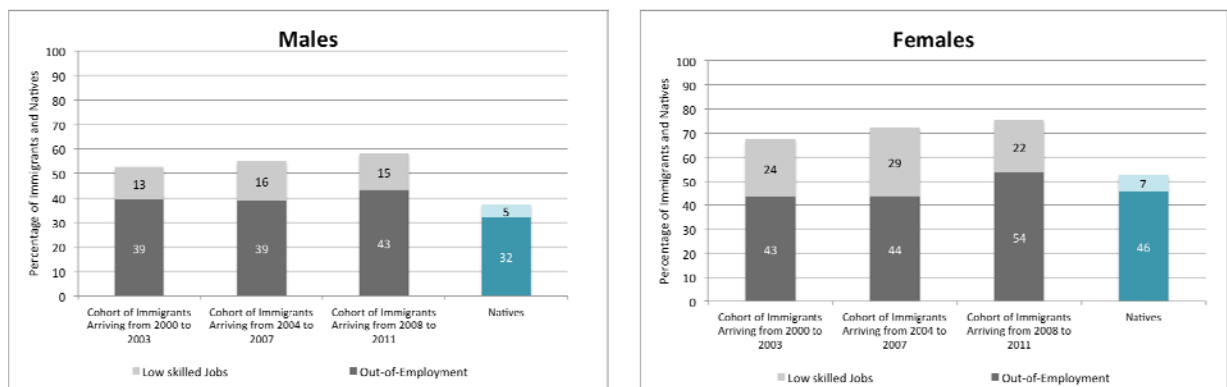
Figure 9. Lower-Educated Immigrants in the 2000-03 Cohort by Employment Characteristics, 2000-11



Notes: Lowest-skilled jobs are defined as ISCO code 9. Out-of-employment includes both unemployment and out of the labor market.

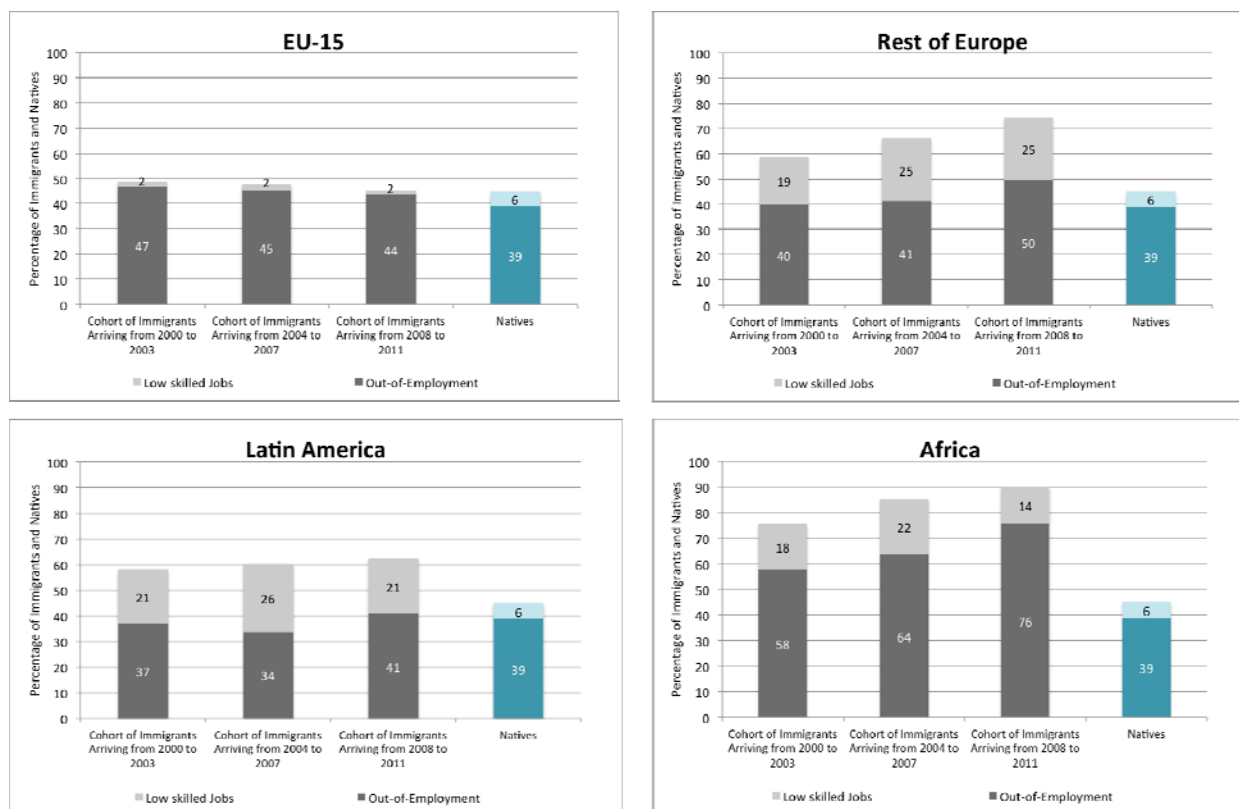
Source: Produced by the authors based on Spanish Labor Force Survey microdata.

Figure 10. Proportion of Immigrants and Natives Out-of-Employment or in the Lowest-Skilled Jobs by Gender, 2010-11



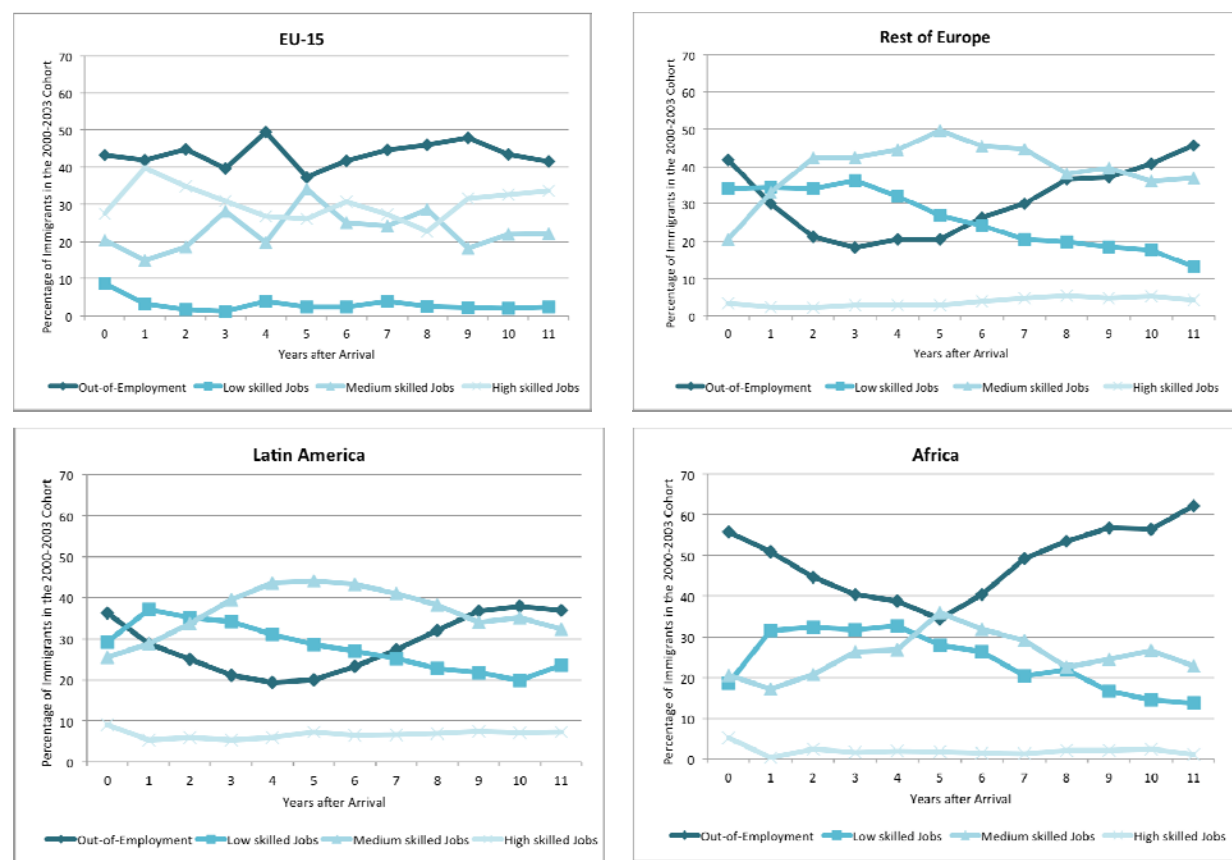
Source: Produced by the authors based on Spanish Labor Force Survey microdata.

Figure 11. Proportion of Immigrants Out-of-Employment or in the Lowest-Skilled Jobs by Country of Origin, 2010-11



Source: Produced by the authors based on Spanish Labor Force Survey microdata.

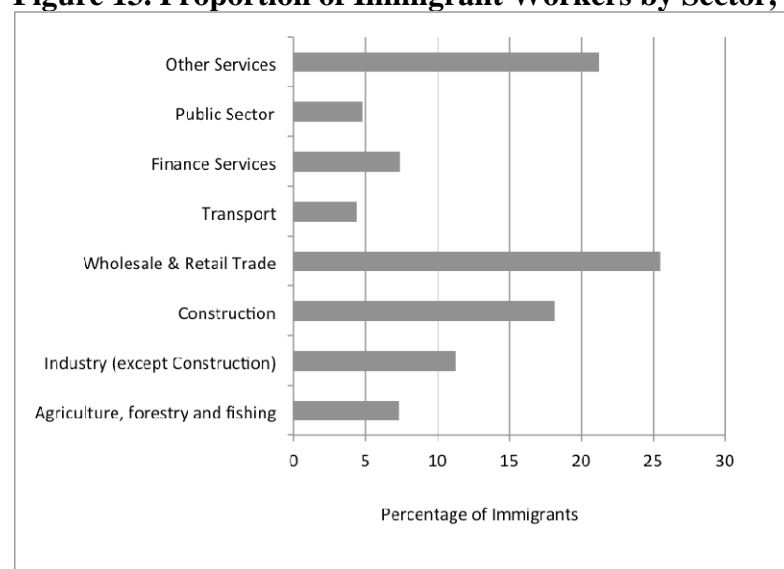
Figure 12. Employment Characteristics of Immigrants in the 2000-03 Cohort, by Country of Origin and Years after Arrival



Notes: Produced by the authors based on Spanish LFS microdata. Lowest skilled jobs defined as ISCO code 9. Out-of-employment includes both unemployment and out of the labor market.

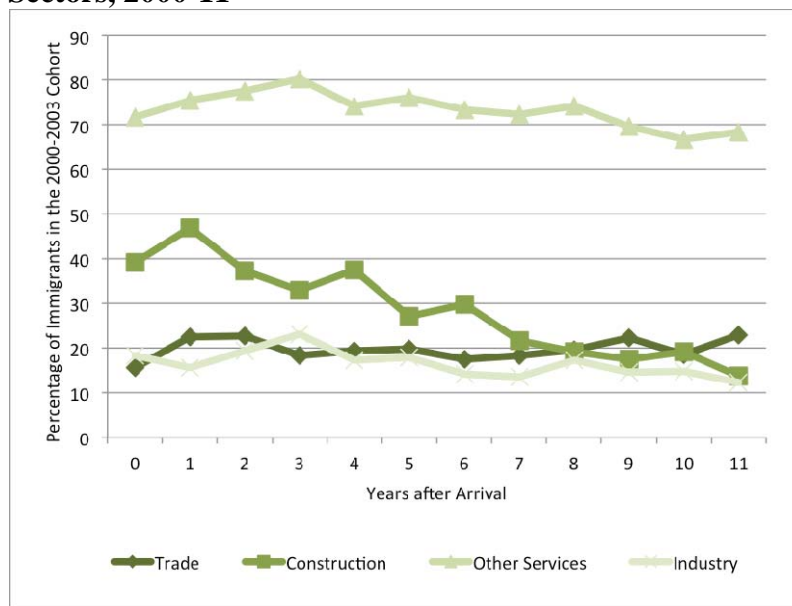
Source: Produced by the authors based on Spanish Labor Force Survey microdata.

Figure 13. Proportion of Immigrant Workers by Sector, 2010-11



Source: Produced by the authors based on Spanish Labor Force Survey microdata.

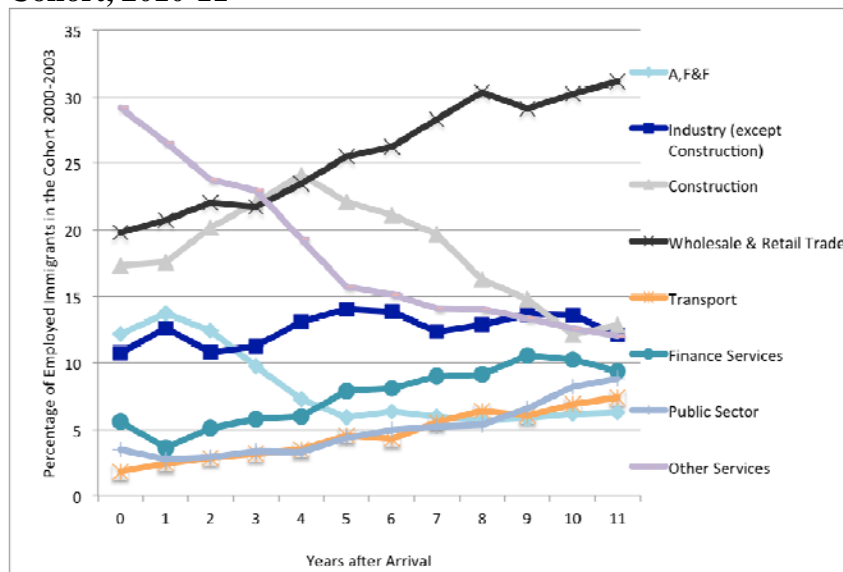
Figure 14. Share of 2000-03 Immigrant Cohort in Lowest-Skilled Jobs by Sectors, 2000-11



Note: Lowest skilled jobs defined as ISCO code 9.

Source: Produced by the authors based on Spanish LFS microdata.

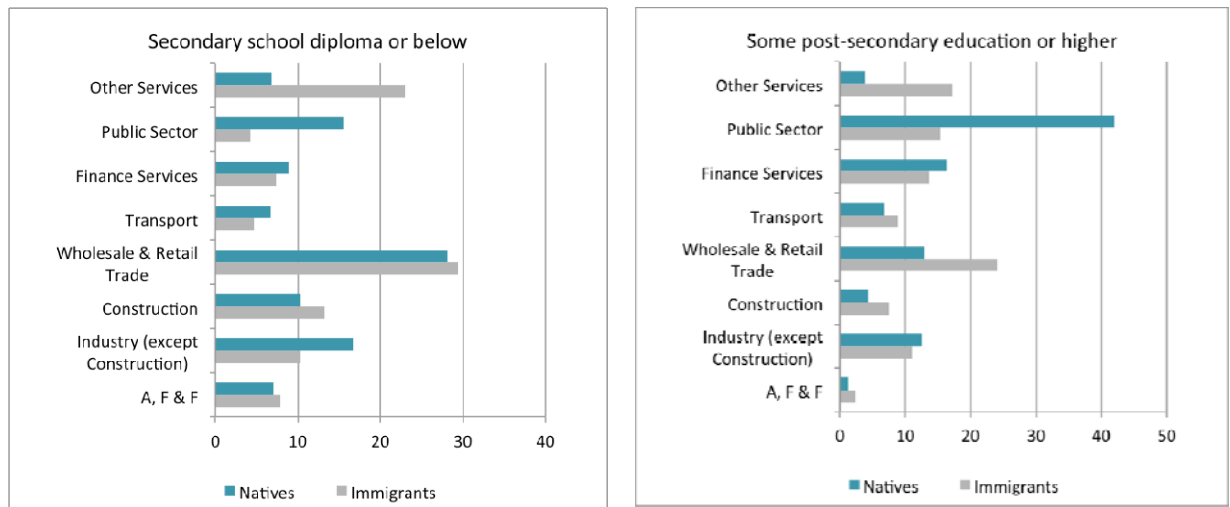
Figure 15. Employment Distribution by Sector of Immigrants in the 2000-03 Cohort, 2010-11



Note: AF&F is Agriculture, Forestry and Fishing.

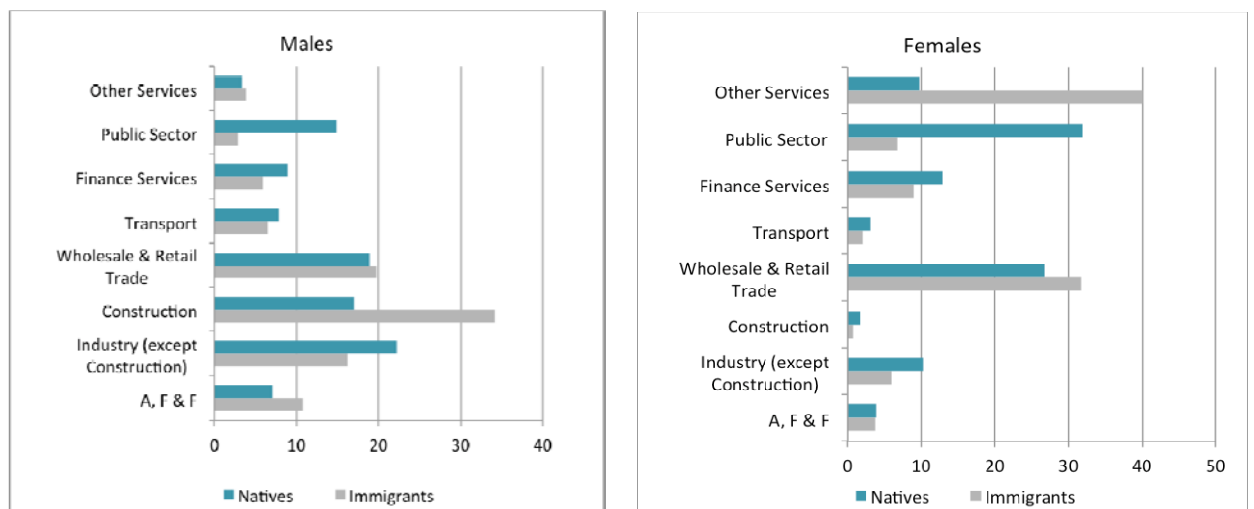
Source: Produced by the authors based on Spanish LFS microdata.

Figure 16. Distribution of Immigrant and Native Workers by Sector and Education level, 2010-11



Source: Produced by the authors based on Spanish Labor Force Survey microdata.

Figure 17. Distribution of Immigrant and Native Workers by Sector and Gender, 2010-11



Source: Produced by the authors based on Spanish Labor Force Survey microdata.

Appendix

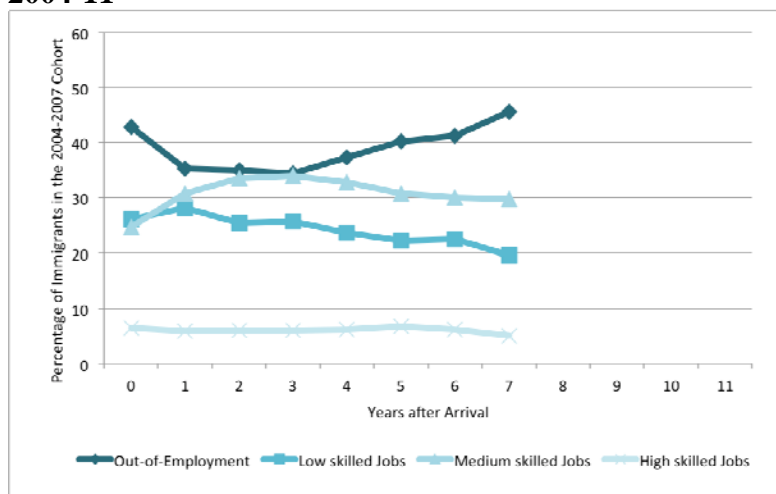
Table A.1. Individual Characteristics of Migrants and Natives

| | 2000-03 Cohort | 2004-07 Cohort | 2008-11 Cohort | Natives |
|-------------------------|-----------------------|-----------------------|-----------------------|--------------------|
| Age | 35.006 (9.707) | 33.416 (10.125) | 32.808 (10.525) | 40.108 (12.876) |
| Female | 0.494 (0.500) | 0.534 (0.499) | 0.562 (0.496) | 0.495 (0.500) |
| Married | 0.562 (0.496) | 0.506 (0.500) | 0.495 (0.500) | 0.586 (0.492) |
| HS Dropout | 0.251 (0.434) | 0.238 (0.426) | 0.246 (0.431) | 0.262 (0.440) |
| HS Graduate | 0.600 (0.490) | 0.609 (0.488) | 0.543 (0.498) | 0.555 (0.497) |
| College | 0.150 (0.357) | 0.152 (0.359) | 0.211 (0.408) | 0.184 (0.387) |
| Euro -15 | 0.064 (0.244) | 0.074 (0.262) | 0.093 (0.290) | n.a. |
| Rest of Europe | 0.214 (0.410) | 0.277 (0.448) | 0.209 (0.407) | n.a. |
| Latin America | 0.552 (0.497) | 0.471 (0.499) | 0.480 (0.500) | n.a. |
| Africa | 0.144 (0.351) | 0.148 (0.355) | 0.169 (0.375) | n.a. |
| Other Continents | 0.027 (0.162) | 0.030 (0.171) | 0.049 (0.216) | n.a. |

Note: Means and Standard Deviations (in parentheses) are for the period 2000-2011.

Source: Produced by the authors using the Spanish Labor Force Survey microdata.

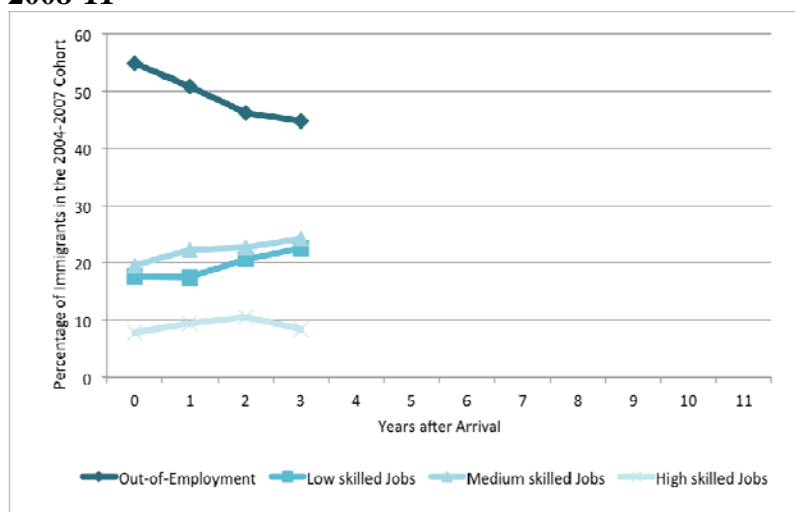
Figure A.1. Employment Characteristics for Immigrants in the 2004-07 Cohort, 2004-11



Notes: Lowest-skilled jobs defined as ISCO code 9. Out-of-employment includes both unemployment and out of the labor market.

Source: Produced by the authors based on microdata from the Spanish Labor Force Survey.

Figure A.2. Employment Characteristics for Immigrants in the 2008-11 Cohort, 2008-11



Notes: Lowest-skilled jobs defined as ISCO code 9. Out-of-employment includes both unemployment and out of the labor market.

Source: Produced by the authors based on microdata from the Spanish Labor Force Survey.

Table A.2. Job Characteristics of Immigrants and Natives by Sector (in %), 2010-11

| | | Agri-culture, Forestry, and Fishing | Industry (Except Construction) | Construction | Trade | Transport | Finance Services | Public Sector | Other Services |
|--|------------|---|--------------------------------------|--------------|-------|-----------|---------------------|---------------|----------------|
| Percent with Permanent Contracts | Natives | 18 | 69 | 35 | 49 | 61 | 63 | 75 | 53 |
| | Immigrants | 23 | 52 | 26 | 46 | 53 | 50 | 44 | 52 |
| Percent with Full-Time Jobs | Natives | 94 | 97 | 99 | 91 | 96 | 89 | 92 | 71 |
| | Immigrants | 92 | 96 | 97 | 84 | 92 | 76 | 75 | 63 |
| Tenure (in Months) | Natives | 153.3 | 128.5 | 80.5 | 101.8 | 126.7 | 100.8 | 145.3 | 89.4 |
| | Immigrants | 20.3 | 30.4 | 22.4 | 25.4 | 30.8 | 29.9 | 27.2 | 28.0 |
| Percent in Low-Skilled Jobs | Natives | 24 | 9 | 15 | 10 | 7 | 18 | 7 | 39 |
| | Immigrants | 79 | 17 | 30 | 19 | 13 | 45 | 12 | 74 |
| Percent in Medium- Skilled Jobs | Natives | 70 | 70 | 74 | 60 | 73 | 30 | 33 | 39 |
| | Immigrants | 20 | 73 | 67 | 72 | 63 | 26 | 37 | 22 |
| Percent in High-Skilled Jobs | Natives | 5 | 21 | 11 | 30 | 20 | 52 | 59 | 23 |
| | Immigrants | 1 | 10 | 3 | 9 | 24 | 29 | 51 | 4 |

Source: Produced by the authors using the Spanish Labor Force Survey microdata.