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The Cost of Waiting for Nationality: Impact on Immigrant's Labor Market Outcomes in Spain

Yanina Domenella

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Casado del Alisal 5, 28014 Madrid, Spain
www.cemfi.es

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Abstract

In this paper, I examine the impact of administrative delays in obtaining Spanish nationality on the long-term labor market outcomes of legal immigrants. Using Social Security data from 2006 to 2019 and an instrumental variable strategy, I find that longer delays in nationality acquisition result in significantly lower accumulated earnings over a ten-year period, driven by both lower wages and fewer days worked. Specifically, one additional year of delay reduces accumulated earnings over 10 years by 3.8 to 6.7 percent. To understand the underlying mechanisms, I study the short-term effects of nationality acquisition on job mobility and job quality. The results suggest that delays prolong the period of restricted mobility, hindering access to better employment opportunities. After obtaining the nationality, immigrants can afford a more selective and longer job search that pays off in the long run. These findings underscore the importance of timely nationality acquisition for improving economic outcomes and highlight the need for efficient administrative processes to support immigrant integration.

JEL Codes: F22, J61, J62, K37.

Keywords: Nationality acquisition, administrative delays, immigration policy, labormarket outcomes, job mobility, Spain.

Yanina Domenella
CEMFI
yanina.domenella@cemfi.edu.es

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1 Introduction

During the first years in the host country, having a working visa allows immigrants to reside legally. The requirements for its renewal may limit upward mobility within the same firm or changes to better jobs and affect immigrants' career path. At the same time, employers may be less willing to hire an immigrant due to the associated red tape, the possibility that the immigrant might leave the country in the near future, or because they discriminate against this population. It is well established that obtaining the host country nationality can be an effective tool to remove some of these barriers in the hiring process and, as a result, increase immigrants' earnings. However, immigrants who apply for nationality are subject to delays in the procedure that will eventually determine when they obtain nationality and start enjoying the benefits from it. Little is known about the impact of these administrative delays in obtaining the nationality, even when an immigrant is eligible, which can reduce the "nationality premium".

This paper studies whether delays in obtaining nationality affect the long-term labor outcomes of legal immigrants. I focus on Spain, a setting where Latin American immigrants can apply for nationality three years before being eligible for a permanent visa. Therefore, obtaining nationality soon could change their career path by shortening the periods of reduced mobility and leading to better jobs. I find that longer delays lead to lower accumulated labor earnings and income during the first 10 years of legal residence in Spain, explained by both lower average daily wages and fewer days worked over this period. Before obtaining nationality, a higher probability of remaining employed, shorter non-employment durations and fewer job changes are associated with worse paying and lower quality jobs, which has consequences in the long run.

To understand why delays might affect long-term outcomes, it is important to first learn about the path to Spanish nationality, which starts with temporary working visas followed by a two-stage nationality procedure. Most working-age immigrants in Spain obtain nationality by residence, a path that begins with a transitory working visa. These visas are initially granted for one year and can be renewed twice, extending their validity for two additional years each time. Only after five years of residency, the immigrant can apply for a permanent visa. However, immigrants from Latin American countries can already apply

for Spanish nationality after two years of uninterrupted legal residency. The nationality procedure they must go through involves two separate stages: first, the nationality application is evaluated and results in denial or concession; second, immigrants with approved nationality take an oath and their nationality is registered. Only after this last step, there is nationality acquisition, and the immigrants become Spanish nationals.

Once the immigrants finally obtain Spanish nationality, they are no longer restricted by labor requirements and other barriers that were present with the working visas. Therefore, how soon immigrants start enjoying this benefit might be relevant. While immigrants hold temporary working visas, they must satisfy labor requirements that may limit their bargaining power. Whereas these labor requirements disappear with the permanent visa, other restrictions remain. With the Spanish nationality, they enjoy the same rights as the Spanish-born population.

To shed light on how delays in starting to enjoy the advantages of the Spanish nationality can affect long-term outcomes, I exploit temporal and geographical variation in the administrative process. The nationality procedure from application until obtaining nationality is subject to long administrative delays and has been affected by policy changes over time. Although the Royal Decree 1004/2015 established a limit of one year for the first stage of the procedure (from application to concession), this limit is usually not met, and in practice the average time was three years (European Commission, 2019). Over the years, shock plans and a change in the nationality law were implemented to simplify and expedite the process. However, they did not always result in a decrease in the delays, due to problems in the implementation or because they moved the bottleneck to the following stage in the nationality process (from concession to acquisition). Moreover, the delay in the last step is given by the waiting time for the oath of allegiance at the Judicial District (JD henceforth) corresponding to the immigrant's municipality of residence, which ranges from one week to 1.5 years.[1]

[1]Official data on delays in appointment scheduling is unavailable. Therefore, I obtained an estimated range by simulating the experience of an immigrant granted citizenship in December 2022 and attempting to schedule an oath appointment. Specifically, I conducted online and telephone inquires across 111 JDs in Spain, successfully gathering information from 72 of them. The remaining JDs either displayed messages indicating that no appointments were available or provided a calendar with no open slots within the visible date range. Thus, this estimated delay range for the last step of the nationality procedure is based on data from the 72 JDs where I could identify the earliest available appointment. A key insight from this excersie is the substantial uncertainty immigrants face about delays in scheduling appointments to finally obtain

I use Social Security data with monthly labor spells and individual characteristics from an extended sample of the Continuous Sample of Working Lives (MCVL) of immigrants in Spain from 2006 to 2019, from which I can obtain a measure of the total delay which is key for my analysis. I take advantage of a peculiarity in the data that allows me to have a proxy for the date of nationality acquisition: the personal identifier only changes when the individual obtains the Spanish citizenship. This date, together with the first date the immigrant appears in the Social Security (FD henceforth), allows me to estimate the total delay in obtaining nationality.

This total delay may suffer from endogeneity because immigrants choose when to apply, so I use an instrumental variable strategy to analyze the impact of delays on long-term earnings. Immigrants' speed in applying for nationality once they are eligible might be correlated with their expected return to becoming Spanish which may bias the results. Therefore, to analyze the main question of interest I exploit the exogenous part of the delay by building a leave-one-out instrument using the two features in the administrative procedure: variation over time and geography. Specifically, I construct an instrument using the average delay of other immigrants assigned to the same Judicial District who obtained nationality in a two year window around the immigrants' month of nationality acquisition.

I find that longer delays in obtaining nationality result in lower accumulated earnings in the long run, which are attributable to both lower wages and fewer days worked, especially for men. Specifically, one additional year of delay leads to a reduction in accumulated earnings over 10 years of 3.8% to 6.7% which corresponds to a reduction of €4,142 to €7,359 for the median immigrant. The worse long-term outcomes are primarily due to lower pay among those experiencing longer delays, with wages decreasing by 2.7% to 3.7% for every additional year of delay, along with fewer days worked over this period, which decline by 1.4% to 3.0%.

To better understand the underlying mechanisms driving the long-term results, I study the impacts of nationality in the short run using, among other methods, an event study approach. I explore how month-to-month employment dynamics, job changes, upward

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nationality, and the lack of a standardized procedure across districts to do so.

mobility - measured by wage growth and occupational progress - and job quality change around the time the immigrant obtains the Spanish nationality. This event removes some of the barriers migrants face in the labor market, decreasing the probability of remaining in employment and the probability of staying with the same employer, and enabling longer periods of non-employment. These findings suggest that nationality increases the immigrant's reservation value, leading to longer job searches that result in more favorable opportunities. After obtaining nationality, I observe upward mobility both within and across firms in terms of wages and occupation levels, and an increased likelihood of employment in high skill occupations and in sectors with better working conditions. Therefore, a shorter delay means that the immigrant spends a larger fraction of their career path as a Spanish national enjoying these improved outcomes earlier on and it translates into better outcomes in the long run.

My paper makes three contributions. First, it contributes to the naturalization literature by examining the administrative delay in obtaining nationality, which may reduce the nationality premium. Most studies have focused on the benefits of acquiring the host country's nationality on immigrants' economic, political, and social integration. They find that naturalization can enhance labor market integration and outcomes, increase the sense of belonging in the new country, and increase political and civic engagement (Bloemraad and Sheares, 2017; Bratsberg, Ragan, and Nasir, 2002; Govind, 2021; Hainmueller, Hangartner, and Pietrantuono, 2015, 2017; Hainmueller, Hangartner, and Ward, 2019). While most studies find that there are significant improvements for certain groups, there is heterogeneity by gender and marginalization of immigrants (Fasani, Frattini, and Pirot, 2023; Gathmann and Monscheuer, 2022; Hainmueller, Hangartner, and Pietrantuono, 2017; Hainmueller, Hangartner, and Ward, 2019). In this paper, I focus on a different dimension of heterogeneity: how long the immigrant had to wait to obtain nationality. This contributes to the debate over whether nationality should be made accessible since it propels integration (the catalyst paradigm) or if it does not have an impact on its own and it should only reward immigrants who have already reached integration (the crown paradigm) (Hainmueller, Hangartner, and Pietrantuono, 2017). The few papers that provide some empirical evidence on this discussion focus on settings where nationality is offered only after many years of residence, on a specific set of immigrants like the high-skilled, or on different outcomes. In particular, Hainmueller, Hangartner, and

Pietrantuono (2017) compare similar immigrants who narrowly won or lost naturalization referendums in Switzerland (which requires 12 years of residence) and find that citizenship strongly improved long-term social integration and that returns to naturalization is larger when naturalization occurs earlier, rather than later in the residency period. Related to delays in the procedure, although not directly on citizenship, Khan and MacGarvie (2020) assess the impact of permanent residency delays on Chinese and Indian PhD graduates from US STEM programs and find that new binding limits on permanent visas that resulted in long wait times are significantly associated with declines in stay rates. The closest paper to mine exploits two reforms generating exogenous variation in the waiting time for nationality in Germany. Gathmann and Keller (2018) find support for the catalyst paradigm, as faster access improves the economic situation of immigrant women. My two main contributions relative to their work are twofold. First, they focus on immigrants who arrived young (from zero up to 23 years old) and who had to wait between eight to 16 years to naturalize. I am interested in immigrants who arrive as adults, from cultures close to that of the host country, and who can apply for citizenship only after two years of residency. Therefore, I can analyze the benefits of nationality compared to a transitory work permit if obtained quickly or compared to a permanent visa if the process takes longer. Second, I focus on the administrative delay that occurs after an immigrant becomes eligible to apply for nationality. In contrast, they analyze the legally required years of residence for eligibility, overlooking the waiting period that immigrants often endure after they become eligible. My analysis of the administrative delay is policy-relevant, as it indicates that enhancing the efficiency of administrative processes in resolving nationality applications could significantly boost integration efforts.

A second important contribution of my work consists of analyzing an underexplored mechanism underlying the impact of nationality on labor outcomes: the elimination of barriers that reduce job mobility. Economic theory suggests numerous channels through which nationality could improve labor market outcomes: citizenship is required for certain jobs, it removes geographic mobility restrictions, it signals a long-term commitment to remain in the host country, and it eliminates barriers for employers to invest in workers (Adda, Dustmann, and Goerlach, 2022; Fasani, Frattini, and Pirot, 2023; Gathmann and Garbers, 2023). Additionally, some employers may prefer to hire naturalized citizens because of taste-based discrimination (Amo-Agyei, 2020; Becker, 1971; Bratsberg, Ragan,

and Nasir, 2002), and with the nationality, natives may adopt more welcoming and non-discriminatory behavior (Hainmueller, Hangartner, and Ward, 2019). I analyze reduced upward mobility and between job mobility given the potential loss of immigrants' temporary work visas. Due to the monthly structure of my data, I can analyze changes in job mobility before and after obtaining nationality, examining this as a potential mechanism to explain my long-term results.

Finally, my study addresses an important gap in the literature by analyzing the impact of obtaining nationality in Spain, a major destination country where this topic has been understudied partly due to data limitations. Existing research in Spain has predominantly focused on the comparison between immigrants and natives. As in other countries, immigrants in Spain tend to be at a disadvantage in the labor market compared to natives in terms of wages and job conditions (Rodríguez-Planas and Nollenberger, 2016). Over time, immigrants labor market outcomes improve and the gap between natives and immigrants narrows due to assimilation and mobility, but the wage gap does not vanish completely (Izquierdo, Lacuesta, and Vegas, 2009; Reher et al., 2009; Amuedo-Dorantes and Rica, 2007). Another strand of literature examines the effects of immigration on the labor market outcomes of Spanish workers, finding no significant negative impact on their employment rates or wages (Carrasco, Jimeno, and Ortega, 2008; Carrasco, 2024). Furthermore, related to the acquisition of additional rights, Elias, Monras, and Vazquez-Grenno (2024) explores the impact of an amnesty program in early 2005, which expanded labor market opportunities for immigrants and Aparicio Fenoll (2024) investigates the effects of obtaining nationality on the immigrant-native health gap, using the legal number of years required to apply for nationality as an instrument for citizenship. To my knowledge, no study has specifically examined the short-term impact of obtaining the Spanish nationality on labor market outcomes nor how delays affect long-run results for naturalized immigrants. Leveraging the unique feature of the administrative data previously described, I am able to have information on the date of nationality acquisition, allowing me to analyze the actual delay instead of relying on legal requirements - a key advantage not previously exploited in the literature. Additionally, my study focuses on a more homogeneous group of immigrants, all of whom eventually obtained nationality but experienced different waiting times. This approach enables a clearer assessment of the impact of nationality on labor market outcomes and the extent to which administrative

delays influence their labor market trajectories.

The rest of the paper is organized as follows. Sections 2 and 3 present the institutional setting and the data, respectively. Section 4 estimates the impact of delays in the long-term outcomes. Section 5 analyzes the impact of nationality in the short run, and Section 6 concludes.

2 Institutional Setting: Latin American Immigrants in Spain

To understand the long-term effects of the delays in obtaining nationality, I focus on Latin American immigrants legally residing and working in Spain. This group is particularly suitable for the analysis due to their greater relative homogeneity and the favorable nationality rules they benefit from, which allow them to apply for nationality earlier than for permanent residency. This section provides a systematic overview of the legal and institutional framework that governs the path to nationality. It begins by describing the legal path that leads to eligibility for nationality, followed by a detailed account of the administrative stages involved in the nationality procedure. It then identifies the main sources of delay in each stage, examines their determinants, and discusses the evolution of relevant policy responses over time. Finally, it outlines the advantages of obtaining nationality over holding a working visa, which help explain the incentives that immigrants face.

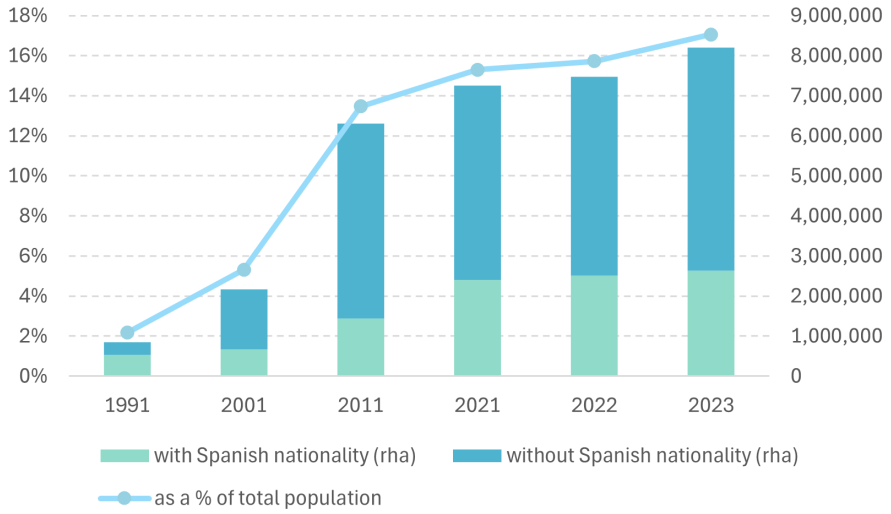
Since the 1990s, Spain has undergone a substantial demographic transformation due to sustained immigration flows. The foreign-born population has increased 9.7-fold between 1991 and 2023, raising its share of the total population from 2.2% to 17.1% (see Figure 1a).[2]

Latin American immigrants represent a particularly important group within Spain's foreign-born population, both in terms of their growing share and their higher rates of naturalization. Between the 1991 and 2001 censuses, Latin American immigrants living in Spain

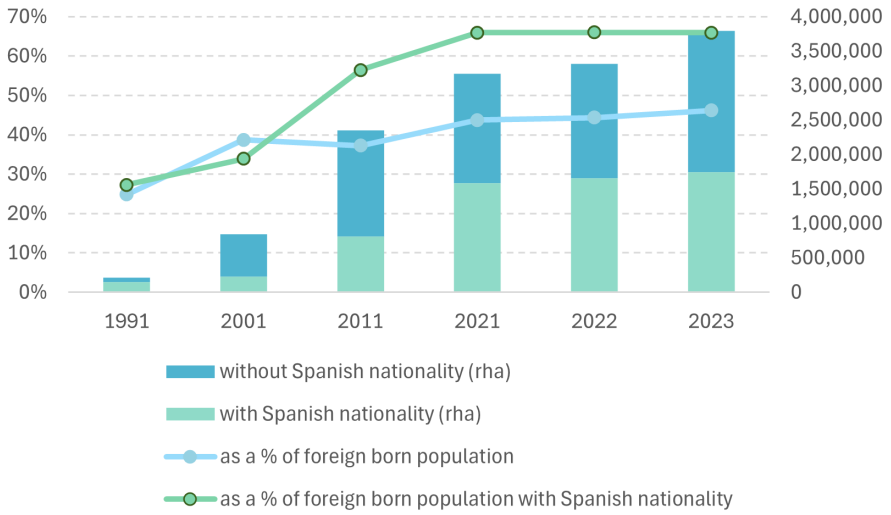
[2]In contrast, the population born in Spain grew by a modest 1.05 times over the same period, with increases of 1.7% in the 90s, 4.7% in the 2000s, and a decline of 0.9% in the 2010s. Meanwhile, the foreign-born population increased by 157%, 190% and 15%, across these respective decades.

Figure 1: Evolution of Immigration in Spain Over Time

(a) Total immigrants living in Spain



(b) Latin American immigrants in Spain



Notes: Source is the Spanish National Statistics Census obtained from the National Institute of Statistics (INE). Since 2021, INE started publishing Annual Population Censuses. In Appendix Figure A1, it can be seen a similar figure using data from the Continuous Register annual statistics, obtained also from INE.

grew nearly fourfold—from 210,459 to 840,192—and continued to rise in the following years (see Figure 1b). By 2023, nearly 3.8 million Latin American immigrants resided in the country, accounting for 46.2% of the total foreign-born population. They are especially prominent among those who acquire Spanish nationality, representing 65.9% of all naturalized immigrants. This disproportionate representation is largely driven by favorable legal provisions: citizens of Latin American countries—as well as those from Andorra, the Philippines, Equatorial Guinea, and individuals of Sephardic origin—are eligible to apply for nationality after only two years of legal residence, in contrast to the ten-year requirement for other groups (see next section for details). Additionally, they may retain their original nationality, unlike immigrants from most other regions. These advantages make Spanish citizenship significantly more attainable for Latin Americans: as of 2023, 46% had become naturalized, compared to only 20% of immigrants from elsewhere.

2.1 What is the Path of a Legal Immigrant to Nationality?

The most common route to nationality for working-age immigrants in Spain is by residency. This path typically begins with a temporary working visa, which can be renewed and eventually converted into permanent residency after five years.[3] However, Latin American immigrants become eligible to apply for nationality much sooner—after just two years of legal residence—and must go through a two-stage process to complete their naturalization.

Understanding the path of legal immigrants is crucial for comprehending how their legal status and visa renewal requirements may affect their labor market trajectories. Figure 2 illustrates the pathway of an immigrant with an initial working visa in Spain. Temporary working visas are initially granted for one year, followed by two renewals, each granting

[3]Immigrants in Spain typically obtain work authorization either by securing a job offer from abroad and applying for a work visa at the Spanish consulate, or by entering on a tourist visa and later regularizing their status—most commonly through social integration (*arraigo social*), which required three years of residence (soon to be reduced to two under the new Immigration Regulation effective in May 2025). Spanish law generally does not allow converting a tourist visa into a work visa from within Spain, so those who find employment while on a tourist visa typically must return to their home country to apply. According to the Immigrant Citizens Survey (*Encuesta a población inmigrante*), which was conducted in Madrid and Barcelona in 2011, 51% of Latin American immigrants aged 18–40 arrived with a temporary work permit, 29% spent time without legal status (e.g., overstaying a tourist visa), and others initially held permits for study, internships or volunteering (5%), short-term non-profit purposes (4%), or short-term family reunification (4%). This paper observes individuals from the moment they are legally residing in Spain, but the dataset used does not contain information on how they obtained their initial work authorization. Thus, this section explains their path from the point at which they hold a temporary work permit.

two additional years. After five years of residency, the immigrant can apply for permanent residency. During the first year of residency, the visa is restricted to a specific province and occupation. Immigrants wishing to change jobs must request a visa modification, meeting the same conditions required for the original visa. Specifically, they must prove qualifications for the profession, have a valid contract for the duration of the visa, and ensure that the occupation is included in the list of occupations of difficult coverage. If it is not included, they must verify that no national candidate has been found after the job was posted on a public portal.

Each renewal of a temporary working visa requires the applicant to meet specific conditions related to labor attachment and employer compliance. Labor attachment can be demonstrated in one of three ways: (i) the applicant continues working for the same employer who initially facilitated the visa; (ii) they have worked at least three months per year, can show that the initial job ended due to circumstances beyond their control, and have actively sought employment (evidenced by registration with the Public Employment Service), or they hold a new job offer or contract contingent upon visa renewal; or (iii) the most recent job ended for external reasons, the applicant has worked and contributed to Social Security for at least nine months in one year or 18 months over two years, and is actively seeking employment. In addition, the employer must be up to date with tax and Social Security obligations and must demonstrate sufficient economic capacity to fulfill the contractual terms.[4]

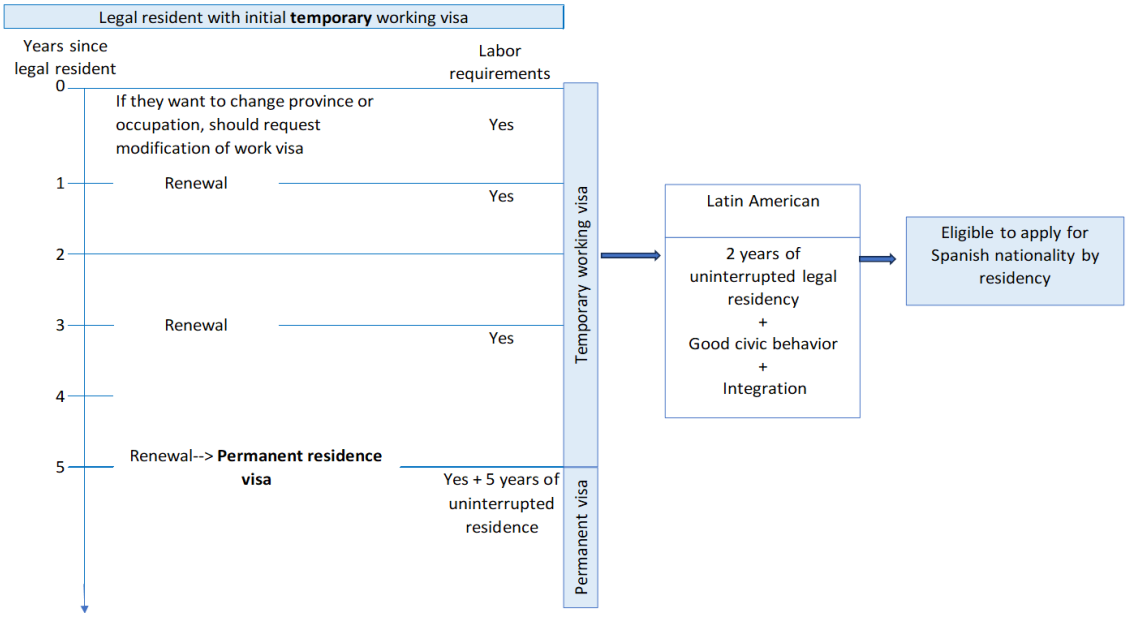
After five years of uninterrupted residency, immigrants can request a permanent visa subject to the same requirements as for temporary renewals.[5] However, immigrants from Latin American countries can apply for Spanish nationality after just two years of legal residency.[6] Apart from the residency requirement, immigrants must prove good civic behavior and integration in Spain to apply for nationality. Since Law 19/2015 came into

[4]See Ministry of Inclusion, Social Security and Migration portal and BOE-A-2011-7703 Chapter III, art.62–72 for more details.

[5]The residency is considered uninterrupted if the citizen was absent for no more than six consecutive months, and no more than ten months in total over five years. If the absence was for labor reasons, the total absence cannot be higher than one year in the five years required (see BOE-A-2011-7703 for more information).

[6]It is mandatory holding a residence permit without interruptions. Physical absence of the Spanish territory is allowed if no longer than three months during the two years (European Commission, 2019).

Figure 2: The path of the legal immigrant



Note: Apart from Latin American immigrants, citizens from Andorra, Philippines, and Equatorial Guinea as well as people of Sephardi origin also require only two years of residence. Spouses of Spanish citizens, descendants of a Spanish father or mother, or grandfather or grandmother of origin, require only one year. Refugees may apply for Spanish nationality with five years of residence. The rest of the immigrants need ten years of residence to be eligible to apply.

force in October 2015, integration is proven through an exam on Spanish customs and culture, conducted by the Cervantes Institute.[7] Good civic behavior, on the other hand, is evidenced by a criminal record certificate from the country of origin and reports issued by the relevant Spanish authorities.

Once an application is submitted, two separate stages follow: first, the nationality file is evaluated and results in denial or concession; second, an immigrant with an approved nationality takes oath and the nationality is registered.[8] Only after this last step, there is

[7]The exam includes two modules: (i) Government, laws and citizen participation in Spain; and (ii) Culture, history, and Spanish society. In addition to this exam, immigrants from non-Spanish speaking countries should pass a Spanish language exam (A2 level is required). Before 2015, there was no standard way to prove integration in the Spanish society: some of the applicants included employment contracts, proofs of economic means, labor life, payroll, registration as self-employed, and some civil registries developed their own "integration questionnaires" (European Commission, 2019).

[8]This last step involves: (i) swearing an oath or promise of allegiance to the King and obedience of the Spanish Constitution and laws; (ii) declaration renouncing the previous nationality. This is not required of nationals of Latin American countries, Andorra, the Philippines, Equatorial Guinea, Portugal or Sephardic Jews of Spanish origin; and finally (iii) entry of the acquisition of nationality in the Spanish Civil Register. Unlike in countries such as the United States, Canada, and the United Kingdom, where naturalization is marked by a formal oath-taking ceremony, the process in Spain consists of attending an appointment at the Civil Registry and signing a written declaration without a formal ceremony.

nationality acquisition, and the immigrants become Spanish nationals. It is important for my empirical strategy that this step is done at the Civil Registry of the Judicial District corresponding to the municipality where the applicant lives and this may affect the delay, as I will explain in the next section.

2.2 What is Delay and What Does it Depend On?

In this paper, I am interested in the administrative delay, which corresponds to the time between application and obtaining the nationality (i.e., acquisition), as it is the most exogenous part of the delay. This delay depends on policy changes and on the Judicial District corresponding to the immigrant's municipality of residence. However, due to data limitations that are explained in Section 3, I define delay as the time between the immigrant is eligible to apply for nationality and the acquisition. In order to deal with the endogeneity in the delay to apply since the moment at which the immigrant is eligible, I use an instrument that is explained in Section 4.

The total delay can be divided into three parts: the time taken by the immigrant to submit an application after becoming eligible, the time required for the administration to issue a decision, and the time between concession and acquisition. The first part is the most endogenous, as it depends on the immigrant's ability, motivation, and decision to apply. For example, higher-educated individuals may find it easier to pass the exam to prove integration or to understand the requirements and prepare the documents to apply. Also, the application fee and the cost of the exams may deter those with lower income or those who do not expect to obtain benefits from the Spanish nationality.[9] Apart from this, individuals with higher income may be able to pay an attorney to prepare their application faster. Although I control for observable characteristics of the immigrants in my empirical analysis, there are still unobservables that may bias the results. I discuss this potential bias in detail in Section 4.1.

The second and third parts of the delay, which lead to the concession of nationality and to the acquisition, respectively, vary depending on the volume of applications, the efficiency of

[9]Before the new Law 19/2015, there was no fee to apply. This law introduced a fee of €100 (€104.50 since 2022), as well as the language exam (€55) and Spanish customs and culture (€85) explained before.

the administration, and policy changes over time. In Spain, the agency responsible for the concession of nationality is the General Directorate for Registries and Notaries (*Dirección General de los Registros y del Notariado* or DGRN), which is part of the Ministry of Justice. This agency is legally mandated to decide on nationality applications within one year.[10] However, this timeline is rarely observed, and the average delay is closer to three years (European Commission, 2019).[11] Appendix Figure A3 shows the evolution of applications for nationality by residency since 2010. The low efficiency in handling nationality applications is evidenced by the fact that only 29% of the applications received between 2010 and 2016 were resolved within the one-year limit.[12] By 2010, there were over 324,000 nationality applications pending resolution. Until 2018, the percentage of resolved applications remained below 40% of those pending, except for 2013, when the resolution rate reached 55% (see Appendix Figure A3).

Multiple policy initiatives have attempted to address this backlog.[13] However, some of these measures were ineffective in decreasing the overall delay. The 2012 Intensive Nationality Plan (PIN henceforth) delegated parts of the administrative process to the Association of Property Registrars (*Colegio de Registradores de la Propiedad, Mercantiles y Bienes Muebles de España* or CORPME).[14] While this increased resolution rates temporarily, it also led to a higher rate of denials, many of which were later reversed upon appeal.[15] The

[10] Article 11.3 of Royal Decree 1004/2015.

[11] If the Ministry of Justice takes longer than one year to issue its resolution, immigrants have the possibility of going to court through a contentious-administrative appeal and request the resolution before a judge. However, this costs around €1,000 in attorney's fees. This, again, would induce endogeneity if those expecting a larger benefit from obtaining nationality are more likely to go to court to speed up the resolution process that leads to the concession. In this case, the OLS estimate of the delay on labor market outcomes would be upward biased.

[12] According to the BOE num. 4-335, January 5, 2023, 37% took two years, 25% three, and 9% took between four and nine years. When I consulted the Ministry of Justice through the Transparency Portal regarding the criteria that determine the order in which nationality applications are processed and the characteristics of these applications that might result in longer resolution times, they responded that the order in which resolutions are addressed is the order of initiation (*orden de incoación*).

[13] Appendix Table A2 presents a timeline of all policies implemented since 2012 to handle nationality applications.

[14] The CORPME only handled applications done through the old procedure. The new law in 2015 and the Royal Decree 1004/2015 introduced a new nationality procedure, which was electronic in all its phases. However, from the enactment of the Royal Decree 1004/2015 of November 6, 2015 until June 30, 2017, there was a transitional period in which it was possible to continue submitting applications through the old procedure, which implied submitting applications to the Civil Registry corresponding to the applicant's domicile in paper format. Therefore, in this transitional period there were applications done through the old procedure and others through the new procedure.

[15] According to data from the DGRN reported in BOE num. 4-335, January 5, 2023, of all nationality

unprecedented large number of concessions given with the mandate to CORPME moved the bottleneck to the acquisition stage. Therefore, from July to December 2013, and as part of the PIN, it was allowed to take the oath of allegiance at a public notary free of charge—an alternative to the standard procedure of completing this step at the Civil Registry.[16] As seen in Appendix Figure A7, these policies seem to have been effective in reducing the delay in 2013, but it was only a temporary solution as the delay continued its increasing trend in the subsequent years, as well as the number of files pending resolution.

The electronic nationality application system introduced by the 2015 law was intended to streamline the process but suffered from technical difficulties, resulting in further delays. In 2017, there were 78% fewer resolutions compared to the previous year, despite applications decreased only by 19% (see Appendix Figure A3). These delays were attributed to "technical problems", and by 2018 less than 0.5% of the applications submitted through the new procedure had been resolved (BOE num. 4-335, January 5, 2023).[17]

To address the large number of unresolved files, two "Nationality Shock Plans" were implemented in 2019 and 2021, which temporarily expanded administrative capacity and helped to reduce the backlog.[18] The 2019 Plan managed to process 215 thousand applications, moving the bottleneck again to the acquisition part. Therefore, in September 2021 the Ministry of Justice allowed to do the oath of allegiance before a notary.[19] The 2021 Plan surpassed expectations, processing 278,297 files and resolving 163,946 applications.

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applications submitted between 2004 to 2018, 4% of those processed by the DGRN were denied, compared to 12% of those handled by CORPME. Administrative appeals were filed for only 0.9% of applications received up to 2009; however, this percentage rose to 6.6% for applications registered between 2010 and 2015 under CORPME management. Additionally, while over 60% of appeals on denials of applications handled by the DGRN were dismissed, this rate declined to 30% starting in 2013, reaching only 8% dismissals in 2018. This suggests that, in over 70% of appealed cases that had been processed by CORPME, the initial denial of nationality was erroneous. See evolution over time in the percentage of denials, percentage of appeals and percentage of appeals dismissed in Appendix Figures A4, A5, and A6, respectively.

[16] BOE-A-2013-7472.

[17] See the article from El País, "Spain blames computer glitch for huge citizenship application backlog".

[18] The 2019 Plan temporarily increased the number of civil servants dedicated to the nationality procedures to 167, whereas the 2021 Plan increased this number to 166 (it started with the participation of 90 civil servants, with the addition of 37 in June and 39 in August). For comparison, when I inquired through the Transparency Portal about the number of civil servants handling nationality procedures, the Ministry of Justice indicated that there were 42 positions, 7 of which were vacant, responsible for processing nationality applications in October 2022.

[19] BOE-A-2021-15391. Unlike in 2013, doing the oath of allegiance before a notary was not for free, ranging between €150 and €300 depending on the notary.

However, as of 31st of December 2021, there were still 231,427 files pending resolution (93,649 from years before 2021).

Apart from the time variation explained before, the last part of the delay varies geographically as it depends on the Judicial District where the immigrant has to do the oath of allegiance. In Spain, the 8,131 municipalities are grouped into 431 JD. As explained before, once the immigrant receives the concession of the Spanish nationality, they have to do the oath of allegiance at the JD corresponding to their municipality of residence. The wait time for this appointment varies significantly depending on the local administrative burden. This geographic variation—largely outside the control of the immigrant—is a key feature I exploit in my empirical strategy.[20] I provide quantitative evidence of the variation in delay in Section 3.

2.3 Advantages of Obtaining Nationality: Barriers that Disappear

Immigrants in Spain holding a temporary work visa face a range of restrictions that may limit their labor market outcomes and broader integration. During the first year of temporary residency, and at each visa renewal, immigrants must satisfy a set of labor requirements that may weaken their bargaining power, discourage job mobility, and reduce incentives to pursue career advancement. While these requirements are lifted once the immigrant obtains a permanent visa, other legal and social limitations remain. Obtaining Spanish nationality removes all such restrictions and grants immigrants the same rights as those born in Spain. The benefits of nationality extend beyond the labor market, encompassing political, civil, and social domains.

If an immigrant acquires nationality while still holding a temporary work visa, they gain access to these benefits at an earlier stage in their stay, which can meaningfully alter their behavior and opportunities. Appendix Table A1 details the legal differences between

[20]The only way they could manipulate it would be by moving to a municipality with a shorter delay. However, this is a very unlikely reason for moving, and, as I will show in Section 3, a small percentage of the immigrants moved before nationality acquisition. In addition to this, I consider the JD corresponding to the FD to build the instrument (so it would not be influenced by strategic relocation after FD and before obtaining nationality). The other potential endogeneity could happen in 2021, when it was allowed to do this last step in front of a notary but paying a fee. This is not a problem in my analysis as 2021 is outside my study period. In 2013, as it was for free, this is less of an issue.

holding a working visa and having Spanish nationality. In the labor market, immigrants with a temporary visa are subject to renewal conditions related to labor attachment and the hiring firm, outlined in Section 2.1. This creates strong incentives to remain with the same job, even under suboptimal conditions, in order to avoid risking their legal status. As a result, their bargaining power is weakened, and they may be less likely to pursue promotions, negotiate for better wages, or change jobs—thus limiting both job mobility and upward mobility. Furthermore, immigrants on a temporary visa are ineligible for civil servant positions, cannot work in other European Union (EU) countries, and face restrictions on time spent outside Spain. Nationality acquisition eliminates these constraints and leads to additional legal advantages, including political rights—such as voting in national elections—and automatic transmission of nationality to children born in Spain.[21]

If the nationality procedure takes longer and the immigrant obtains nationality when already holding a permanent visa, the most pressing employment-related restrictions associated with visa renewals would have already been lifted. However, the other barriers remain. Thus, nationality acquisition still offers substantial gains, even at later stages of the immigration trajectory: access to civil servant jobs, the right to vote in national elections, the ability to work in other EU countries and reside outside the EU without time restrictions, and the automatic transmission of Spanish nationality to a child born in Spain.

Beyond these legal benefits, obtaining nationality may signal a long-term commitment to remain in the country, thereby improving labor market outcomes by increasing employers' incentives to invest in the individual, or reducing taste-based discrimination (Adda, Dustmann, and Goerlach, 2022; Fasani, Frattini, and Pirot, 2023; Gathmann and Garbers, 2023; Amo-Agyei, 2020; Becker, 1971; Bratsberg, Ragan, and Nasir, 2002). Moreover, it may lead to more welcoming attitudes and non-discriminatory behavior from natives, improving integration (Hainmueller, Hangartner, and Ward, 2019).

[21] A child born to parents without Spanish nationality does not automatically acquire Spanish nationality. Whether the child is granted nationality depends on the parents' nationality and is subject to a procedure at the Civil Registry, based on the principle of simple presumption. This provision applies when both parents are stateless or when the laws of their respective countries do not confer nationality to the child, meaning the child would otherwise be stateless if Spain did not intervene.

As can be seen in Appendix Figure A8, evidence from the 2011 Immigrant Citizens Survey shows that immigrants who had acquired Spanish nationality reported significant improvements across several domains: labor market opportunities, educational and training access, civic participation, and a general sense of belonging. Notably, these perceived benefits are reported even among immigrants who had already held a permanent visa prior to acquiring nationality.[22]

3 Data

I use monthly Social Security data including labor market and job characteristics, merged with annual data with individual characteristics from the Continuous Sample of Working Lives from immigrants in Spain (*Muestra Continua de Vidas Laborales* or MCVL). I take advantage of a peculiarity in the data that allows me to have a proxy for the date of the nationality acquisition and I use information of the first date the immigrant appears in the Social Security (FD) as indication of legal stay in the country.

To construct the sample for my analysis, I obtained an extension of the MCVL sample with all the immigrants included in any edition of the MCVL since 2006 to 2020, who were younger than 65 years old by 2010. This is an administrative data set with individual-level information from social security records, merged with tax information and records from Spain's Continuous Register of Population for a 4% non-stratified random sample of the population affiliated with the Social Security System. The sample is selected using the personal identifier (personal ID), which is associated with the Spanish national identity card (national ID), the passport or foreign identification number (foreigner ID).[23] The

[22]The Immigrant Citizens Survey (*Encuesta a población inmigrante*) was conducted in Madrid and Barcelona in 2011 with 994 immigrants born in non-EU-27 and non-EEA-EFTA countries (Iceland, Liechtenstein, Norway, and Switzerland), residing in Spain for at least one year. Question asked was: "To what extent do you believe that acquiring nationality has personally facilitated your ability to: (i) secure employment or improve your current job/business; (ii) enhance your educational level or training; (iii) participate in public affairs within your local community (e.g., schools, associations, political activities); and (iv) feel settled in Spain?".

[23]There is a permanent set of four million numbers randomly chosen among the first 100 millon natural numbers, and the individual is part of the MCVL sample if the personal ID is included in this set. Suppose the personal ID is part of the MCVL sample. In that case, the individual appears in all editions as long as they had a relationship with Social Security in the previous year (either working, receiving unemployment benefits or pensions)(Seguridad Social, 2021).

personal ID is fixed, unless the individual obtains the Spanish nationality or the identification document changes.[24] This would be a problem for my analysis as the sample of legal immigrants observed in the MCVL before and after obtaining nationality would be small. Imagine an immigrant who was part of the MCVL sample and obtains Spanish nationality, which leads to a change in the personal ID. He would have a 4% probability of still being followed in the subsequent MCVL editions. By using the fact that the Social Security number does not change even when the personal ID changes, I obtained a sample of immigrants who were ever followed in the MCVL and constructed a panel with monthly observations tracking their working life since 1980 until December 2020. In this way, I enlarge the MCVL sample to include individuals who appear in the MCVL in one year but not in another because of a change in the personal ID, and obtain their complete social security records.

This dataset is very rich in labor market information as well as personal characteristics. Regarding the labor market, I know the labor market status (working or not), and if working, the occupation, sector of activity and location of the establishment. In addition to this, I know the start date and end date of each job spell, type of contract, and part-time coefficient, which allows me to compute days worked and its full-time equivalent, as well as labor intensity (as total days worked over potential days worked). By taking advantage of the panel structure, I can compute tenure and experience from the beginning of their working life in Spain as the total number of days accumulated in each firm and overall, respectively, and monthly dynamics into different job statuses (e.g., employment to non-employment and non-employment to employment). Finally, I can obtain monthly earnings and income (where the latter includes not only earnings but also unemployment benefits) and their full-time equivalents, and daily earnings.[25] Regarding individual characteristics, I know immigrants' country of birth, nationality, education level, gender, birth

[24] In the 2009 edition of the MCVL, the personal ID associated to foreigner ID changed compared to the one assigned in previous editions. This change was not associated with a change in the identifying document, and I take this into account when identifying the date of nationality acquisition.

[25] I express these values in real terms, adjusted to 2020 euros, using the national consumer price index for deflation. Given that for my analysis I use an extended sample, I got access only to the MCVL without fiscal data. Therefore, I build earnings and income using monthly social security contributions, which are top and bottom-coded. Whereas top censoring is less likely to be an issue in the case of immigrants, bottom coding is more frequent: less than 5% of monthly spells are top coded (contribution larger or equal to 99.5% of the maximum base of contribution according to occupation group and year) and 18% are bottom coded.

date, municipality of residence and household information.

Apart from this standard information from Spanish records, I requested additional information that allows me to identify two key dates for my analysis: when the immigrant starts being a legal resident and when they obtain Spanish nationality. The former is obtained from the date when the individual first appears in the Social Security system. This date can be earlier than the first job spell if the individual is registered in the Social Security to receive health care.[26] For the date of nationality acquisition, I take advantage of the peculiarity of the personal ID that only changes after obtaining nationality. Therefore, I requested the date of the personal ID change and use it as a proxy for the nationality acquisition.[27]

I complement this individual-level data with information about the municipality of arrival and the Judicial District where the immigrant has to take the oath. Using information from the Ministry of Justice, I built a yearly panel of total workers at the Civil Registry in each JD from 2011 to 2022. In addition to this, I obtain information about the number of immigrants and Spanish population by municipality and aggregate this by JD. To control for political inclination that may be related to the delay, I use information about the results of municipal elections from 2003 to 2019 (every four years) from the Spanish Ministry of the Interior. To control for the labor conditions at arrival, I use information about the unemployment rate at the province level from the Labor Force Survey in the quarter and year of arrival.

Finally, I use additional data sources to impute earnings for domestic workers, which are not reported in the Social Security data.[28] First, using the Life Conditions Surveys

[26] 18% of the sample has a FD earlier than the first job spell date. Reassuringly, the percentage is larger among those who are younger than 16 years old at the FD, as they could have gained legal status from their parents before entering the labor market (more than 79%). Please note that in the statistics shown in Table 1, I show the percentage of the sample with FD more than one year earlier than the first job spell, which is 7%. This is due to the restrictions applied to the sample and explained in Section 3.1, especially considering only those immigrants that were 18 years old or older at FD, and removing those who did not work any month during the first two years since FD (what automatically removes those with FD two years or more earlier than the first job spell).

[27] To deal with the personal ID change that occurred in the 2009 edition without a change in the identifying document, I only consider the change in the personal ID as the date of nationality acquisition if the immigrant holds Spanish nationality and a national ID after that date.

[28] Domestic workers are those registered under the General Social Security Scheme (*Régimen General*) with the Special Employment Relationship for Household Employees (*S.E.C. Empleados del Hogar*), or under the Special System for Household Employees (*Régimen Especial de Empleados del Hogar*).

(LCS) since 2007, I gather information on gross annual income, unemployment benefits, and months worked in the previous year to estimate monthly earnings since 2006 onwards. Second, I estimate informality rates among domestic workers by comparing the total number of employees in this sector, according to the Spanish Labor Force Survey, with the number of registered workers in the Social Security data. Third, I apply the estimated informality rate by year and calculate the reported monthly earnings for each domestic worker in the LCS.[29] Finally, focusing on domestic workers born in non-EU countries, I compute the median reported earnings by cell, defined by autonomous community (region), year, gender, and whether the worker holds Spanish nationality. I then impute these earnings to the months during which immigrants worked as domestic workers, adjusting for the number of days worked in each month.[30]

3.1 Sample Restrictions

My starting sample is monthly data for immigrants with FD in January 2006 or later, who were employed in Spain at any point between January 2006 and December 2020 and who obtained nationality from January 2008 to December 2020. The first important restriction involves excluding from the analysis those immigrants who obtained Spanish nationality either prior to 2008 or after December 2020. For the former group, the date of the nationality acquisition is not observed, thus precluding the calculation of the delay. For the latter group, I do not observe labor market outcomes after nationality acquisition. Among the remaining group of immigrants (i.e., those who obtained nationality from 2008 to 2020), I focus on those observed for the first time in the Social Security records after 2005 because I observe nationality acquisitions only from 2008 onwards. Therefore, and to be conservative, I include immigrants who became eligible to apply for nationality in

[29] Since the income reported in the LCS includes both formal and informal sources, I need to estimate the portion of this income that would be formally declared to Social Security. Therefore, informality rate of interest is the fraction of the total income of domestic workers are registered in the Social Security, which is not reported to Social Security (e.g., when workers are employed in multiple households, but only some employers declare them to Social Security). However, as there is no reliable source for this specific data, I rely on an estimate of overall informality among domestic workers as a second best approach.

[30] As with the earnings and income from the Social Security data, I express these values in real terms, adjusted to 2020 euros. I use non-EU countries instead of Latin American countries because this is the lowest level of disaggregation consistently available across all LCS editions. In cases where data are missing for certain cells, I relax the autonomous community condition, and impute the country-level median for the year, gender and nationality.

January 2008 or later. Including immigrants with FD sooner than 2006 but who obtained nationality after 2008 means that they necessarily took longer than 2 years since FD to obtain nationality (otherwise, they would have been removed with the first restriction).[31][32]

Additionally, given that my analysis is focused on the labor market consequences of the delay in obtaining nationality, I exclude from the study sample those immigrants who were younger than 18 or older than 40 at FD, as well as those whose delay since eligibility is lower than zero. This ensures a sample of individuals more likely to have obtained nationality through residency and who are required to work to maintain their legal status.[33] Since the long-term analysis requires observing each worker for a sufficient number of years, and in order to observe immigrants while they are most active in the labor market, I restrict to those who are observed for the first time in the system when they are 40 or younger.

I also apply restrictions related to labor attachment and self-employment, and include labor spells up to December 2019 to exclude the COVID-19 period. I exclude workers who ever worked as self-employed because labor earnings are not available during periods of self-employment so this would induce measurement errors in the accumulated income and earnings.[34] Finally, I exclude immigrants who were observed for less than two years, or who have not worked any day during the first two years.

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[31]It is important to note that this restriction implies that those who obtained nationality in 2008 will necessarily have a delay since eligible below one year. However, in my analysis I always include FD fixed-effects, therefore I am comparing immigrants with the same FD who experienced a different delay before obtaining nationality.

[32]Removing immigrants with FD before 2006 significantly reduces the sample size, as more than 25% of my sample of immigrants who obtained nationality from 2008 onwards have FD in 2005. This responds to the amnesty program implemented in Spain in 2005 that gave legal working status to around 600,000 working-age immigrants and increased the size of foreign workers registered in the Social Security System by around 3 pp overall (Elias, Monras, and Vazquez-Grenno, 2024). In the Appendix, I show that my results are robust to relaxing the FD restriction, and including FD since 2001 or restricting to FD since 2007 to move further away from the 2005 cohort.

[33]Since 2013, 94% of nationality acquisitions of the population between 20 and 64 were done through residency. For those aged between 15 and 19 and younger, the percentage falls to 26% (see Appendix Figure A2). Given that those who are married to a Spaniard only require one year of residence, delay since eligibility of two years is negative for them and I exclude them from my sample.

[34]This restriction excludes 15% of the sample. The earnings for the self-employed is not observed because their taxable base is not a function of their monthly income. As a robustness check, I follow Arellano-Bover (2024) and do the analysis including immigrants who were self-employed for less than 40% of the time. Apart from the self-employed, jobs as domestic workers do not report labor earnings as explained before. Given that more than 33% of female immigrants have ever worked as domestic workers, I decided to keep them in my analysis, imputing earnings as mentioned earlier, and conduct separate analyses for men and women. This is not an issue among men, as only 4% of them ever worked as domestic workers.

Depending on the time horizon under consideration, I impose additional restrictions and use two separate samples of immigrants born in Latin American countries. As previously noted, immigrants from these countries become eligible to apply for nationality before they are eligible for permanent residency, facilitating a more comprehensive analysis. For the long-term analysis, I use the "LT" (long-term) sample, which includes 2,907 immigrants who are observed for at least 120 months since FD, for whom I am able to construct an instrument. The necessity of an instrument stems from the potential endogeneity in the delay, as discussed in Section 2.2.[35] As will be explained in Section 4.1, I construct the leave-one-out instrument using the JD corresponding to the municipality of residence when the immigrant was first observed. However, the MCVL only provides the province code for municipalities with fewer than 40,000 inhabitants, making it impossible to assign the JD in the case of small municipalities. This limitation, coupled with the restriction I impose that there must be at least five other immigrants used to compute the instrument, reduces the sample from 4,753 to the final LT sample of 2,907. Table 1 presents the descriptive statistics for the LT sample, while a corresponding table for the larger sample is provided in Appendix Table A3. For the event-study analysis, I use the "ST" (short-term) sample, which includes immigrants who are observed for at least 24 months before and after obtaining nationality. This yields an ST sample of 4,895 immigrants observed monthly. Appendix Table A5 details the characteristics of this sample, which has similar characteristics to the other two samples.[36]

As seen in Table 1, 62% of the sample are female immigrants, with the main source countries being Colombia, Bolivia, Peru, and Ecuador.[37] The average immigrant first appeared in the Social Security registry in 2008, and obtained nationality in 2014, resulting in an average delay of 4.6 years after being eligible to apply, albeit with considerable

[35]It is important to note that if the date of application for nationality or the date of concession were available, the endogenous component of the delay could be eliminated. However, several attempts to obtain and link this information to the anonymized data were unsuccessful.

[36]Note that the ST sample does not impose the restriction that the immigrant is observed at least 120 months, and includes immigrants from small municipalities as well given that the empirical strategy does not use an instrument.

[37]The larger share of women is driven by two main factors. First, it reflects the higher proportion of female immigrants arriving from the Americas, a trend that has strengthened since the 2008 crisis: women made up 53 to 55 percent of this inflow from the late 1990s until 2008, increasing to 58 to 60 percent thereafter (Consejo Económico y Social, 2019). Second, the proportion of men is higher among those who have been self-employed for at least one month compared to those who have ever been self-employed; the first group is excluded from the analysis.

variation.[38] The sample is mainly composed of low educated people, with 49% of the immigrants with education below the secondary level. Labor performance within the first two years since FD reveals a high prevalence of fixed-term contracts (71%) and of part-time contracts (47%). On average, immigrants earned nearly €17,600 during these two years since FD, working 71% of the potential days. Regarding geographical mobility, only 13% of the sample resided in a different municipality at the end of the study period compared the first place of residence. This is important for the IV approach that is discussed in Section 4.1, as it mitigates concerns of endogenous relocation to reduce delays in the final stage of the nationality procedure.

As explained in the following section, I conduct separate analyses for men and women and Appendix Table A4 presents the corresponding descriptive statistics disaggregated by gender. The male and female samples are generally comparable in terms of individual characteristics, with the exception of country of origin, where differences are primarily driven by a larger share of female migrants from Bolivia and male migrants from Peru. Importantly, both groups exhibit similar delays in obtaining nationality. However, there are significant differences in labor market outcomes during the first two years since FD: women earned lower wages, accumulated less earnings, and were more likely to be employed part-time and in lower-skilled occupations compared to men. These disparities in the labor market performance before eligibility, along with additional reasons that I explain in Section 4.1, justify doing the analysis separately by gender.

[38] When collapsing by JD, the average delay is 4.2 years, and the standard deviation is 0.86. This variation at the JD level is important as it will be exploited in the instrumental variable strategy as it is explained in Section 4.1.

Table 1: Summary Statistics of the Long-term (LT) Sample

Variable Name	**Mean**	**Median**	**Std. Dev.**
Female	0.62		0.48
Year of Birth	1979	1979	6.17
Age at First Date in the Social Security (FD)	28.50	28.00	6.08
Year of FD	2008	2008	1.28
FD More than 1 Year Earlier than First Job Spell	0.07		0.25
Maximum Number of years Observed	12.10	12.00	1.31
Year of Nationality Acquisition	2014	2014	1.77
Delay in years	4.62	4.38	1.82
Country of Birth			
Argentina	0.04		0.19
Bolivia	0.16		0.37
Brazil	0.03		0.17
Colombia	0.18		0.39
Cuba	0.04		0.19
Dominican Republic	0.12		0.32
Ecuador	0.13		0.33
Peru	0.17		0.38
Rest of Central and South America	0.13		0.33
Maximum Education When First Observed			
Below Secondary	0.49		0.50
Secondary	0.33		0.47
Tertiary	0.19		0.39
Household Composition When First Observed			
Household Size	3.97	4.00	1.95
Number of Children	0.89	1.00	0.97
Percentage of Adults	80.65	80.00	19.74
Geographical Mobility			
% of Months Working and Living in Diff. Mun.	0.39	0.26	0.39
Living in Diff. Mun. compared to First Observed	0.13		0.34
Working in Diff. Mun. compared to First Observed	0.50		0.50
Labor Performance Before Eligibility for Nationality			
Cumulative Income	19057	15616	15652
Cumulative Earnings	17575	13431	15012
Daily Earnings	36.64	32.81	28.70
Total Days Worked	511	553	186
Labor Intensity	0.71	0.77	0.26
Full-Time Equivalent Labor Intensity	0.55	0.50	0.27
Part-time Contracts	0.47	0.42	0.43
Fixed-term Contracts	0.71	1.00	0.37
Best Occupation (1 max to 10)	7.61	8.00	2.58
Best Skill Category (1 max to 3)	2.07	2.00	0.76
Number of Observations			2907

Notes: Labor performance before eligibility refers to the first two years since FD. Occupation categories are computed from Social Security tax categories. 7 corresponds to administrative assistants and 8 are first- and second-class officers. Skill category is based on Bentolila, García-Pérez, and Jansen 2017, and divides occupations into three: high skill includes college and junior college graduates, and top and middle managers (groups 1 to 6); medium skill includes categories 7 and 8; and low skill includes third-level officers and unskilled workers (groups 9 and 10).

4 The Cost of Waiting – Impact of the Delay in Obtaining Nationality on Long-Term Earnings

In this section, I address the primary question of this paper and analyze the impact of delays on long-term earnings. To do this, I construct an instrument that captures the most exogenous part of the delay, related to the last stage of the nationality procedure and varying over time. My findings indicate that longer delays in obtaining nationality result in lower accumulated earnings in the long run, which can be attributed to both a lower average daily wage and fewer days worked during this period in the case of men. For female immigrants, the delay negatively affects average daily wages but has no significant impact on cumulative earnings.

4.1 Empirical Strategy

In order to analyze the impact of the delays on long-term outcomes, I focus on immigrants who obtained Spanish nationality in my study period and compare their labor outcomes after 10 years of residency. To address the potential endogeneity in the delay, I build a leave-one-out instrument that varies over time and across geographic locations. I use the JD, which determines the delay of the last stage of the nationality procedure, and construct an instrument that varies also over time to exploit policy changes that affected the nationality procedure.[39]

The goal is to estimate the elasticity of the long-term outcomes with respect to the delay in obtaining nationality. This elasticity is given by β in:

$$logY_i = \alpha + \beta Delay_i + \delta X_i + \gamma_1 Spanish_{JD} + \gamma_2 Immigrants_{JD} + \mu_{FD} + \pi_{FD} + UA_{FD} + \varepsilon_i \tag{1}$$

where Y_i is the outcome of interest of immigrant i during the first 120 months since FD,

[39]The delay in taking the oath depends on the JD corresponding to the municipality of residence prior to the nationality concession. To mitigate the potential endogeneity arising from strategic relocations to municipalities with shorter delays, the baseline strategy considers the municipality at FD but I conduct robustness test using municipality before concession.

and $Delay_i$ is the delay since being eligible to obtain nationality in years, subtracting the median delay in the sample. In my main analysis, I focus on long-term earnings and income calculated as the sum of monthly earnings or income during the 120 months since FD. I also consider as outcomes of interest the average daily wage over this period, computed as the mean of the daily earnings in each month, and the total days worked during the ten years since FD. X_i includes the following individual characteristics: age at FD, first education level and household size observed, and country of birth. Education is divided into three categories: below secondary school, completed secondary school, and tertiary or higher. Regarding age at FD, I control for it flexibly with a fourth-order polynomial.[40] Given that initial local labor market conditions affect immigrants' outcomes in the long run (Åslund and Rooth, 2007), μ_{FD} controls for the unemployment rate in the province of first registration at the quarter-year of FD, and π_{FD} are year of FD fixed effects. In order to control for potential confounders of delay, I add the total Spanish-born and the total foreign-born population by JD ($Spanish_{JD}$ and $Immigrants_{JD}$, respectively) in thousands of inhabitants, as well as urban area at FD fixed effects (UA_{FD}). The population variables by JD aim to control for the load of work by JD, that might affect the delay as well as the labor market outcomes, as I explain further below. Additionally, the fixed effects are included to be able to compare individuals who are exposed to the same potential labor market, defined by the urban area, which might affect their labor market outcomes, but who had different delays given their JD.[41] I study a more complete specification where I add the share of votes for the right-wing party Partido Popular (PP) at the municipality of residence at FD, as a higher delay may be the result of a political decision, which may also influence labor market outcomes of immigrants.

As previously mentioned, immigrants' delay in applying for nationality might be endogenous, potentially biasing the OLS estimates. For instance, an immigrant anticipating a

[40] The results are robust to controlling for age including cutoffs: interacting the continuous variable age at FD with the dummy indicating the corresponding age group (from 18 to 29 years old at FD, 30 to 35, and 36 or older).

[41] Following De La Roca and Puga, 2016, I use the official urban area definitions, constructed by Spain's Ministry of Housing in 2008. These urban areas contain 147 municipalities out of over 8,000, and are geographical areas characterized by a continuous built-up environment with a minimum population size and density that distinguish it from rural areas. The definition also recognizes the importance of functional relationships between the core urban center and its surrounding areas, which together form an integrated urban environment. This includes both the core city and the adjacent municipalities that are economically and socially connected to it. In the case of municipalities that are not part of any urban area, I consider the potential labor market to be only the municipality.

substantial nationality premium might apply as quickly as possible. Conversely, a less motivated immigrant with low labor market attachment might take longer to apply. Both scenarios could result in an overestimation of the negative impact of delay on long-term earnings. On the other hand, immigrants facing hiring discrimination might hasten their applications, hoping that acquiring the host country's nationality would enhance their opportunities. In this case, a shorter delay would correlate with poorer labor market outcomes, leading to an underestimation of the impact of delay when using OLS. Although I control for the observed characteristics discussed earlier, unobserved variables such as those in these examples may still bias my OLS results.

Therefore, I construct a leave-one-out instrument that exploits the variation in delay over time and across geographic locations. The delay in nationality acquisition depends on the Judicial District associated with the municipality of residence at FD.[42] Consequently, two immigrants with the same FD, the same observable characteristics, and working in the same urban area might experience different delays depending on the JD where they must take the oath. In addition to this geographic variation, as discussed in Section 2.2, the total delay in acquiring nationality also varied over time due to the various policies implemented. Hence, I build the following instrument trying to exploit the most exogenous components of the delay:

$$delay_{-i}^{jt} = \frac{\sum_{s \neq i} delay_s \mathbb{1}\{j_i = j_s, (t_i - 12) \leq t_s \leq (t_i + 12)\}}{\sum_{s \neq i} \mathbb{1}\{j_i = j_s, (t_i - 12) \leq t_s \leq (t_i + 12)\}} \tag{2}$$

That is, the IV approach predicts the delay experienced by individual i who obtained nationality in month-year t_i in Judicial District j_i with the average delay of other individuals who were living in the same JD at FD, and obtained nationality in a 24-month window around the month and year i did.[43] Appendix Figure A9 shows the distribution of the

[42]The delay in taking the oath depends on the JD corresponding to the municipality of residence prior to the nationality concession. To mitigate the potential endogeneity arising from strategic relocations to municipalities with shorter delays, the baseline strategy considers the municipality at FD. Nevertheless, the results are robust to using the municipality before concession to build the instrument. This robustness is likely attributable to the fact that, as shown in Table 1, only 14% of immigrants resided in a different municipality than the one initially observed, with an even smaller proportion living in a different JD. Moreover, these relocations are unlikely to be motivated by the delay in taking the oath.

[43]I consider immigrants who obtained nationality 12 months before up to 12 months after the month-year individual i did.

mean delay and that of the mean instrument by JD and year of nationality.

As explained in Section 3.1, the application of this instrument results in a reduction of the sample in two ways. First, municipalities with population below 40,000 are not identified in the MCVL, as only the province is reported in these cases. Consequently, it is not possible to assign the JD and construct the instrument for individuals living in small municipalities. Second, since the instrument relies on the average delay within the JD for a given time window, only immigrants for whom there were at least five other immigrants available to build the instrument are included in the analysis. This results in a sample of 2,907 immigrants.

By using this instrument alongside the controls specified in equation 1, I explicitly aim to account for potential confounders related to delay, which may threaten the validity of the exclusion restriction. Incorporating the unemployment rate at the province level at FD and FD fixed effects allows me to control for the initial conditions faced by the immigrants, which may influence both their long-term outcomes and the attractiveness of applying for nationality. This, in turn, affects the workload and delay in the nationality process. Additionally, the inclusion of the Spanish and foreign population by JD aims to control for the fact that a larger total population could increase the workload for civil servants in the JD, thereby increasing delays. Conversely, a higher network of immigrants could potentially decrease the delay in applying for nationality by facilitating the understanding and fulfillment of requirements. At the same time, a larger foreign population might influence labor market outcomes by making it easier to find a job through referrals, or by increasing competition for similar positions.

The results are presented in the next section, separating the sample by gender due to three reasons that may lead to heterogeneous effects of the delay on labor market outcomes. First, participation in the labor market differs between men and women, as well as their sectoral concentration which may affect their market mobility. In particular, participation in the labor market is lower for female than for male immigrants, and they are more concentrated in domestic work whereas men present lower concentration, with agriculture and fishing, and construction being the main occupations (Consejo Económico y Social,

2019).[44] Second, the 2008 financial crisis significantly affected immigrants from both genders with job destruction, but women that kept their jobs after the crisis did so in better conditions than men (Arranz, Massó, and Carrasco, 2017). Third, the absence of earnings reporting in the case of job spells as domestic workers affects almost exclusively the female sample, given their higher probability to be working in this sector.[45]

4.2 Results

Longer delays in obtaining nationality result in lower earnings accumulated in the long run, explained by worse wages and fewer days worked in the case of men: one additional year of delay leads to a reduction in accumulated earnings in 10 years of 5.2%. For women, delay significantly affects average wages, but there are no significant effects on cumulative earnings.

Table 2 presents OLS, first stage, and IV-TSLS results of estimating β using the proposed IV approach, for the LT sample. Panel A shows the results for the male sample and Panel B, for the female sample. The instrument does a good job predicting the delay in obtaining nationality, as indicated by the first stage F-statistics reported in the table.[46] The elasticity of accumulated earnings to delay is larger for men than for women in the IV and OLS estimations. One additional year of delay significantly reduces cumulative earnings and income for men by similar percentages (by 5.2% and 5.0%, respectively). In the case of women, both outcomes are negatively affected by delay, but the impact is only

[44] The activity rate is consistently higher for male immigrants compared to female immigrants, regardless of whether they have acquired Spanish nationality. Focusing on the population aged 16 to 64, data from the Spanish Labor Force Survey reveal that the activity rate of female immigrants holding foreign nationality was 71% in the third quarter of 2006 (the first year of the study period) and 70% in the third quarter of 2024 (the latest available data). In comparison, the male activity rate for the same group was 88% in 2006 and 85% in 2024. Among immigrants with Spanish nationality (including those with dual nationality), the activity rate for women increased from 70% in 2006 to 79% in 2024, while for men it remained steady at 87% across both years. For the Spanish-born population, the activity rate for women rose from 59% in 2006 to 72% in 2024, while the male activity rate declined slightly, from 81% to 79% during the same period.

[45] Given that the probability of working as a domestic worker is affected by the nationality, I cannot control directly for this in the regressions. Appendix Table A9 presents the results of a pre-post Probit model, and shows that the probability of being a domestic worker decreases in 14 pp after nationality acquisition in the case of women.

[46] Critical values for the first-stage F-statistic for a maximum allowable bias in the 2SLS of 10% is 16.38 in the case of one instrumental variable (Stock and Yogo, 2005)

significant for income. This indicates that a larger delay reduces not only labor earnings but also unemployment benefits in the case of women, resulting in a significant decrease of 2% in cumulative income for every additional year of delay.

A longer delay, meaning that the immigrant spends a larger part of their working life without Spanish nationality, significantly reduces average daily wages for both genders and days worked for men. As can be seen in columns (3) and (8), the semi-elasticity of average daily wage is smaller for women than for men. Using the standard deviation (SD) of delay by gender seen in Table A4, which is equal to 1.85 for women and 1.77 for men, the IV estimates in column (8) mean that having a one standard deviation longer delay decreases the average daily wages of men by 5.5% and of women by 2.9% over this period.[47] For male immigrants, delay not only affects the average wage received but also the total days worked. A male immigrant with 1.77 years longer delay will have worked 4.1% fewer days in the ten years since FD compared to an immigrant with the median delay of 4.4. For women, the impact on days worked is not significant.

OLS estimates are smaller in absolute value than IV ones but they are similar, suggesting that conditional endogeneity is small. The fact that the impact of delay over all outcomes for men estimated using OLS is smaller than when IV is used indicates that those immigrants with worse labor market outcomes, who might expect a larger benefit from naturalization, have a shorter delay. This results in OLS estimates that are downward biased. However, estimates from both methods are similar, what suggests that once we condition by individual characteristics, economic and geographic variables included in equation 4.1, the remaining endogeneity might be small.[48]

[47]Note that given that the dependent variable is in logs and the explanatory variable is in levels, β is the semi-elasticity of the outcome of interest with respect to the delay. Specifically, it indicates the percentage change in the outcome of interest associated with a one-unit change in the delay. Therefore, the percentage change of the outcome of interest given a 1 SD change in the delay is given by $100 \times (\beta \times SD)$.

[48]That is, despite unconditional endogeneity might be large, if we condition by immigrant's characteristics, and by the controls included in equation 4.1, conditional endogeneity is small, suggesting that total delay conditional on observables is largely explained by exogenous administrative delays.

Table 2: Long-Run Labor Outcomes and Delay: OLS and IV-TSLS Estimates

Panel A: Men

	OLS				First Stage	IV			
	long-term income	long-term earnings	average daily wage	days worked	Delay	long-term income	long-term earnings	average daily wage	days worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Delay	-0.0408***	-0.0411***	-0.0266***	-0.0176**		-0.0495***	-0.0518***	-0.0308***	-0.0235**
	(0.0135)	(0.0143)	(0.0081)	(0.0087)		(0.0145)	(0.0154)	(0.0087)	(0.0093)
Instrument					1.492***				
					(0.0254)				
1st stage F-statistic					3438.53				
Observations	1,094	1,094	1,094	1,094		1,094	1,094	1,094	1,094

Panel B: Women

	OLS				First Stage	IV			
	long-term income	long-term earnings	average daily wage	days worked	Delay	long-term income	long-term earnings	average daily wage	days worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Delay	-0.0215**	-0.0161	-0.0207***	-0.00117		-0.0200*	-0.0155	-0.0163**	-0.00202
	(0.0104)	(0.0105)	(0.0076)	(0.0061)		(0.0110)	(0.0112)	(0.0081)	(0.0065)
Instrument					1.526***				
					(0.0170)				
1st stage F-statistic					8025.64				
Observations	1,813	1,813	1,813	1,813		1,813	1,813	1,813	1,813

Notes: All dependent variables are in logs and delay is defined by subtracting the median delay in the sample. Columns (1)-(4) show OLS estimates. Column (5) shows the first stage, and columns (6)-(9) show IV-TSLS estimates, instrumenting delay with the instrument defined in the text. Columns (1) and (6) show the results for accumulated income, defined as the sum of total labor earnings and unemployment benefits over the 120 months since FD. Columns (2) and (7) present the results for accumulated earnings, which sums only labor earnings accumulated over this period (i.e., excluding unemployment benefits). Columns (3) and (8) use average daily wages as the dependent variable, defined as the average across the 120 months of monthly earnings divided by days worked in months when earnings are non-missing. Finally, columns (4) and (9) show days worked defined as the total days worked since FD until 120 months from that date. Regressions are at the worker level. All regressions control for age at FD, first education level dummies, household size when first observed, country of birth, unemployment rate at province and quarter-year of FD, year of FD fixed effects, Spanish and immigrant population by JD, and urban area fixed effects. Standard errors in parenthesis.$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Critical values for the first-stage F-statistic for a maximum allowable bias in the 2SLS of 10% is 16.38 in the case of one instrumental variable (Stock and Yogo, 2005).

The results are robust and stronger with the inclusion of additional controls, as seen in Appendix Table A6, and they are not dependent on the urban area and population controls included, as seen in Appendix Table A7. The IV regression that adds the share of votes for the Partido Popular party at the municipality of residence at FD, shows a larger impact on long-term earnings compared to the basic specification in the case of men, due to higher semi-elasticities of average wages and days worked. Compared to the baseline specification, the semi-elasticity of long-term earnings increases from 5.2% to 6.7%. To illustrate these estimates, consider two male immigrants with similar observable characteristics, entering the Social Security register in the same year, and facing the same potential labor market. Suppose one immigrant experiences the median delay of 4.4 years in obtaining nationality, while the other experiences a delay one standard deviation longer (i.e., it took 6.2 years). Then, the latter immigrant will accumulate 11.2% less earnings over the ten years since FD, due to the higher delay at his municipality of residence. In the case of women, results point to the same direction but are no longer significant. Finally, the results from a more parsimonious model, removing the urban area and population by JD controls, are weaker, but still significant for both genders as in the baseline specification (see Appendix Table A7).

5 Impact of Obtaining Nationality in the Short Run

A potential mechanism for increased long-term earnings may be linked to the advantages associated with obtaining nationality. This new scenario affects immigrant's labor outcomes in the short run: I find that before obtaining nationality, immigrants are less likely to change jobs and remain in non-employment than after that event. Moreover, job quality and upward mobility improves with the Spanish nationality. Therefore, a shorter delay allows immigrants to access these better labor market outcomes earlier in their careers, resulting in a more favorable career trajectory. Given the finite length of their working life, this implies that the immigrants who naturalize sooner will spend a larger proportion of their working life as a Spanish nationals, thereby benefiting from the associated advantages for a longer period.

5.1 Empirical Strategy

In order to understand what mechanisms could be behind the long-run results presented in the previous section, I analyze the impacts of nationality in the short run by using event studies and pre-post approaches. I analyze how month-to-month employment dynamics, job mobility, and job quality change around the time the immigrant obtains the Spanish nationality.

In the event studies, I leverage the individual-level monthly data to estimate the following equation:

$$Y_{it} = \sum_{j \neq -1} \alpha_j \mathbf{I}[j = t - n_i] + \beta_1 \times age_t + \beta_2 \times age_t^2 + \gamma_t + \eta_i + \varepsilon_{it} \tag{3}$$

where t is the time level in month-year (e.g., June 2010), n_i is the month and year when i obtained nationality and Y_{it} is the individual outcome of interest of individual i, in month-year t. α_j is the event time dummy for the month-to-nationality j, age_t is a continuous variable capturing age, so that I control for the life cycle with a second-order polynomial on age, γ_t are month-year fixed effects and η_i are individual fixed effects. The outcomes of interest analyzed with this specification are the probability of remaining in employment (which is equal to one if the immigrant remains employed from one month to the next one regardless of changes in the employer), as well as the probability of staying in non-employment.[49] Moreover, in order to analyze job mobility, I consider the probability that the contract with the current employer ends (referred to as "termination"). In addition to this, the characteristics of the jobs are analyzed, considering whether the immigrants are working part-time or not in each month, whether they are under a fixed-term or open-ended contract, and whether they have a high-skill occupation or not.

Furthermore, I investigate the impact of nationality acquisition on upward mobility, specifically in terms of wage growth and occupational improvements, both within and across jobs held during the five years before and after naturalization. For this, I collapse the ST dataset by job spell, defined as a combination of worker-employer-contract start date, and

[49] It is important to note that given that I only observe jobs that are registered in Social Security, during months of non-employment in my data the immigrant could be unemployed, inactive, or working in the informal sector.

calculate the average monthly increase in daily wage for each job spell.[50] This allows me to compare within-contract wage growth for job spells before and after nationality acquisition, examining whether upward mobility within the contracts changes post-naturalization. Since the last month in a job spell (s) often includes extra compensation, I focus on the average daily wage in the penultimate month of each spell (denoted w_{sp}) and compare it with the wage in the first month (w_{s1}). The geometric average monthly wage increase is then computed as $(w_{sp}/w_{s1})^{1/(n-1)} - 1$, where n represents the total number of months in the spell.

In addition to within-contract wage mobility, I analyze upward mobility between jobs by comparing the wage in the penultimate month of the previous spell with the wage in the first month of the subsequent spell, calculating the percentage wage increase between spells. This analysis enables me to observe how wage mobility between jobs responds to nationality acquisition. I perform the analysis first for cases where job changes involve a change in employer, excluding consecutive spells that occur with the same employer, such as workers being recalled to their previous firm - a phenomenon increasingly prevalent in Spain (Arranz and García-Serrano, 2014). Next, I focus on consecutive job spells with the same firm, to examine between-jobs but within-employer mobility. Finally, I replicate this analysis for occupational mobility, constructing a variable that equals one if the occupation level in the new spell exceeds that of the previous spell, and zero otherwise. For all the upward mobility outcomes, I estimate the following regression:

$$Y_s = \alpha \times Post_s + \beta_1 \times age_s + \beta_2 \times age_s^2 + \eta_i + \varepsilon_s \tag{4}$$

where Y_s is the outcome of interest at the spell level (average daily wage increase within spell, percentage wage increase or occupation level increase compared to previous spell) in spell s, η_i are individual fixed effects, age_s is the average age in spell s, and $Post_s$ is equal to one if the spell started after obtaining nationality. This variable is equal to zero for those spells that occurred before obtaining nationality, as well as those that started before and ended after obtaining nationality (which I refer to as "between spells"). Therefore, I

[50] Given that this analysis is conducted at the spell level, I extend the period of analysis compared to the other approaches where I use monthly data, and consider five years before and five years after nationality acquisition to ensure sufficient statistical power for detecting effects.

also run the regression excluding these spells that fall in-between nationality acquisition.

The spell-level structure of the data enables me to compare job characteristics before and after naturalization, providing a robustness check for the results obtained through the event study approach. It is important to highlight the distinction between these two analyses: in the event study, I examine how the probability of holding jobs with specific characteristic evolves month-to-month, capturing the dynamic effect of nationality on these probabilities. In contrast, the spell-level analysis compares the characteristics of contract held by the same immigrant before and after naturalization, irrespective of the time spent in each job.

Finally, I analyze the probability of working in sectors characterized by poor job conditions, such as agriculture in the case of men and domestic work for women. For this purpose, I estimate the following pre-post Probit model using the ST sample, and considering 24 months before and 24 months after the month of nationality acquisition:

$$P(Y_{it} = 1 \mid X_i) = \Phi(\beta_0 + \alpha \text{Post}_i + \beta_1 X_i + \beta_2 Z_{it} + \mu_{FD} + \pi_{FD} + \lambda_t + \varepsilon_i) \tag{5}$$

where in the estimation with female immigrants Y_{it} is one if they are working as domestic workers in month t, and 0 if they are working in other sectors. For male immigrants, the dependent variable is one if they are working in agriculture, and zero if they are working in other sectors. Similar to the long-term analysis, in the basic specification I control for country of birth and age at FD (included in X_i), unemployment rate at province and quarter-year of FD (μ_{FD}), and year of FD fixed effects (π_{FD}). In addition to this, I include a fourth-order polynomial on age in each month (denoted by Z_{it}) as well as calendar year fixed effects (λ_t). In the most complete specification, I add education level and household size when the immigrant is first observed in X_i.

5.2 Results

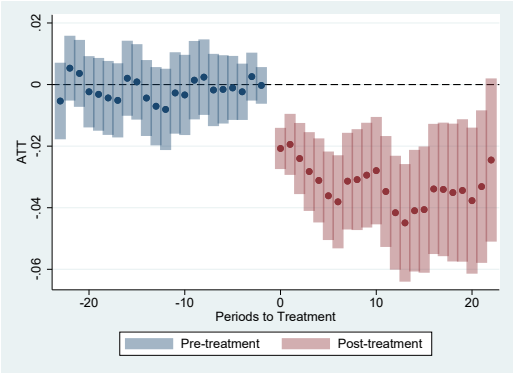
Obtaining nationality removes some of the barriers migrants face in the labor market and changes the evolution of labor dynamics, job mobility and quality in the short run. While the probability of remaining in employment decreases after the time the immigrant obtains

nationality, the probability of job changes and holding a better job increases.

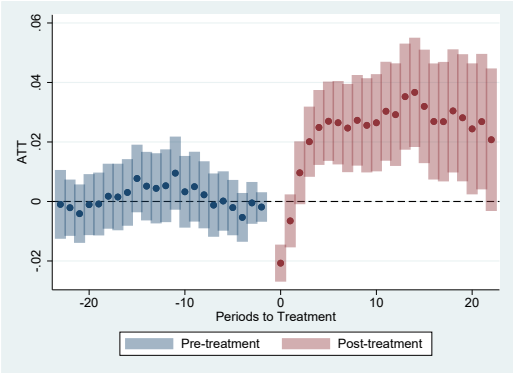
Prior to obtaining nationality, immigrants exhibit stronger labor attachment as reflected in the higher probability of remaining in employment and lower probability of staying non-employed, relative to the period following nationality acquisition, see Figures 3a and 3b. This pattern may indicate that upon obtaining Spanish nationality, immigrants are better positioned to endure longer periods of non-employment, as they are no longer constrained by the necessity to meet temporary visa renewal requirements and that the nationality may open new job opportunities. Consequently, they may not face the same urgency to secure immediate employment following job loss and can afford to search for more advantageous opportunities.

Figure 3: Short-term Impact of Nationality Acquisition

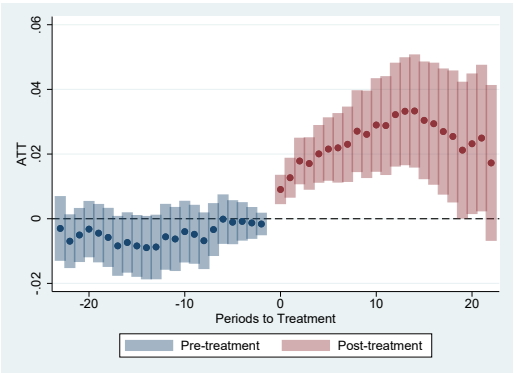
(a) Probability of remaining in employment



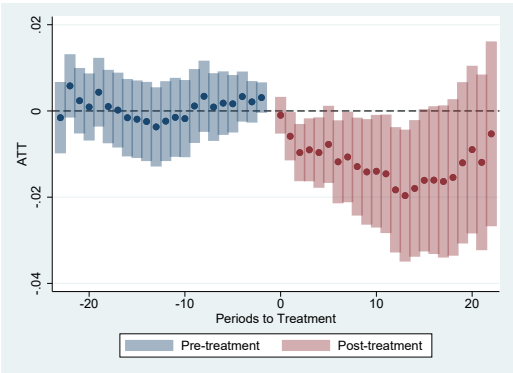
(b) Prob. of staying in non-employment



(c) Fixed-term contract



(d) Part-time contract



Notes: Figures report the Callaway and Sant' Anna (2021) estimator, using equation 3, which controls for a polynomial on age, calendar month-year fixed effects and individual fixed effects. Figure 3a shows the probability of remaining in employment, which is equal to one if the immigrant remains employed from one month to the next one regardless of changes in the employer, and zero otherwise. Figure 3b shows the probability of staying in non-employment, which is equal to one if the immigrant was not employed in the previous month and is still non-employed in the current one, and is zero otherwise. Figure 3c displays the probability of holding a fixed-term contract, while Figure 3d refers to the probability of having a part-time contract. Each variable equals one if the individual holds the corresponding contract type in that month, and zero otherwise. Discontinuous open-ended contracts (*fijos discontinuos*) are not classified as fixed-term. These two variables are conditional on being employed or receiving unemployment benefits or subsidies. For individuals not working in a given month but receiving unemployment benefits or subsidies (due to contract termination or suspension), the contract characteristics correspond to those of the most recent job that triggered the benefit.

This interpretation is further supported by the observation that immigrants are less likely to change employers while holding a working visa, and when they do, they experience lower wage increases than once they obtain nationality. As shown in Appendix Figures A10a and A10b, the likelihood of job contract termination significantly increases by 4 pp after obtaining nationality (compared to a probability of termination of around 5 pp in the month before naturalization for both genders). Moreover, Appendix Table A8 shows that when the immigrant changes employer, the wage increase experienced between spells is 10 pp higher when the change occurs after obtaining nationality rather than before this event, suggesting a higher reservation value. Upward mobility is also observed in terms of a higher probability of an occupation level increase at job changes, which increases 2.3 pp after naturalization.

The higher reservation value leads to increases in immigrants' bargaining power, as evidenced by the change in upward mobility within the firm. Column (5) in Appendix Table A8 presents the results for the average monthly increase in daily wage within each spell. It shows that once the immigrant obtains Spanish nationality, there is a 0.3 pp higher month-to-month increase, which is significant at the 5% level. Although this may seem small, it is an important effect if we take into account that the average increase in daily wages within spell before obtaining nationality is only 0.5%.

Upward mobility is evidenced not only in terms of higher wages, but also in terms of the probability of having a higher skilled occupation and improvement in job quality that occur after obtaining nationality. When immigrants arrive to a new country, they are usually employed in occupations for which they are overqualified. In Spain, domestic worker is the most common entry job for female immigrants from non-EU countries (Arranz, Massó, and Carrasco, 2017), and agriculture in the case of men (Consejo Económico y Social, 2019). These sectors, with low native labor supply, are not only characterized by being low paid and requiring low qualification, but also by worse conditions for the worker.[51] As shown in Appendix Table A9, the probability of being a domestic worker decreases by 14 pp when the female immigrant obtains nationality and the probability of working in agriculture decreases by 27 pp when the male immigrant becomes Spanish. In addition,

[51] As noted in Consejo Económico y Social (2019), domestic workers had substantially worse social protection than the rest of groups, as they were the only group of employees that did not have the right to unemployment benefits. This benefit was introduced recently, in October 2022.

the probability of having a high-skill occupation increases after this event, especially for men (see Appendix Figure A11). There is also a decline in the likelihood of holding a part-time contract, which typically reflects more stable and desirable employment conditions (see Figure 3d). On the other hand, there is an increase in fixed-term contracts, as they no longer need the stability of a permanent contract to keep the visa (see Figure 3c). Although having an open-ended contract is usually used in the literature as an indicator of job quality, in this setting, the fixed-term contract is usually a stepping stone to a permanent contract. This is suggested by the fact that when I analyze contract characteristics in the long run, those with shorter delay have no significant difference in the share of the 120 months they have spent working in fixed-term contracts compared to those with a larger delay (see Appendix Table A10).

6 Conclusions

This paper analyzes the role of administrative delays in the nationality process on the long-term labor outcomes of immigrants in Spain, with a particular focus on Latin American immigrants. The analysis reveals that delays in the nationality acquisition process have lasting negative effects on accumulated earnings, driven by both lower wages and fewer days worked over a ten-year period. I am able to identify the causal link between administrative delays and labor market outcomes by using an instrument variable strategy. In particular, I exploit the most exogenous part of the delay, which depends on policy changes and the Judicial District corresponding to the immigrant's municipality of residence.

To understand the underlying mechanisms, I focus on the short-term effects of nationality acquisition on job mobility and quality, by using an event study methodology as well as pre-post approaches. The results suggest that while the probability of remaining employed decreases after the immigrant obtains nationality, the probability of staying non-employed, changing employer, achieving upward mobility within and across firms, and securing better-quality jobs increases. These findings suggest that naturalization raises immigrant's reservation value, leading to longer job searches that result in improved employment opportunities. Consequently, earlier nationality acquisition can accelerate

immigrants' integration into the labor market, allowing them to transition more quickly into roles that offer better wages and working conditions.

Given the finite duration of an individual's working life, shorter delays allow immigrants to spend a larger portion of this time as Spanish nationals, benefiting from the associated positive labor market outcomes for a longer period. The resulting increase in cumulative earnings has important implications not only for the immigrants themselves but also for the host country, as it translates into higher contributions to the Social Security system.

In conclusion, this study emphasizes the importance of streamlining the nationality acquisition process to minimize delays, thereby maximizing the economic contributions of immigrants and enhancing their integration into the host country. Future policy efforts should focus on reducing bureaucratic hurdles in the nationality process to ensure that immigrants can fully realize their potential in their new country.

As part of my ongoing research agenda, I will further investigate whether the effects of nationality acquisition delays on labor market outcomes persist when immigrants hold permanent residency at the time of naturalization. I plan to approach this analysis in two ways: first, I will focus on Latin American immigrants who obtained nationality after 5.5 years of residency; and second, by examining immigrants eligible to apply for nationality only after ten years of residency, a group not included in the current study's sample. Despite the reduction of legal barriers with permanent residency, nationality and the associated delay may still impact labor market outcomes if employers exhibit a preference for hiring Spanish nationals due to for example taste-based discrimination or because nationality signals a greater commitment to remaining in the country.

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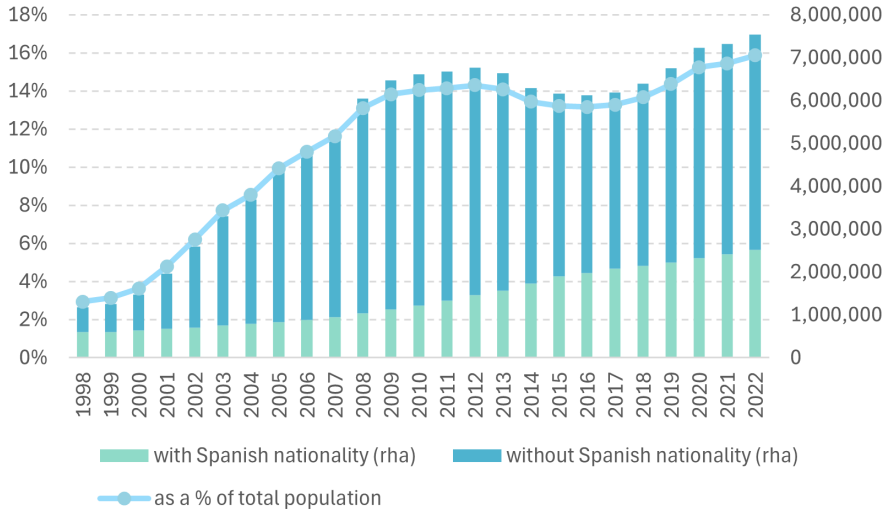
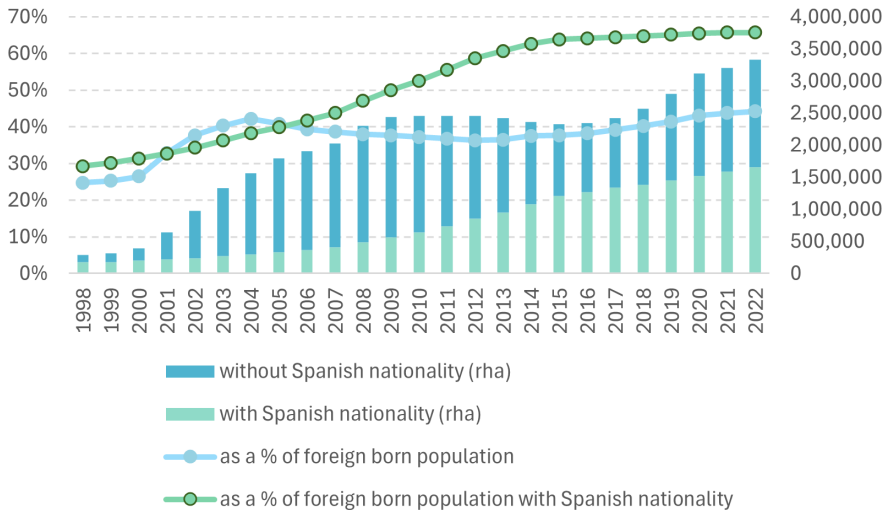
Appendix

Figure A1: Annual Evolution of Immigration in Spain using Continuous Register Statistics

(a) Total immigrants living in Spain

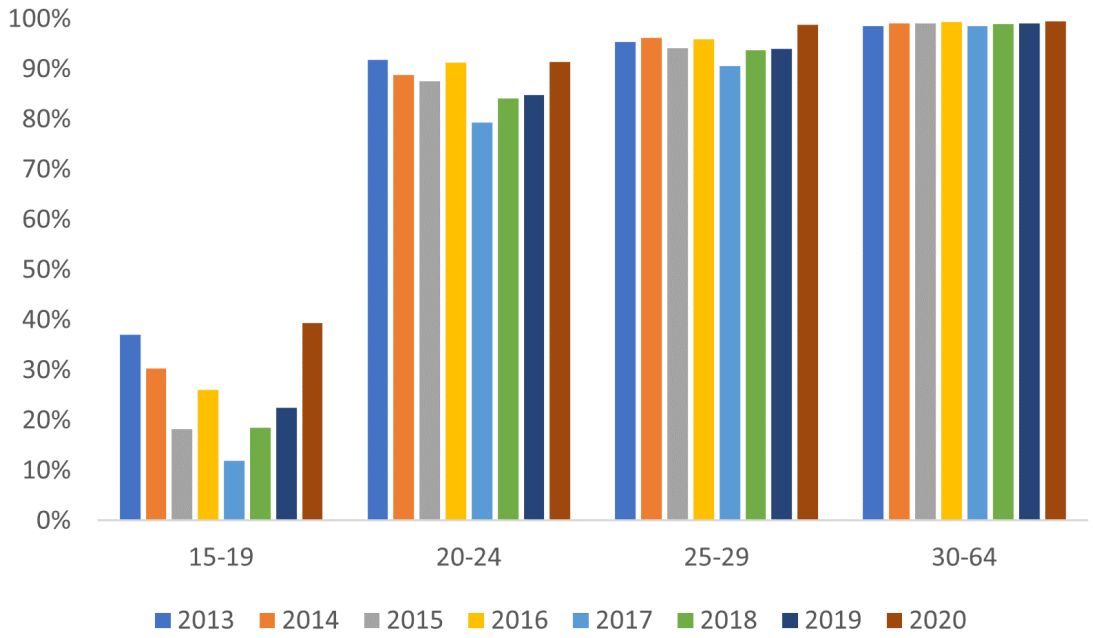


(b) Latin American immigrants in Spain



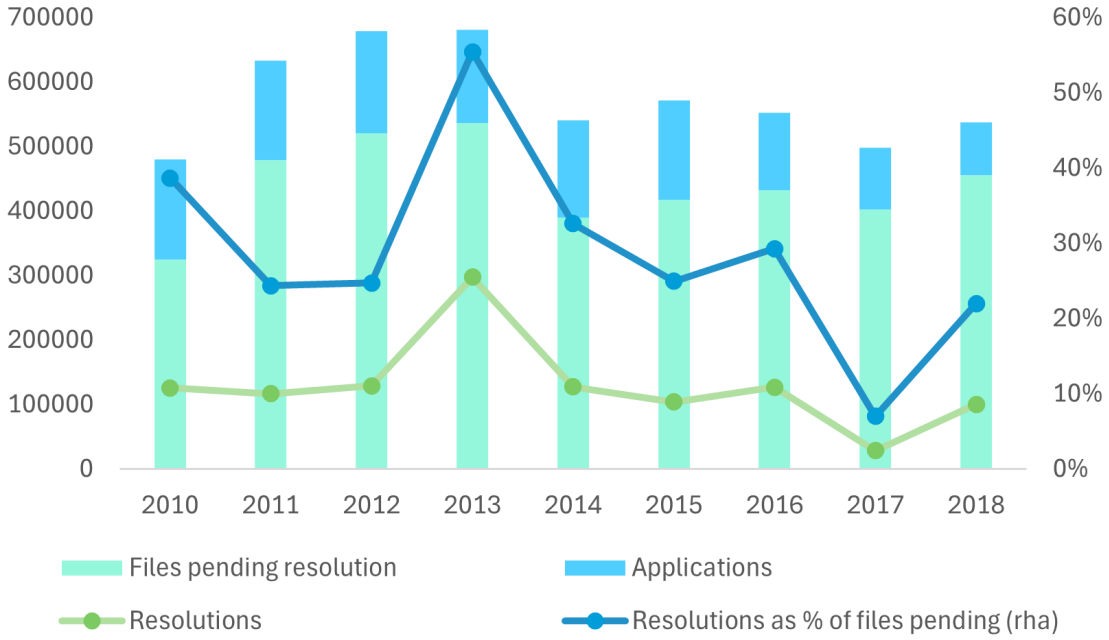
Notes: Source is the Continuous Register annual statistics, obtained from INE.

Figure A2: Percentage of nationality acquisitions by residency over total acquisitions



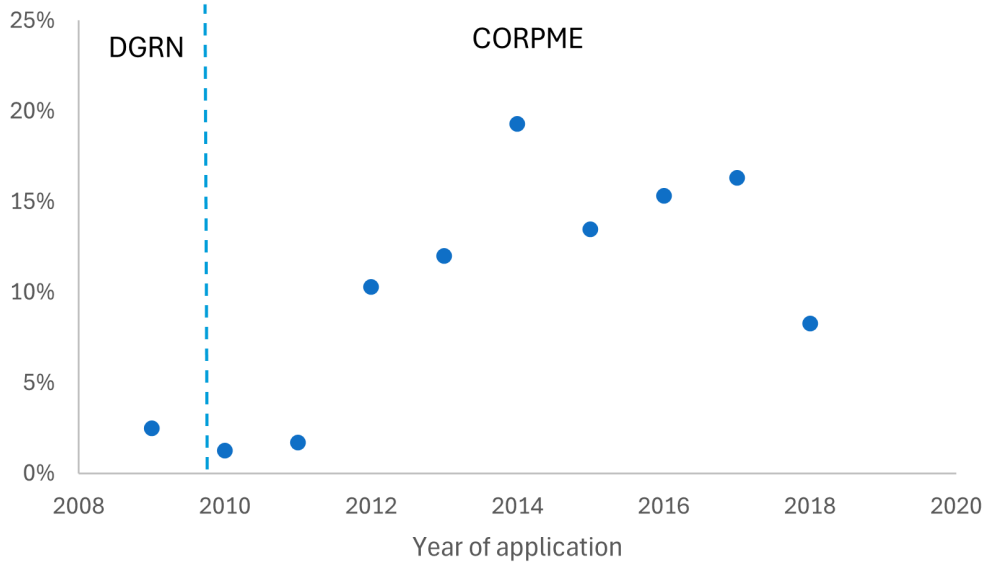
Note: Source is the statistics on Spanish acquisitions of nationality by mode of acquisition from the National Institute of Statistics.

Figure A3: Applications, Resolutions and Nationality Files Pending Resolution over Time



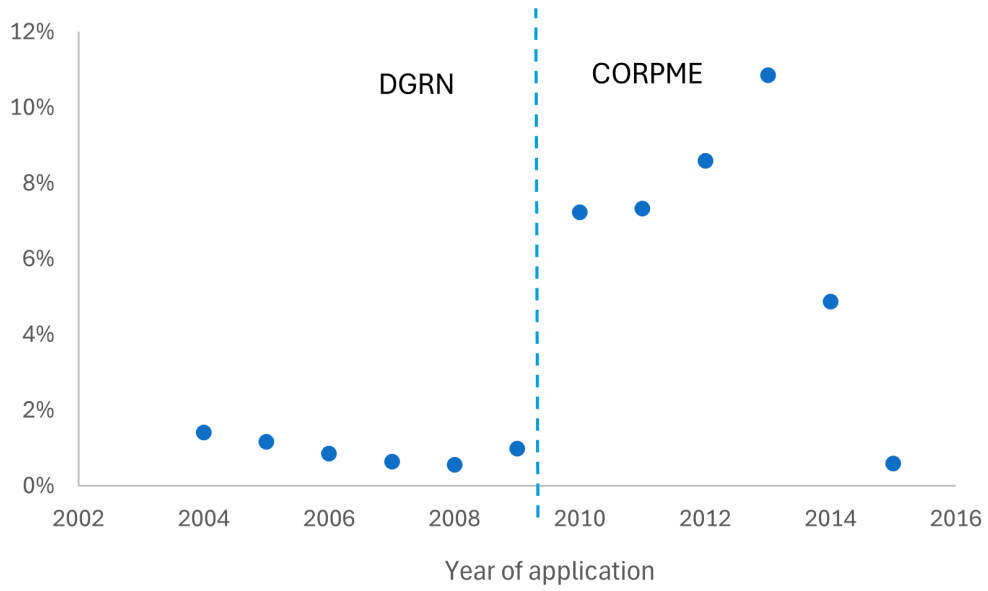
Note: Source is data included in BOE num. 4-335, January 5, 2023.

Figure A4: Percentage of Nationality Denials of Applications Processed by the DGRN and CORPME



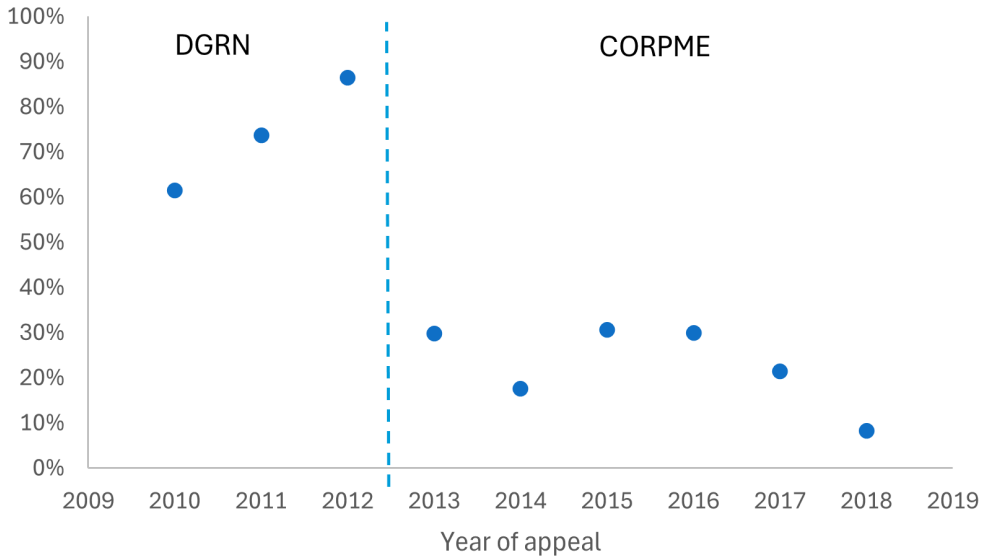
Note: Source is data included in BOE num. 4-335, January 5, 2023. The figure shows the percentage of denials of nationality of applications submitted in each year. The 2009 dot shows the percentage of denials among applications registered between 2004 and 2009, which were processed by the DGRN. Those registered after 2010, were processed by CORPME.

Figure A5: Percentage of Administrative Appeals Against Resolutions of Cases Processed by the DGRN and CORPME



Note: Source is data included in BOE num. 4-335, January 5, 2023. The figure shows the percentage of administrative appeals filed against applications submitted in each year. Those applications registered between 2004 and 2009 were processed by DGRN, and those registered between 2010 and 2015, were processed by CORPME. According to the analysis presented in the BOE, the reduction observed in 2014 and 2015 is not due to a reduction in denials, but to the fact that applicants, faced with delays in the processing of applications and anticipating similar delays in the handling of administrative appeals, began to increasingly opt to file judicial appeals directly against denials by administrative silence.

Figure A6: Percentage of Administrative Appeals Dismissed



Note: Source is data included in BOE num. 4-335, January 5, 2023. The figure shows the percentage of administrative appeals that were dismissed, by year of appeal. The administrative appeals presented between 2010 and 2012 were related to nationality applications submitted in previous years and processed by the DGRN. The appeals presented from 2013 onward correspond, with a few exceptions, to applications registered from 2012 onwards and processed by CORPME.

Figure A7: Delay Since Eligible by Year of Nationality Acquisition

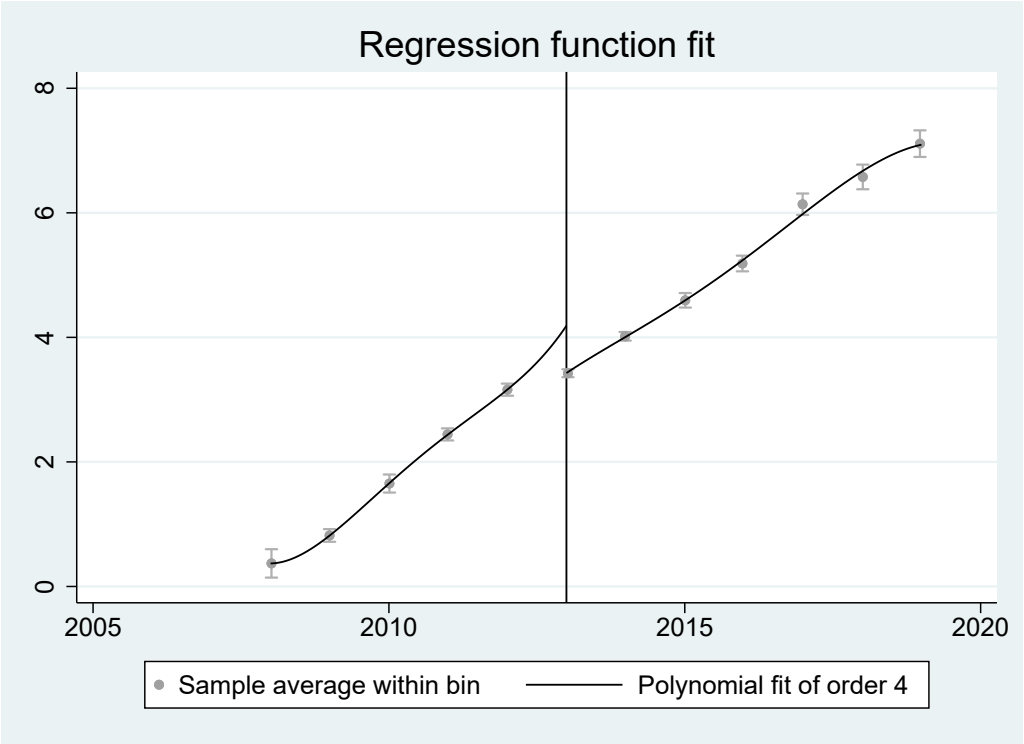
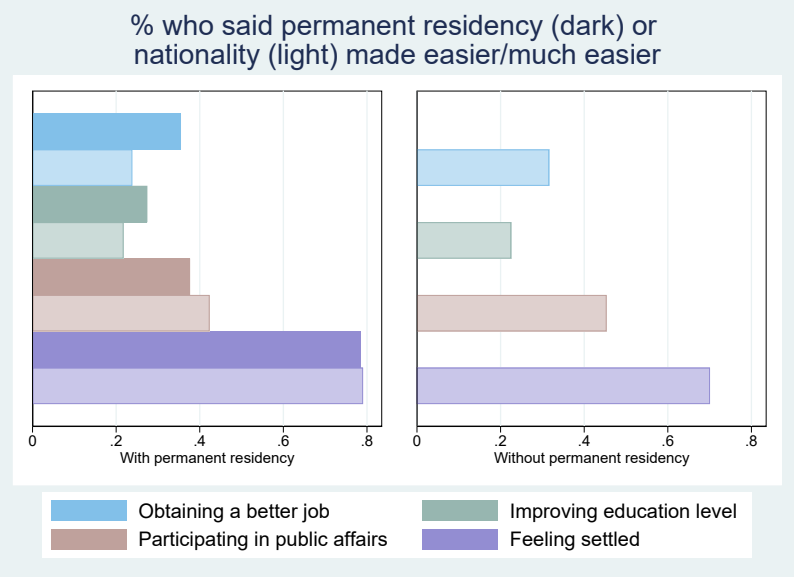


Figure A8: Advantages of Obtaining Permanent Visa and Spanish Nationality



Note: Figure produced using data from the Immigrant Citizens Survey (*Encuesta a población inmigrante*) conducted in Madrid and Barcelona in 2011 with 994 immigrants born in non EU-27 nor EEA-EFTA countries (Island, Liechtenstein, Norway and Switzerland), residing in Spain for at least one year. Question asked to those who have the Spanish nationality: "To what extent do you believe that acquiring nationality has personally facilitated your ability to: (i) secure employment or improve your current job/business; (ii) enhance your educational level or training; (iii) participate in public affairs within your local community (e.g., schools, associations, political activities); and (iv) feel settled in Spain?". The same question is asked about permanent visa for those who had the permanent visa, and possible answers are: much easier, easier or it has not helped or facilitated anything. The bars show the percentage of respondents who said permanent visa or nationality (dark bars and light bars, respectively) made it easier or much easier each of the dimensions. The left panel shows the replies for those immigrants who had a permanent visa at some point, and the right panel those who did not have it.

Figure A9: Distribution of Delay since Eligible and Instrument, Collapsing by JD and Year of Nationality

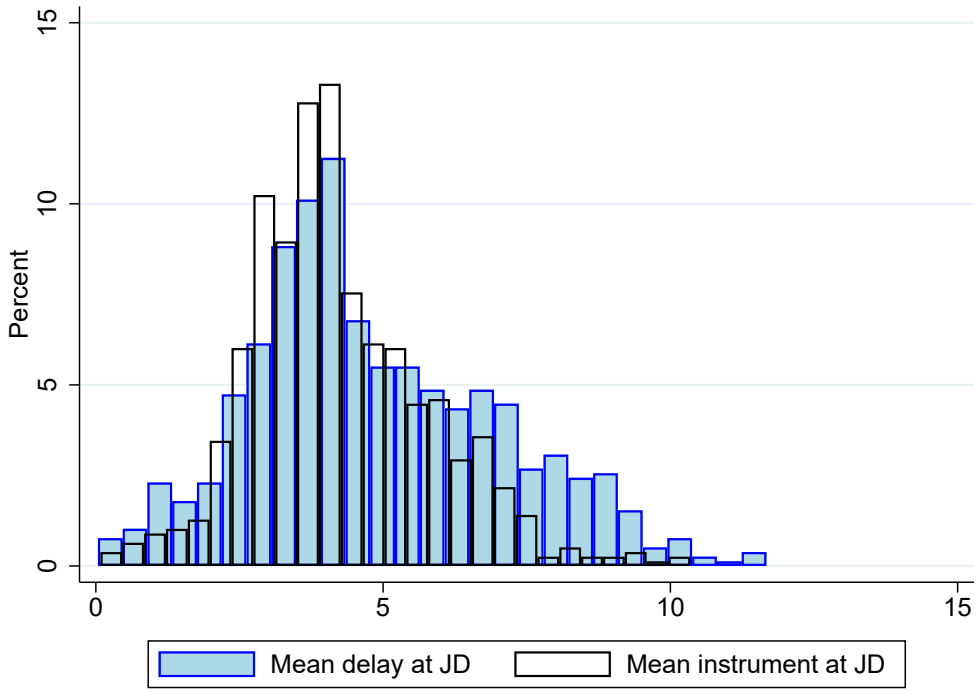
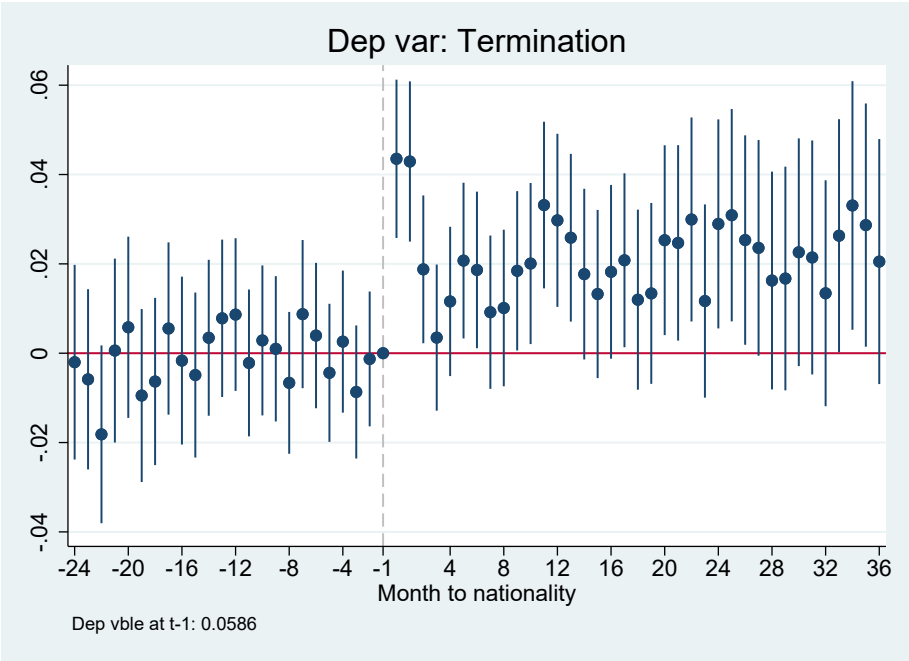
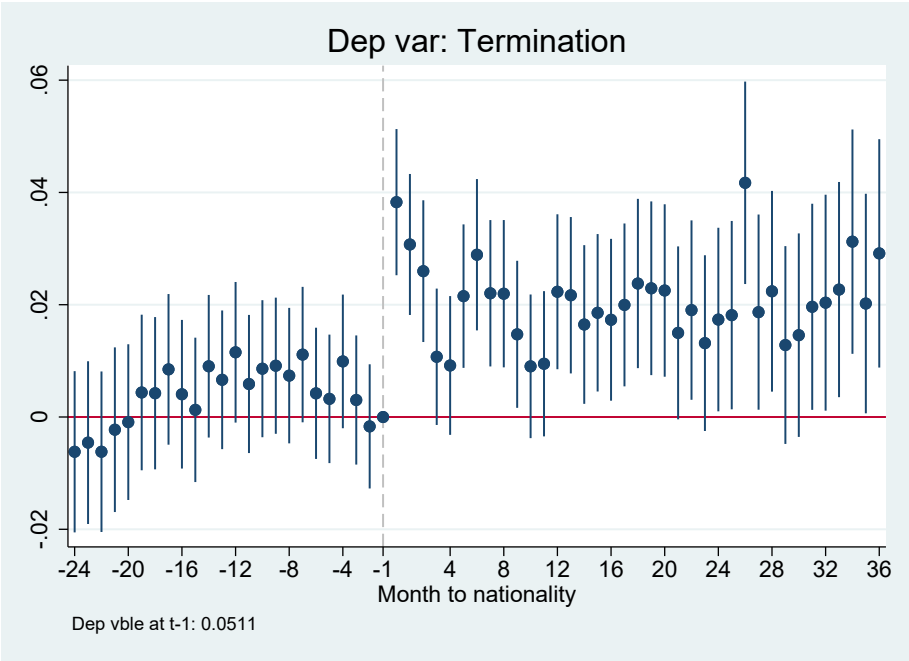


Figure A10: Probability that the Current Contract Ends

(a) Male Immigrants



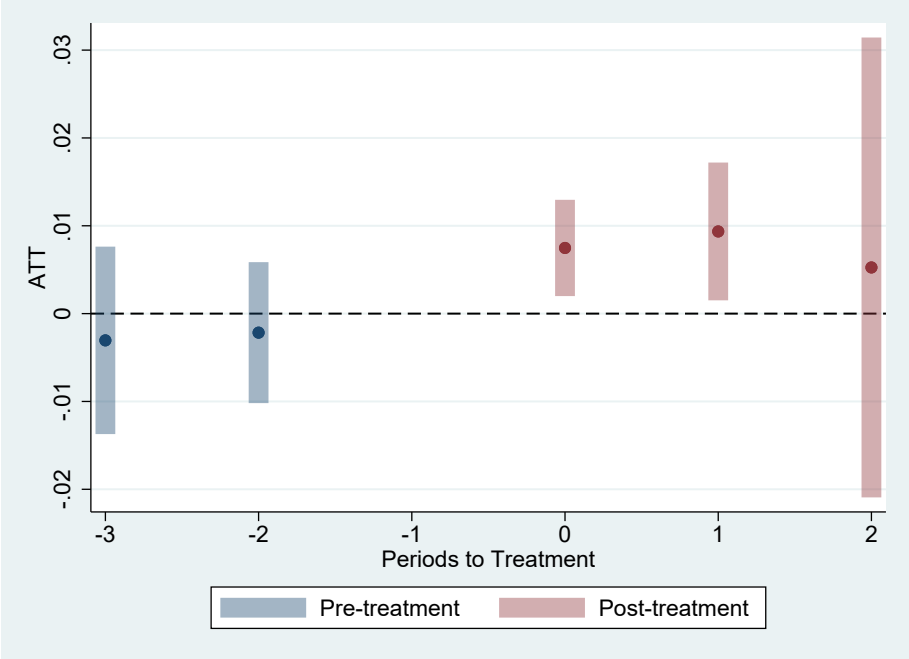
(b) Female Immigrants



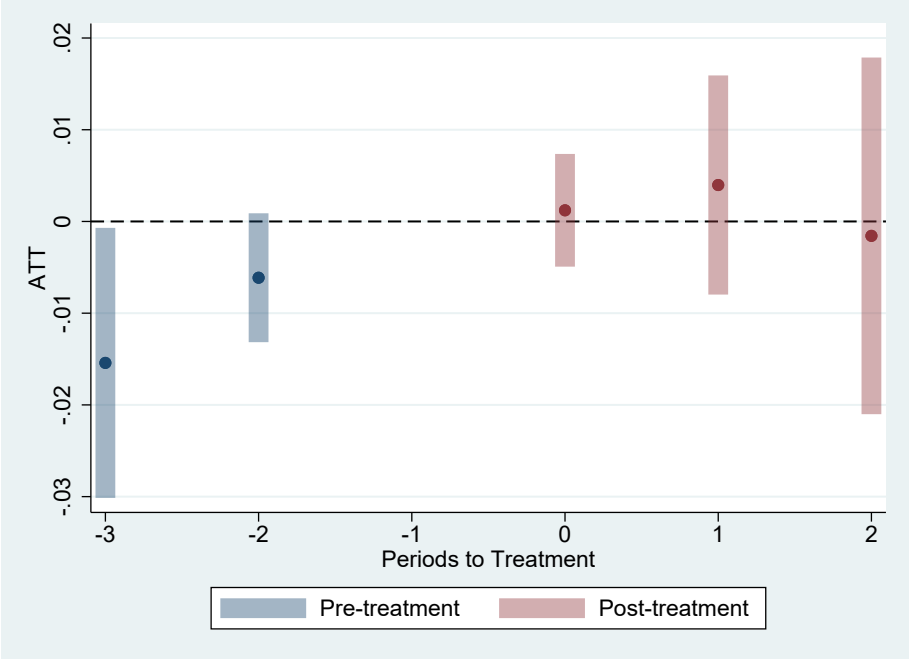
Notes: The dependent variable is defined for those immigrants who are working, and is equal to one if the contract with the employer ends, and 0 if they remain employed with the same employer. The regression estimated is specified in equation 3, controlling for a polynomial on age in each month, calendar month-year fixed effects and individual fixed effects.

Figure A11: Probability of Having a High Skill Occupation

(a) Male Immigrants



(b) Female Immigrants



Notes: The dependent variable is equal to one if the immigrant is employed in a high-skill occupation and zero otherwise, using occupation categories from the Social Security tax categories. Figures report the Callaway and Sant' Anna (2021) estimator.

Table A1: Differences Between Working Visas and Nationality

	With TEMPORARY visa	With PERMANENT visa	With Spanish nationality
Switch jobs?	Yes, but there are labor requirements at renewal: -Worked and registered at the Social Security for a minimum of months -Initial relationship ended for external reasons -Actively looked for a job -Valid contract The firm will also be examined -Up to date with taxes and Social Security obligations -Sufficient economic means to meet the obligations in the contract	Yes, without conditions or checks	Yes, without conditions or checks
Be a public employee?	Yes	Yes	Yes
Be civil servant?	No	No	Yes
Is Spanish his/her child born in Spain?	Only if the children is otherwise stateless	Only if the children is otherwise stateless	Yes
Vote in national elections?	No	No	Yes
How many months can be outside Spain or the EU?	Up to 6 consecutive months outside Spain within 12 months and no more than 10 months in total over 5 years if they plan to apply for permanent residency	Up to 12 consecutive months outside the EU	No restriction

Table A2: Relevant Policies that Affected the Delay in Obtaining Nationality

Date	Event	Description	Delay affected
June 2012 (signing) October 2012 (BOE publication)[1]	Intensive Plan of Nationality (PIN) 2012	Management assignments with the Association of Property, Commercial, and Movable Assets Registrars (CORPME) for the processing and preliminary reports for resolution of applications submitted through the old procedure from 2010-2013	From application to concession
July to December 2013	PIN 2012	Possible to do oath of allegiance at a public notary for free	From concession to acquisition
February 2015 (signing) April 2015 (BOE publication)	PIN 2015	Management assignment with the CORPME for the processing and preliminary reports for resolution of applications submitted through the old procedure in 2014	From application to concession
October 2015[2]	Law 19/2015 and Royal Decree 1004/2015	The proof of integration was standardized by introducing an exam of Spanish customs and culture as well as a Spanish language exam for immigrants from non-Spanish speaking countries and it introduced a fee for application. It was established that the application and processing of the nationality procedure would be conducted electronically at all stages.	From eligibility to concession
August 2016 (signing) April 2017 (BOE publication)	PIN 2017	Management assignment with the CORPME for the processing and preliminary reports for resolution of applications submitted through the old procedure in first semester 2015	From application to concession
September 2017 (signing) November 2017 (BOE publication)	PIN 2017-2	Management assignment with the CORPME for the processing and preliminary reports for resolution of applications submitted through the old procedure in second semester 2015	From application to concession
April 2019 (signing) June 2019 (BOE publication)[3]	PIN 2019	Management assignment with the CORPME for the processing and preliminary reports for resolution of applications submitted through the old procedure from 2016 to 2019	From application to concession
April-November 2019	Nationality Shock Plan	Temporary increase in the number of civil servants dedicated to resolving nationality applications presented with the new procedure	From application to concession
March-November 2021	Second Nationality Shock Plan	Temporary increase in the number of civil servants dedicated to resolving nationality applications presented with the new procedure	From application to concession
From September 2021	PIN 2021	Possible to do oath of allegiance at a public notary paying a fee	From concession to acquisition

Note: BOE stands for Boletín Oficial del Estado. Applications from the old procedure are those presented before the introduction of the new nationality law in 2015. There were applications through the old procedure in years after 2015 because during the transitional period from the enactment of the Royal Decree 1004/2015 of November 6, 2015 until June 30, 2017, it was possible to continue submitting applications to the Civil Registry corresponding to the applicant's domicile in paper format.

[1] *It initially included applications from 2010, 2011, and 2012, and was then modified to include those from 2013.*

[2] *The Law 19/2015 was published in the BOE in July 2015, but entered into force in October 2015. The Royal Decree 1004/2015, of November 6, approved the Regulation governing the procedure for acquiring Spanish nationality by residence.*

3 The BOE-A-2021-19876 of November 2021, and then the BOE-A-2022-19978 of November 2022 published an addendum extending the management assignment for the resolution of applications done through the old procedure.

Table A3: Summary Statistics of the LT Sample Including Small Municipalities

Variable Name	**Mean**	**Median**	**Std. Dev.**
Female	0.62		0.49
Year of Birth	1979	1979	6.21
Age at FD	28.44	28.00	6.11
Year of FD	2008	2008	1.29
FD More than 1 Year Earlier than First Job Spell	0.07		0.25
Maximum Number of years Observed	12.13	12.00	1.33
Year of Nationality Acquisition	2014	2014	2.17
Delay in years	4.77	4.47	2.12
Country of Birth			
Argentina	0.05		0.21
Bolivia	0.15		0.36
Brazil	0.03		0.18
Colombia	0.19		0.40
Cuba	0.04		0.21
Dominican Republic	0.11		0.31
Ecuador	0.13		0.33
Peru	0.16		0.36
Rest of Central and South America	0.14		0.34
Maximum Education When First Observed			
Below Secondary	0.51		0.50
Secondary	0.31		0.46
Tertiary	0.18		0.38
Household Composition When First Observed			
Household Size	3.92	4.00	1.91
Number of Children	0.91	1.00	0.98
Percentage of Adults	79.99	80.00	19.97
Geographical Mobility			
% of Months Working and Living in Diff. Mun.	0.42	0.33	0.39
Living in Diff. Mun. compared to First Observed	0.14		0.35
Working in Diff. Mun. compared to First Observed	0.55		0.50
Labor Performance Before Eligibility for Nationality			
Cumulative Income	19013	15544	15604
Cumulative Earnings	17487	13426	14944
Daily Earnings	37.05	33.31	28.55
Total Days Worked	501	540	190
Labor Intensity	0.70	0.75	0.26
Full-Time Equivalent Labor Intensity	0.55	0.50	0.27
Part-time Contracts	0.43	0.30	0.43
Fixed-term Contracts	0.73	1.00	0.36
Best Occupation (1 max to 10)	7.60	8.00	2.64
Best Skill Category (1 max to 3)	2.09	2.00	0.74
Number of Observations			4753

Notes: Labor performance before eligibility refers to the first two years since FD. Occupation categories are computed from Social Security tax categories. 7 corresponds to administrative assistants and 8 are first- and second-class officers. Skill category is based on Bentolila, García-Pérez, and Jansen 2017, and divides occupations into three: high skill includes college and junior college graduates, and top and middle managers (groups 1 to 6); medium skill includes categories 7 and 8; and low skill includes third-level officers and unskilled workers (groups 9 and 10).

Table A4: Summary Statistics of the Long-term Sample by Gender

Variable Name	Female			Male			Difference
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	
Year of Birth	1979	1979	6.14	1979	1979	6.21	0.00
Age at FD	28.6	28.0	6.11	28.4	28.0	6.02	0.22
Year of FD	2008	2008	1.30	2008	2008	1.23	0.11 **
FD More than 1 Year Earlier than First Job Spell	0.07		0.26	0.06		0.24	0.01
Maximum Number of years Observed	12.07	12.00	1.32	12.16	12.00	1.29	-0.09 *
Year of Nationality Acquisition	2014	2014	1.80	2014	2014	1.71	0.08
Delay in years	4.61	4.36	1.85	4.62	4.41	1.77	-0.01
Country of Birth							
Argentina	0.03		0.18	0.05		0.21	-0.02 **
Bolivia	0.19		0.40	0.11		0.32	0.08 ***
Brazil	0.03		0.17	0.03		0.17	0.00
Colombia	0.17		0.38	0.20		0.40	-0.03 *
Cuba	0.03		0.18	0.05		0.21	-0.02 **
Dominican Republic	0.13		0.33	0.11		0.31	0.02
Ecuador	0.12		0.33	0.13		0.34	-0.01
Peru	0.15		0.36	0.21		0.41	-0.05 ***
Rest of Central and South America	0.14		0.34	0.11		0.31	0.02 **
Maximum Education When First Observed							
Below Secondary	0.49		0.50	0.49		0.50	0.00
Secondary	0.33		0.47	0.32		0.47	0.01
Tertiary	0.18		0.39	0.19		0.39	-0.01
Household Composition When First Observed							0.00
Household Size	3.92	4.00	1.90	4.05	4.00	2.03	-0.13 *
Percentage of Adults	79.64	80.00	20.29	82.34	83.33	18.68	-2.7 ***

Continued on next page

Table A4: Summary Statistics of the Long-term Sample by Gender *(continued)*

Variable Name	Female Mean	Female Median	Female Std. Dev.	Male Mean	Male Median	Male Std. Dev.	Difference
Geographical Mobility							
% Months Working and Living in Diff. Mun.	0.34	0.18	0.38	0.45	0.41	0.39	-0.11 ***
Living in Diff. Municipality compared to FD	0.13		0.33	0.14		0.35	-0.02
Working in Diff. Municipality compared to First	0.45		0.50	0.58		0.49	-0.13 ***
Labor Performance Before Eligibility for Nationality							
Cumulative Income	15446	9670	14022	25042	24315	16369	-9596 ***
Cumulative Earnings	14366	8774	13323	22893	21133	16110	-8528 ***
Daily Earnings	30.35	22.83	26.00	47.06	42.91	29.92	-16.71 ***
Total Days Worked	512	558	188	508	547	183	4.27
Labor Intensity	0.71	0.77	0.26	0.71	0.76	0.25	0.01
Full-Time Equivalent Labor Intensity	0.50	0.48	0.25	0.63	0.66	0.27	-0.13 ***
Part-time Contracts	0.61		0.42	0.24		0.35	0.37 ***
Fixed-term Contracts	0.71		0.38	0.71		0.36	0.00
Best Occupation (1 max to 10)	7.81	9.00	2.53	7.27	8.00	2.62	0.54 ***
Best Skill Category (1 max to 3)	2.16	2.00	0.78	1.91	2.00	0.69	0.25 ***
Number of Observations			1813			1094	

Notes: Labor performance before eligibility refers to the first two years since FD. Occupation categories are computed from Social Security tax categories. 7 corresponds to administrative assistants and 8 are first- and second-class officers. Skill category is based on Bentolila, García-Pérez, and Jansen 2017, and divides occupations into three: high skill includes college and junior college graduates, and top and middle managers (groups 1 to 6); medium skill includes categories 7 and 8; and low skill includes third-level officers and unskilled workers (groups 9 and 10).

Table A5: Summary Statistics of the Short-term (ST) Sample

Variable Name	**Mean**	**Median**	**Std. Dev.**
Female	0.63		0.48
Year of Birth	1979	1979	6.44
Age at FD	28.40	28.00	6.19
Year of FD	2008	2008	1.66
FD More than 1 Year Earlier than First Job Spell	0.07		0.25
Maximum Number of years Observed	11.58	12.00	1.95
Year of Nationality Acquisition	2014	2014	1.73
Delay in years	4.01	3.89	1.76
Country of Birth			
Argentina	0.05		0.21
Bolivia	0.15		0.36
Brazil	0.03		0.18
Colombia	0.19		0.40
Cuba	0.05		0.22
Dominican Republic	0.11		0.32
Ecuador	0.13		0.33
Peru	0.15		0.36
Rest of Central and South America	0.13		0.34
Maximum Education When First Observed			
Below Secondary	0.51		0.50
Secondary	0.31		0.46
Tertiary	0.17		0.38
Household Composition When First Observed			
Household Size	3.92	4.00	1.93
Number of Children	0.90	1.00	0.97
Percentage of Adults	80.34	80.00	19.78
Geographical Mobility			
% of Months Working and Living in Diff. Mun.	0.41	0.32	0.39
Living in Diff. Mun. compared to First Observed	0.14		0.35
Working in Diff. Mun. compared to First Observed	0.54		0.50
Labor Performance Before Eligibility for Nationality			
Cumulative Income	18359	14449	15251
Cumulative Earnings	16866	12517	14584
Daily Earnings	35.80	32.19	26.77
Total Days Worked	496	537	192
Labor Intensity	0.69	0.75	0.27
Full-Time Equivalent Labor Intensity	0.54	0.50	0.27
Part-time Contracts	0.44	0.33	0.43
Fixed-term Contracts	0.73	1.00	0.36
Best Occupation (1 max to 10)	7.66	8.00	2.56
Best Skill Category (1 max to 3)	2.09	2.00	0.74
Number of Observations			4895

Notes: Labor performance before eligibility refers to the first two years since FD. Occupation categories are computed from Social Security tax categories. 7 corresponds to administrative assistants and 8 are first- and second-class officers. Skill category is based on Bentolila, García-Pérez, and Jansen 2017, and divides occupations into three: high skill includes college and junior college graduates, and top and middle managers (groups 1 to 6); medium skill includes categories 7 and 8; and low skill includes third-level officers and unskilled workers (groups 9 and 10).

Table A6: Long-Run Labor Outcomes and Delay Adding Vote Share for Popular Party in Last Municipal Election

Panel A: Men									
	OLS				First Stage	IV			
	long-term income	long-term earnings	average daily wage	days worked	Delay	long-term income	long-term earnings	average daily wage	days worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Delay	-0.0526***	-0.0516***	-0.0311***	-0.0217**		-0.0659***	-0.0673***	-0.0374***	-0.0303***
	(0.0155)	(0.0164)	(0.0094)	(0.0100)		(0.0175)	(0.0185)	(0.0105)	(0.0112)
Instrument					1.410***				
					(0.0284)				
1st stage F-statistic					2461.15				
Observations	1,094	1,094	1,094	1,094		1,094	1,094	1,094	1,094
Panel B: Women									
	OLS				First Stage	IV			
	long-term income	long-term earnings	average daily wage	days worked	Delay	long-term income	long-term earnings	average daily wage	days worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Delay	-0.0133	-0.00926	-0.0134	-0.000570		-0.0102	-0.00758	-0.00619	-0.00177
	(0.0124)	(0.0126)	(0.0091)	(0.0073)		(0.0138)	(0.0140)	(0.0101)	(0.0081)
Instrument					1.442***				
					(0.0198)				
1st stage F-statistic					5291.43				
Observations	1,813	1,813	1,813	1,813		1,813	1,813	1,813	1,813

Notes: All dependent variables are in logs and delay is defined by subtracting the median delay in the sample. Columns (1)-(4) show OLS estimates. Column (5) shows the first stage, and columns (6)-(9) show IV-TSLS estimates, instrumenting demedian delay with the instrument defined in the text. Columns (1) and (6) show the results for accumulated income, defined as the sum of total labor earnings and unemployment benefits over the 120 months since FD. Columns (2) and (7) present the results for accumulated earnings, which sums only labor earnings accumulated over this period (i.e., excluding unemployment benefits). Columns (3) and (8) use average daily wages as the dependent variable, defined as the average across the 120 months of monthly earnings divided by days worked in months when earnings are non-missing. Finally, columns (4) and (9) show days worked defined as the total days worked since FD until 120 months from that date. Regressions are at the worker level. All regressions control for age at FD, first education level dummies, household size when first observed, country of birth, unemployment rate at province and quarter-year of FD, year of FD fixed effects, Spanish and immigrant population by JD, urban area fixed effects and pp share of votes in last municipal election. Standard errors in parenthesis.$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Critical values for the first-stage F-statistic for a maximum allowable bias in the 2SLS of 10% is 16.38 in the case of one instrumental variable (Stock and Yogo, 2005).

Table A7: Long-Run Labor Outcomes and Delay Excluding Urban Area Fixed Effects and Population by JD

	OLS				First Stage	IV			
Panel A: Men	long-term income (1)	long-term earnings (2)	average daily wage (3)	days worked (4)	Delay (5)	long-term income (6)	long-term earnings (7)	average daily wage (8)	days worked (9)
Delay	-0.0368***	-0.0360***	-0.0238***	-0.0155**		-0.0400***	-0.0382***	-0.0273***	-0.0139
	(0.0119)	(0.0127)	(0.0073)	(0.0077)		(0.0138)	(0.0147)	(0.0084)	(0.0089)
Instrument					1.428***				
					(0.0265)				
1st stage F-statistic					2897.84				
Observations	1,094	1,094	1,094	1,094		1,094	1,094	1,094	1,094
Panel B: Women	OLS				First Stage	IV			
	long-term income (1)	long-term earnings (2)	average daily wage (3)	days worked (4)	Delay (5)	long-term income (6)	long-term earnings (7)	average daily wage (8)	days worked (9)
Delay	-0.0142	-0.00977	-0.0172**	0.00218		-0.00795	-0.00216	-0.0150*	0.00811
	(0.0098)	(0.0099)	(0.0071)	(0.0057)		(0.0109)	(0.0111)	(0.0081)	(0.0064)
Instrument					1.444***				
					(0.0179)				
1st stage F-statistic					6485.39				
Observations	1,813	1,813	1,813	1,813		1,813	1,813	1,813	1,813

Notes: All dependent variables are in logs and delay is defined subtracting the median delay in the sample. Columns (1)-(4) show OLS estimates. Column (5) shows the first stage, and columns (6)-(9) show IV-TSLS estimates, instrumenting demedian delay with the instrument defined in the text. Columns (1) and (6) show the results for accumulated income, defined as the sum of total labor earnings and unemployment benefits over the 120 months since FD. Columns (2) and (7) present the results for accumulated earnings, which sums only labor earnings accumulated over this period (i.e., excluding unemployment benefits). Columns (3) and (8) use average daily wages as dependent variable, defined as the average across the 120 months of monthly earnings divided by days worked in months when earnings are non-missing. Finally, columns (4) and (9) show days worked defined as total days worked since FD until 120 months from that date. Regressions are at the worker level. All regressions control for age at FD, first education level dummies, household size when first observed, country of birth, unemployment rate at province and quarter-year of FD, and year of FD fixed effects. Standard errors in parenthesis.$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Critical values for the first-stage F-statistic for a maximum allowable bias in the 2SLS of 10% is 16.38 in the case of one instrumental variable (Stock and Yogo, 2005).

Table A8: Upward Mobility between and within Spells

	Occupation level increase at contract		Wage increase at contract change		Average monthly increase in wage within the firm	
	with firm change (1)	**without** firm change (2)	**with** firm change (3)	**without** firm change (4)	all spells (5)	removing workers with "between spells" (6)
$Post_s$	0.0229*	-0.0523***	0.1030**	0.0365	0.0029**	0.0080**
	(0.0117)	(0.0179)	(0.0471)	(0.0808)	(0.0015)	(0.0035)
Observations	21,259	5,193	16,103	6,507	15,352	5,345
Num. of Immigrants	4,937	2,649	4,867	1,792	4,142	1,399
Dep. vble at pre	0.2487	0.0850	0.4276	0.4380	0.0049	0.0064

Notes: Regressions are at the spell level and consider those spells that span before and after nationality acquisition as pre-nationality spells. All regressions control for the average age for the duration of the spell, age squared, and worker fixed effect. The dependent variable in columns (1) and (2) is equal to one if there is an occupation level increase compared to the previous spell's occupation, and zero otherwise. In column (1), only consecutive spells that correspond to different firms are considered (that is, it excludes spells where the immigrant is recalled by the same employer, leaving only the last spell before employer change). In column (2), only consecutive spells that occur with the same firm are included. Columns (3) and (4) present regression results using the change in average daily wages between spells as the dependent variable, but they differ in the sample used for the estimation. Column (3) considers all spells that are followed by a different employer, whereas column (4) considers only changes in spell without change in firm. Columns (5) and (6) present the results for the average monthly increase in daily wage within each spell, considering all spells that correspond to immigrants with at least one spell before and one after nationality acquisition. Column (6) removes "between spells", that are those that start before and finish after obtaining nationality. Standard errors in parenthesis, clustered at the individual level.$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: Probability of Being a Domestic Worker (Female Sample) or Working in Agriculture (Male Sample) if Employed

	Probability of Being a Domestic Worker		Probability of Working in Agriculture	
	(1)	(2)	(1)	(2)
$Post_s$	-0.137***	-0.135***	-0.269**	-0.274***
	(0.0349)	(0.0360)	(0.0745)	(0.0774)
Additional controls	No	Yes	No	Yes
Sample	Female	Female	Male	Male
Observations	104080	101187	61727	59521
Num. of Immigrants	2985	2858	1785	1705

Notes: Both regressions control for a polynomial of age in each month, country of birth, unemployment rate at the province and quarter-year of FD, age at FD, year of FD, and calendar year fixed effect. Columns (2) and (4) additionally controls for education level and household size when first observed. Regressions are at the individual and monthly levels, using the ST sample of female immigrants (columns 1 and 2) and male immigrants (columns 3 and 4) two years before and after obtaining nationality. Standard errors in parenthesis, clustered at the individual level.$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A10: Long-Run Additional Outcomes and Delay: IV Estimates

Panel A: Men	IV				
	Fixed-term contract	Part-time contract	Domestic Worker	Agriculture Worker	Firm size
	(1)	(2)	(3)	(4)	(5)
Delay	0.00905	0.00591	-0.00147	-0.00169	-22.94
	(0.00735)	(0.00551)	(0.00299)	(0.00255)	(34.22)
Mean outcome at 1 SD of median delay	0.55	0.18	0.04	0.05	361.19
Observations	1,093	1,094	1,094	1,094	1,094
Panel B: Women	IV				
	Fixed-term contract	Part-time contract	Domestic Worker	Agriculture Worker	Firm size
	(1)	(2)	(3)	(4)	(5)
Delay	0.00529	0.00459	0.00995*	0.000854	-1.254
	(0.00543)	(0.00511)	(0.00544)	(0.000692)	(17.47)
Mean outcome at 1 SD of median delay	0.49	0.45	0.31	0.01	304.72
Observations	1,813	1,813	1,813	1,813	1,738

Notes: Dependent variables are defined as the share of the 120 months the immigrant had jobs with fixed-term (column 1) or part-time (column 2) contract, or working in the specific sector (domestic worker in column 3 an agriculture in column 4). Delay is defined by subtracting the median delay in the sample, and instrumented using the strategy explained in Section 4.1. Regressions are at the worker level. All regressions control for age at FD, first education level dummies, household size when first observed, country of birth, unemployment rate at province and quarter-year of FD, year of FD fixed effects, Spanish and immigrant population by JD, and urban area fixed effects. Standard errors in parenthesis.$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.