Quantifying the Recent Immigration Surge: Evidence from Work-permit Applications

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Abstract:

The US unemployment rate has drifted higher since early 2023, even though growth in payroll employment has been strong over this period. Some commentators have noted that the puzzle of rising unemployment amid rapid hiring can be explained by a large increase in immigration, which would raise population growth and allow firms to hire large numbers of new (immigrant) workers without dipping into the unemployment pool. This paper uses a source of administrative data that is directly related to the labor market—immigrant applications for work permits—to estimate the immigrant labor inflow in 2023 and 2024. The surge in new work-permit applications in these two years supports the large immigration estimates based on other administrative data from the Department of Homeland Security, including the significant immigration increase recently estimated by the Congressional Budget Office.

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1 Introduction

A central challenge for economic policymakers is judging the cyclical position of the US labor market. Among the monthly data series used for this task are the unemployment rate and the change in monthly nonfarm payroll employment. Although monthly readings in these two series are often volatile, over a stretch of several months the two indicators tend to settle on the same signal for where the job market is headed. For example, when the labor market tightens, the unemployment rate falls, largely because unemployed workers find it easier to get jobs and exit the unemployment pool (Shimer 2012). The stepped-up pace of exits from unemployment is reflected in employment growth that exceeds the level needed to keep up with trend population growth.[1] Although payroll growth has declined recently, it has been relatively strong during the past two years, averaging 214,000 jobs per month from December 2022 to October 2024. This growth rate is about twice the rate of previous estimates of trend employment growth, yet the unemployment rate *rose* from 3.5 percent in December 2022 to 4.1 percent in October 2024.

A potential answer to the puzzle of rising unemployment amid rapid hiring is that immigration has significantly increased population growth. If higher immigration has raised monthly trend employment growth to 200,000 workers or more, then the increase in unemployment rate over the past two years is less surprising. In US policy circles, the first agency to argue for a surge in immigration was the Congressional Budget Office (2024a). In January 2024, the CBO's annual demographic outlook estimated net immigration of 3.3 million persons in 2023 and the same number in 2024. The estimate of 2023 immigration is more than three times larger than the 2023 immigration forecast released by the CBO four years previously. It is also much larger than recent immigration estimates from other government agencies, including the US Census Bureau and the Social Security Administration. The Census Bureau's estimate for net international immigration in the 12 months following July 1, 2022, is about 1.1 million persons.[2]

The large discrepancy in these estimates points to the difficulty of estimating net immigration, especially when the immigration landscape is changing. Encounters between border officials and potential migrants are well known to have increased sharply over the past two years, as shown in Figure 1. Yet it is difficult to translate data on border encounters and other administrative data into estimates of immigration's effect on population and the labor

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[1] In addition to population growth, trend employment growth is also influenced by changes in labor force participation rates. See Aaronson et al. (2014) for a careful analysis of how the aging of the population affects the aggregate participation rate.

[2] The Census estimate for the year following July 1, 2023, will be released in mid-December 2024. See https://www.census.gov/programs-surveys/popest/about/schedule.html for the Census release schedule. As noted below, the Census will also announce any methodological changes to its population-estimation methodology when the new estimates are released.

force. To construct its immigration estimate, the CBO divided the migration flow into three broad categories. Its "LPR+" category includes persons who entered the United States as lawful permanent residents (LPRs).[3] This group mainly includes persons entering as immediate family members of US citizens or entering through employment-based preferences. Some persons granted asylum or refugee status are also included in this category. A second, "INA Non-Immigration" category includes temporary workers and foreign students as well as officials of foreign governments and others admitted as non-immigrants under the Immigration and Nationality Act (INA).

The CBO's third category, labeled "Other Foreign Nationals" (OFN) includes everyone not included in the first two categories. It comprises persons entering the United States illegally; persons entering legally under a temporary status who overstayed that status; and people who were legally "paroled" into the country, often because their home countries are beset by armed conflicts or natural disasters. US Customs and Border Protection (CBP) officials have used guidance from the US Department of Homeland Security (DHS) to judge whether persons crossing the border without prior authorization are capable of making credible claims for asylum. Many people in the OFN category passed this requirement and have been released into the country until immigration courts can formally rule on their claims.[4] To construct its OFN estimate, the CBO estimated the number of migrants who entered the country and stayed here after encountering CBP officials, either at or between ports of entry. In fiscal year 2023, about 1.88 million persons were given notices to appear before immigration courts (NTAs) or were paroled into the country; the corresponding figure for fiscal year 2024 is 1.96 million.[5] The CBO's OFN estimate also drew on DHS data relating to persons who entered without encountering a CBP official and to persons overstaying temporary visas.

Figure 2 plots the CBO's most recent estimates and projections of migration from 2000 through 2030, which were published in January 2024. The red dashed line shows that in the 2010s, immigration in the OFN category was often low and sometimes negative. In the 2020s, however, OFN immigration rose dramatically. All told, the CBO estimated that the inflow of persons in the OFN category increased to 2.4 million people in 2023. This increase essentially accounts for all of the increase in the CBO's total-immigration estimate to 3.3 million, denoted in Figure 2 by the thick black line.[6]

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[3]Persons who entered under a status that allows or requires them to adjust to LPR status in a short of amount of time were also included in the CBO's LPR+ category.

[4]Below, I discuss the Biden Administration's June 2024 order that limited the ability of persons entering the country illegally from claiming asylum.

[5]See Appendix Table 1 for further description and analysis of these data.

[6]In addition to its forecast based on DHS data, the CBO constructed a separate estimate of the OFN category using data from the Current Population Survey (CPS), adjusted for that survey's likely undercount of the foreign-born population. The OFN estimate based on DHS data was 2.5 million in 2023, and the CPS

In a subsequent analysis, Edelberg and Watson (2024a) replicated and confirmed the CBO's estimate of the immigration-induced increase in population, again drawing largely on DHS data. They then used data on previous immigrants' labor force participation rates from survey data to translate population growth into an increase in monthly payroll employment. Edelberg and Watson estimated that immigration raised monthly trend employment growth by about 100,000 persons in both 2023 and 2024, causing monthly trend growth to range from 160,000 to 200,000 persons in 2024. As they point out, an increase in trend payroll growth of this magnitude goes a long way toward resolving the disconnect between rising unemployment and observed employment growth since early 2023.

Yet the CBO and Edelberg-Watson immigration estimates are indirect measures of how immigrants have affected the labor market. Although administrative data can quantify the number of persons who are allowed into the country after receiving NTAs, or who are granted parole, translating the resulting population changes into labor force growth requires assumptions about the likelihood that current migrants will join the workforce. In this paper, I use administrative data directly related to the labor market—immigrant applications for federal work permits—to shed additional light on immigration's effect on employment growth. Work-permit applications are especially valuable for measuring the current immigration wave, because unlike migrants in previous waves, a large fraction of current migrants are eligible to apply for these permits. Applications are therefore useful for economic policymakers as they combine data on payroll growth, the unemployment rate, and other labor market indicators to form a consistent assessment of the labor market's cyclical position.

The remainder of this paper proceeds as follows. In section 2, I explain why work permits are useful for measuring current immigration by outlining the government's rules for who can apply for work permits and when they can do so. This section also discusses some advantages and disadvantages of using permit-application data to quantify immigration's effect on the labor market.

In section 3, I outline two methods of using permit applications as an immigration measure. Both methods require the researcher to separate initial applications for work permits from renewal or replacement applications. The first method simply aggregates initial applications made under categories that are closely related to current immigration developments, in particular the categories consistent with the CBO's OFN designation. For example, persons who arrive in the United States and claim asylum are allowed to apply for work permits under category C08 (pending asylum application). In fiscal year 2023, more than 800,000

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estimate was 2.2 million; the final OFN estimate of 2.4 million falls between these two figures. See Appendix B of Congressional Budget Office (2024a) for details of the CBO's estimation procedures and Congressional Budget Office (2024b) for estimates of how the immigration surge is likely to affect the federal budget and the overall economy.

persons submitted work-permit applications under this category.[7] Another large application category related to OFN immigration is public-interest parolees, who submitted almost 400,000 applications in fiscal year 2023. A second way of using permit applications to quantify immigration does not require category-specific data. Instead, it estimates how much the overall number of initial applications in fiscal 2023 and fiscal 2024 exceeded the pre-surge trend in applications. Although this method is less precise than the category-specific method, it can be used to analyze permits in the most recent fiscal year (2024), for which detailed category-specific application data are not yet available.

The bottom line of this analysis is that both methods suggest a very large increase in work-permit applications in the past two years. If we divide the implied annual increases by 12 to make them consistent with monthly changes in trend payroll growth, we generate immigration inflows of approximately 80,000 extra workers per month in fiscal 2023 and just over 150,000 per month in fiscal 2024. Although these estimates do not map precisely into the trend-growth effects implied by estimates from the CBO and Edelberg and Watson (2024a), the permit-based estimates are consistent with the very large immigration increases found in these previous studies. Section 4 discusses some reasons why immigration estimates based on permit applications could differ from estimates on other DHS data and the estimates from the Census Bureau. Section 5 concludes.

2 Work Permits and the Current Migration Wave

2.1 Background on Work Permits

The work permits analyzed in this paper are formally called Employment Authorization Documents (EADs), and applications for them are managed by the US Citizenship and Immigration Services agency (USCIS).[8] The use of work permits to quantify migration is particularly appropriate for the current migration wave, because relative to earlier waves, a larger share of current migrants are eligible to apply for permits. Several complex rules govern eligibility for work permits, but one general principle relevant for the current study is that persons fleeing persecution in their home country are allowed to work in the United States while their cases are under review. Such persons are called asylum-seekers if they apply for permission to stay in the United States after they arrive, and they are called refugees if they demonstrate a fear of persecution before they enter the United States.[9] In June 2024, the Biden administration significantly limited the ability of persons to claim asylum if they

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[7]The federal government's fiscal year begins on October 1.

[8]All of the work-permit data analyzed in this note come from spreadsheets obtained from the public (and searchable) USCIS website.

[9]See the USCIS website at https://www.uscis.gov/humanitarian/refugees-asylum for details.

entered the country illegally, which likely contributed to the decline in border encounters in mid-2024 apparent in Figure 1.[10] Also eligible for permits are persons temporarily paroled into the United States for humanitarian reasons, or because their admittance has a significant public benefit for the United States.[11] Permit applications can also come from persons already in the United States who are eligible for temporary protected status (TPS). This status can be granted to people from countries experiencing temporary and extraordinary conditions that make a safe return to those countries difficult, such as a war, a hurricane, an earthquake, or other type of natural disaster. Seventeen countries are currently designated for TPS, including Afghanistan, Cameroon, Haiti, Honduras, Ukraine, and Venezuela. The most recent addition to the list is Lebanon, which was included on October 17 of this year.[12]

In earlier decades, fewer migrants could apply for work permits because a smaller number of them could make credible claims for asylum, refugee status, or humanitarian parole. Hanson, Liu, and McIntosh (2017) note that from the 1970s to the early 2000s, many Latin American migrants were drawn to the United States for economic reasons that ultimately stemmed from demographic forces. For example, high birth rates in Mexico during the 1960s and 1970s forced the Mexican labor market to absorb huge numbers of young workers in the 1980s and 1990s. The Mexican economy could not generate enough jobs to employ all these young job-seekers, so many crossed the US border to look for work. Hanson, Liu, and McIntosh (2017) also note that as Mexican birth rates fell in the 1980s and 1990s, this demographic push factor waned, and so did immigration from Mexico.

Relative to this earlier migration wave, recent migrants are more likely to come from countries experiencing significant political or social turmoil. Consequently, a larger fraction of migrants can credibly claim that they have arrived for reasons other than purely economic ones. According to the Transactional Records Access Clearinghouse at Syracuse University, as of December 2023 there were about 1.1 million persons awaiting adjudication of their asylum claims, and Wilson (2024) calculated that about 864,000 persons had TPS as of March 31, 2024.[13] Additionally, DHS reported that about 532,000 immigrants had entered the United States by October 2024 under one special parole program, designed for people from Cuba, Haiti, Nicaragua and Venezuela.[14] While the immigrants' cases are under review, or while they are enrolled in special programs related to TPS or humanitarian parole, they

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[10]For details on the Biden administration's June 2024 order, see Department of Homeland Security (2024). A decline in border encounters at the start of 2024 is largely attributed to a tightening of anti-immigration policies by the Mexican government (Isacson 2024).

[11]See https://www.uscis.gov/humanitarian/humanitarian_parole.

[12]See https://www.uscis.gov/humanitarian/temporary-protected-status. Although TPS is explicitly temporary, Orrenius and Zavodny (2015) found that having TPS status was likely to improve labor market outcomes, in part by allowing some migrants to move into better-paying occupations.

[13]See https://trac.syr.edu/phptools/immigration/asylumbl/ for the TRAC data on the asylum backlog.

[14]See https://www.cbp.gov/newsroom/national-media-release/cbp-releases-october-2024-monthly-update.

can apply for work permits and work legally once they receive them.

2.2   Strengths and Weaknesses of Permit-based Measures

The use of work-permit applications has important advantages when assessing the effect of recent immigration on the labor market. Previous estimates of immigration effects have combined estimates of population increases induced by immigration with the likely labor force participation rates of the new arrivals. Administrative data from DHS and other sources can generate estimates of population increases, and survey data sets such as the American Community Survey (ACS) or Current Population Survey (CPS) can measure the participation rates of previous migrants. Assuming that the population estimates are correct, and that current migrants have the same participation rates as previous ones, the effect of current immigration on the size of the labor force can be calculated. However, participation rates of recent migrants may differ from those of previous migrants, in part because a higher fraction of current migrants are likely to be allowed to work legally.

A disadvantage of using permit applications to measure immigration effects on the labor market is that getting a work permit and getting a job are not the same thing. Many recent immigrants—particularly those who have had no contact with US border authorities—might start working without permits. These workers will not have social security numbers (SSNs), but they might supply fraudulent SSNs to potential employers or work under the table.[15] These additional, non-permitted workers would make an estimate of immigration effects based on new work-permit applications too low. On the other hand, some immigrants who have been in the country for years may have worked without permits, even though they were eligible to receive them. If these persons apply for permits now, then permit-based estimates of immigration effects would be too large. This positive bias from existing workers is in the opposite direction of the negative bias stemming from new, non-permitted workers, and it is hard to know which bias is greater or if the two biases closely offset one another.

3   Immigration Effects Estimated with Work Permits

Figure 3 plots the number of initial work-permit applications from USCIS from fiscal 2003 to fiscal 2023. The increase of about 1 million applications in fiscal 2023 is strongly suggestive of an immigration surge, but permit applications come from persons in more

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[15]A person applying for a work permit can apply for an SSN at the same time by checking a box on the work-permit application. Persons without legal authority to work in the country, who therefore lack SSNs, sometimes supply fraudulent SSNs to their employers but file federal income taxes each year using Individual Taxpayer Identification Numbers (ITINs). See the IRS website at https://www.irs.gov/individuals/individual-taxpayer-identification-number for details.

than 50 categories, including foreign students beginning on-the-job training, dependents of foreign government officials, and persons granted Deferred Action for Childhood Arrivals (DACA).[16] A particularly important category of initial applications to remove from a study of the immigration surge corresponds to persons already in the country who are applying for permanent alien status, that is, green cards. These persons may apply for a work permit with an I-765 application while their green-card applications are being considered, even though they may already be working under other arrangements, such as H-1B visas. There were about 588,000 status-adjustment applications in fiscal 2023.

3.1 Using Category-specific Data through Fiscal Year 2023

To focus specifically on the immigration surge, I select eight application categories that are closely related to recent developments in immigration. These categories are listed along with their fiscal 2023 initial applications in Table 1. The first five catgories are most closely related to the CBO's OFN definition. The most numerous applicants in this group are asylum-seekers, who submitted 802,753 initial work-permit applications in fiscal 2023. The second-largest group, public-interest parolees, submitted 392,398 applications. Note that the third category, "Alien Granted Deferred Action," does not include the DACA program, as DACA includes only childhood arrivals and has a separate permit-application category. The deferred-action category in the table includes aliens outside of DACA who have been granted deferred action on efforts to remove them from the country and who claim an economic necessity for work. For completeness, the last three rows of the table list some smaller categories that are also related to refugee and asylum status. Persons submitting applications in these three categories were mostly *granted* asylum or refugee status, so they were likely included in the CBO's LPR+ category. All told, there were about 1.5 million initial applications filed in the eight categories in fiscal 2023. Consistent with the large increase in OFN immigration apparent in Figure 2, the large majority of the applications in Table 1 came from the five categories most closely related to the CBO's OFN definition.

We saw in Figure 3 that initial applications were about 1 million greater in fiscal 2023 than in the previous two years. Figure 4 shows that this increase in initial applications is essentially accounted for by the eight selected categories, which taken together are around 1 million higher in fiscal 2023 than they were in fiscal 2021 or fiscal 2022. Gaps between the categories' total in fiscal 2023 and the years before fiscal 2021 are even larger. The largest fiscal 2023 increases come from asylum applicants (blue sections of each bar) and public-interest parolees (red sections).

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[16]DACA, launched in 2012, allows undocumented persons who arrived in the United States as children to receive temporary deferral of any effort to remove them from the country. DACA also allows participants to apply for work permits. See https://www.uscis.gov/DACA.

3.2 Extrapolating Application Trends through Fiscal Year 2024

I next outline a second method of analyzing work permits that does not require category-specific information. There are at least two reasons that an additional method is useful. First, the eight categories analyzed above may not include all of the categories under which migrants entering in the OFN category have applied for permits. Second and perhaps more important, detailed category-specific data are released by the USCIS with a substantial lag. To my knowledge, the most recent detailed data cover fiscal 2023, which ended more than one year ago. The alternative method developed below can generate an estimate for fiscal 2024 as well as provide a check on the category-based estimate for fiscal 2023.

The method proceeds in three steps. First, I obtain the number of total (not initial) work-permit applications in each fiscal year. Monthly data on total work-permit applications are released with a lag of only a few weeks, so total-application data for all the months of fiscal 2024 are now available. Figure 5 shows that total monthly work-permit applications were relatively stable throughout fiscal 2024, even as border encounters were declining sharply (as seen in Figure 1). One reason for the stability in permit applications is the months-long lag between when immigrants arrive in the country and when many of them are allowed to apply for permits.[17] Because of this lag, the increase in border crossings in 2023 generated applications throughout much of 2024. Adding up all of months of fiscal 2024 generates a total of just over 4.5 million total work-permit applications.

These applications include renewal and replacement applications as well as initial applications, so the second step in creating an estimate through fiscal 2024 is to infer the number of initial applications in fiscal 2024 from the number of total applications. Figure 6 disaggregates fiscal 2023 applications according to a few broad classifications. The pie chart illustrates that about two-thirds (67.4 percent) of total applications in fiscal 2023 were initial applications, denoted by the two slices in shades of red. The remaining one-third of total applications were renewals and replacement applications. To estimate the number of initial applications in fiscal 2024, I simply apply the 2023 ratio of initial-to-total applications (0.674) to the approximately 4.5 million total applications implied by the monthly data in Figure 5.[18] Figure 7 depicts annual data on total applications (including renewals and re-

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[17]Persons seeking asylum must wait 150 days after submitting their asylum applications before they can apply for permits, although refugees and parolees generally have no waiting period. Consequently, the number of work-permit applications in a given month reflects population increases in previous months. See https://www.uscis.gov/i-765 for details.

[18]Appendix Figure A.3 graphs the ratio of initial to total applications from 2003 to 2023. The 2023 ratio of 0.674 is high relative to recent years, but this ratio has been rising since 2019 as immigration has increased. If ongoing immigration continues to drive this ratio higher in fiscal 2024, using the 2023 ratio for the 2024 initial-applications estimate in Figure 7 would be conservative. It is possible that total applications in fiscal 2024 are being driven higher by *renewals* of surge-related initial applications made the previous year, a pattern that would call for a lower ratio than 0.674 to construct the 2024 initial-application estimate. However, most work permits for asylum applicants have a term of two years (recently extended to five years).

placements) as the blue line and initial applications through fiscal 2023 as the red line. The fiscal 2024 estimate of initial applications is just over 3 million ($\approx 0.674 \times 4.5$ million).

Finally, we need an estimate of the number of initial applications in fiscal 2024 that were closely related to the surge. In terms of the pie chart in Figure 6, we want to separate the dark red slice from the lighter red slice. Thus the third step in the alternative procedure is to assume that initial applications unrelated to the surge increase steadily over time, so they can be incorporated into an estimated trend. Figure 8 plots the series of initial applications along with a linear trend estimated on annual initial-application data from fiscal 2003 to fiscal 2019. The difference between this trend extrapolated to recent years and the (actual) number of initial applications in fiscal 2023 is 1.0 million. Gratifyingly, this estimate is the same as the one based on category-specific data in the previous subsection. The difference between the extrapolated trend and the number of (estimated) initial applications in fiscal 2024 is 1.8 million. On a monthly basis, these figures imply that the surge generated an extra 84,000 applications per month in fiscal 2023 and 151,000 additional monthly applications in fiscal 2024.

The key assumption underpinning the trend-based method is steady, linear growth for initial applications in the non-surge category—particularly the large number of status-adjustment applications submitted by green-card applicants.[19] A sharp change in status-adjustment applications in fiscal 2024 would violate that assumption. Although I was unable to find data on work-permit applications by detailed category for fiscal 2024, I did find quarterly data through the third quarter of fiscal 2024 for total applications disaggregated into four broad categories: asylum-seekers, status-adjusters, DACA, and all other applications. Figure 9 uses these data to generate a rough check on the trend-based estimate. The lines in the figure depict annual shares of total applications filed by asylum-seekers (blue line) and persons seeking status adjustments (red line). The blue and red dots correspond to shares of applications from asylum-seekers and status-adjusters through the first three quarters of fiscal 2024. As we would expect given the post-2021 surge, the share of total applications corresponding to status-adjusters fell after 2021 while the share corresponding to asylum-seekers rose. Most importantly for our purposes, the red and blue dots indicate that these patterns continued into the first three quarters of fiscal 2024, providing support for the linearity assumption that underlies the trend-based estimate.

Also, in some unreported analysis, I found no evidence that renewal applications for asylum applicants were contributing to rising backlogs of renewal approvals in fiscal 2024.

[19] I found no statistical support for a quadratic trend.

4 Comparisons with Other Estimates

The permit-based estimates are in general agreement with the large immigration effects estimated by the CBO as well as those from Edelberg and Watson (2024a), who calculate that immigration raised trend employment growth by 100,000 per month in both 2023 and 2024. The permit-based estimates of 84,000 extra entrants per month in fiscal 2023 and 151,000 extra workers in fiscal 2024 average out to something close to, but somewhat higher than, the Edelberg-Watson estimate. One reason for this difference could be that the permit-based estimates correspond to fiscal years rather than calendar years. Another is that the permit-based estimates are changes in inflows of migrant workers that do not account for potential changes in outflows. Yet the relative stability in the renewal and replacement applications in Figure 7 (indicated by the stable gap between initial and total applications) does not suggest any large increase in outflows that would significantly distort the permit-based estimate. A third reason for a difference between the two sets of estimates is the positive potential bias in the permit-based estimates noted earlier: Many foreign-born persons already in the country could have decided to apply for permits during the last two years. This positive bias might be larger than the negative bias that arises when recent immigrants work without permits. On the other hand, the permits-based estimates of labor force additions could be closer to the truth if labor force participation rates of current migrants are higher than those of previous migrants. As noted above, participation for current migrants could be relatively high because a larger share of current migrants are eligible to receive work permits.

The large differences between estimates from the Census Bureau and those based on DHS data, including work-permit applications, are difficult to explain. A recent working paper from the Census Bureau (Jensen, Gross, and Johnson 2024) suggests that the timing of immigration measures may explain a portion of this gap. The Census Bureau's population-change estimates for a given year correspond to the 12 months following July 1 of the previous year, while CBO estimates are calculated on fiscal- or calendar-year bases.[20] Additionally, the authors note that temporary quarters for immigrants such as New York City's emergency-shelter system are difficult to include in the regular surveys on which Census Bureau population counts are based, although the bureau is looking into ways to improve its coverage of such facilities. In mid-December 2024, the Census Bureau will announce its estimates for population changes from mid-2023 to mid-2024, along with any changes to the methodology it uses to produce these estimates.[21]

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[20]For example, the Census Bureau's Vintage 2023 estimates, released in December 2023, produced an estimate for the population change from July 1, 2022, to June 30, 2023. This set also included (potentially revised) estimates for earlier changes back to the most recent decennial census year (2020).

[21]A webinar will outline the methodological changes for the Vintage 2024 estimates. See https://www.census.gov/data/academy/webinars/2024/methodology-updates-for-the-vintage-2024-estimates.html for details.

5 Conclusion

A central question for economic policymakers over the past two years is how nonfarm payroll growth could be so strong even as unemployment was drifting higher. Using administrative data on work-permit applications, this paper provides evidence in support of claims that immigration has significantly raised trend growth in labor supply. By doing so, immigration has allowed rapid hiring by firms without reductions in the unemployment pool.

Rising immigration also helps resolve a second labor market puzzle: why employment growth as measured by nonfarm payrolls has been much greater than employment growth as measured by the CPS. Although the payroll survey and the CPS use different concepts of employment, over time the two surveys generally provide similar signals about the strength of the labor market. Since August 2023, however, nonfarm payrolls have risen by 2.6 million workers, while CPS employment has declined by 4,000. Population weights in the CPS are constructed using Census Bureau population estimates, and if they are too low, then population levels implied by the CPS will be too low as well. Edelberg and Watson (2024b) explain how underestimates of Census Bureau population levels can lead to underestimates of CPS employment growth, and they make some adjustments to the CPS data to account for this issue. They calculate that during 2023, the CPS underestimated true employment growth by about 1.5 million workers.

Given the large size of the recent immigration inflow, policymakers in 2025 are likely to continue to have questions about the subsequent impact of this flow on employment levels, wage growth, and other labor market variables. Answering these questions would benefit from knowing where the new migrants settle, but identifying these settlement patterns is much more difficult than estimating the overall size of the immigrant inflow.[22] Future research on how additional sources of administrative data can be used to learn more about immigration would therefore be useful.

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[22]Kolko (2024) reviews existing data on immigrant settlement patterns. In addition to the ACS, he mentions data from the Transactional Records Access Clearinghouse (TRAC), which publishes monthly county-level data from the US Department of Justice on new filings for immigration court proceedings. See https://trac.syr.edu for details.

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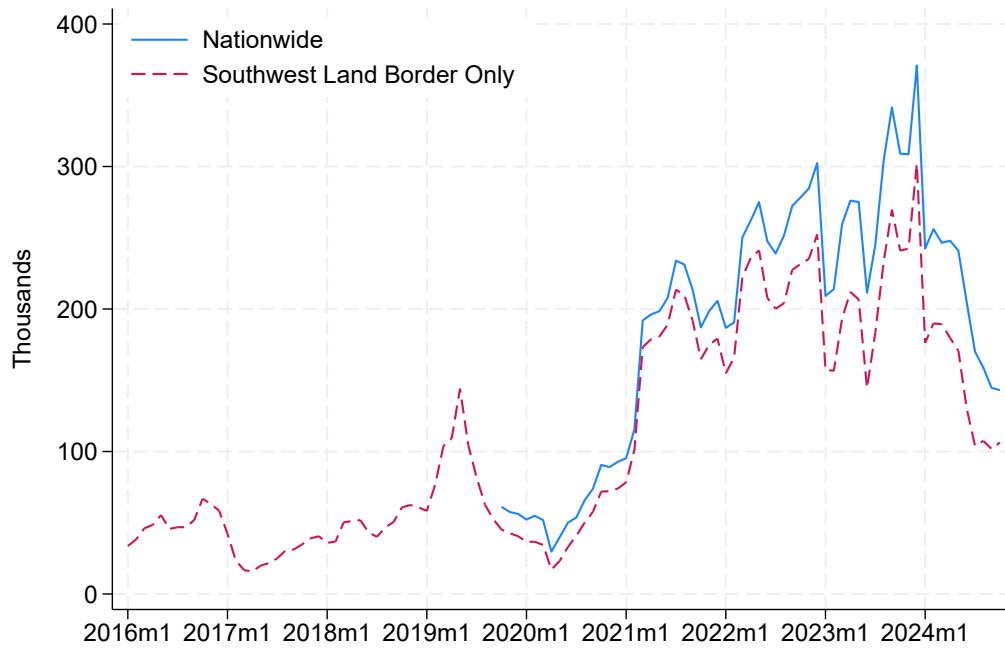
Figure 1. US Border Encounters: Apprehensions, Inadmissibles, and Explusions. *Note:* Encounters include US Border Patrol Title 8 apprehensions, Office of Field Operations Title 8 inadmissibles, and Title 42 explusions, which began on March 21, 2020, and ended on May 11, 2023. *Source:* US Customs and Border Protection via Haver Analytics.

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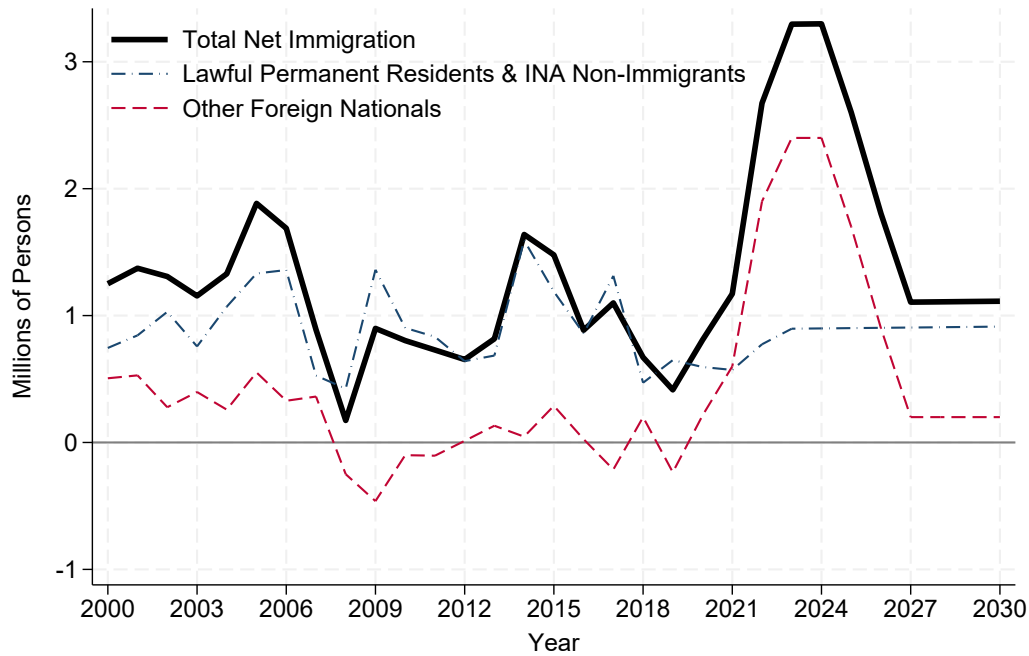
Figure 2. Estimates and Near-Term Projections of Net Immigration and Components from the CBO's 2024–2054 Demographic Outlook. *Note:* The CBO's estimates and projections were released January 18, 2024. The solid black line represents the CBO's estimate of total net immigration into the United States. The dashed blue line combines two components of immigration that the CBO analyzed: "LPR+" and "INA Non-Immigrants." The LPR+ category includes persons who arrive as lawful permanent residents (LPRs), who are granted that status while in the United States, and people who are eligible to apply to become LPRs on the basis of their current immigration status. Persons often become eligible for permanent status due to an immediate family relationship with a US citizen or through employment-based preferences. The INA Non-Immigrant category is made up of temporary workers, foreign students, officials of foreign governments, and others admitted as non-immigrants under the Immigration and Nationality Act (INA). The Other Foreign Nationals (OFN) category includes nationals of other countries who are not in the LPR+ or INA non-immigrant categories. Persons in the OFN category include those who entered the United States illegally and people who entered legally in a temporary status, but then remained after that status expired. Also included in this category are persons who were permitted to enter the United States despite not being admissible as an LPR, asylee, refugee, or non-immigrant. Such entries often occur through the use of parole authority. Many persons in the OFN category are awaiting formal adjudication of claims to asylum or other petitions by immigration courts. *Source:* Congressional Budget Office (2024a), particularly Figures 6 and 7 (for data) and Appendix C (for category descriptions).
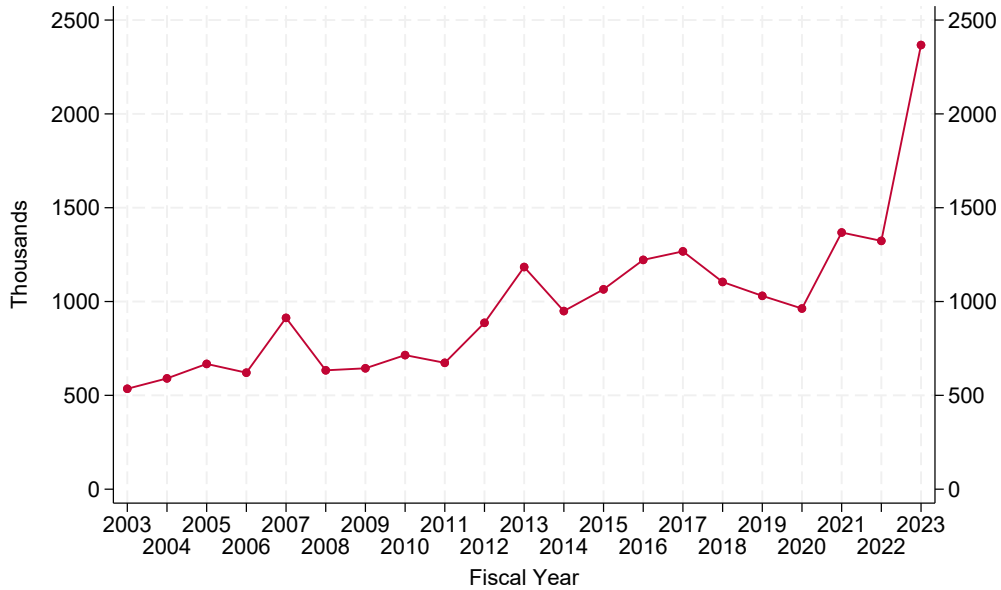
Figure 3. INITIAL APPLICATIONS FOR WORK PERMITS: FISCAL YEAR 2003 TO FISCAL YEAR 2023. *Note:* Data include all initial submissions of work-permit applications, which are made using Form I-765, "Application for Employment Authorization," issued by US Citizenship and Immigration Services (USCIS). The US government's fiscal year begins on October 1. *Source:* US Citizenship and Immigration Services.

Row	Category Description	Category Code	Initial FY 2023 Applications
Categories Related to CBO's Other-Foreign-National (OFN) Group			
1	Applicant For Asylum/Pending Asylum Application	C08	802,753
2	Parolee Sec. 212.5/Public Interest	C11	392,398
3	Alien Granted Deferred Action	C14	84,790
4	Prima Facie Eligibility For Temporary Protected Status	C19	53,132
5	Granted Temporary Protected Status	A12	43,952
Other Categories Related to Asylum and Refugee Status			
6	Admitted As a Refugee Sec. 207	A03	61,146
7	Granted Asylum Sec. 208	A05	47,226
8	Paroled as a Refugee	A04	8,015
	Total		1,493,412

Table 1. INITIAL WORK-PERMIT APPLICATIONS IN FY 2023 FOR SELECTED CATEGORIES. *Note:* Row 3 of the table "Alien Granted Deferred Action," does not include applications made as part of the DACA program. DACA applications are made under a separate category that is not included among the categories in the table. *Source:* US Citizenship and Immigration Services.
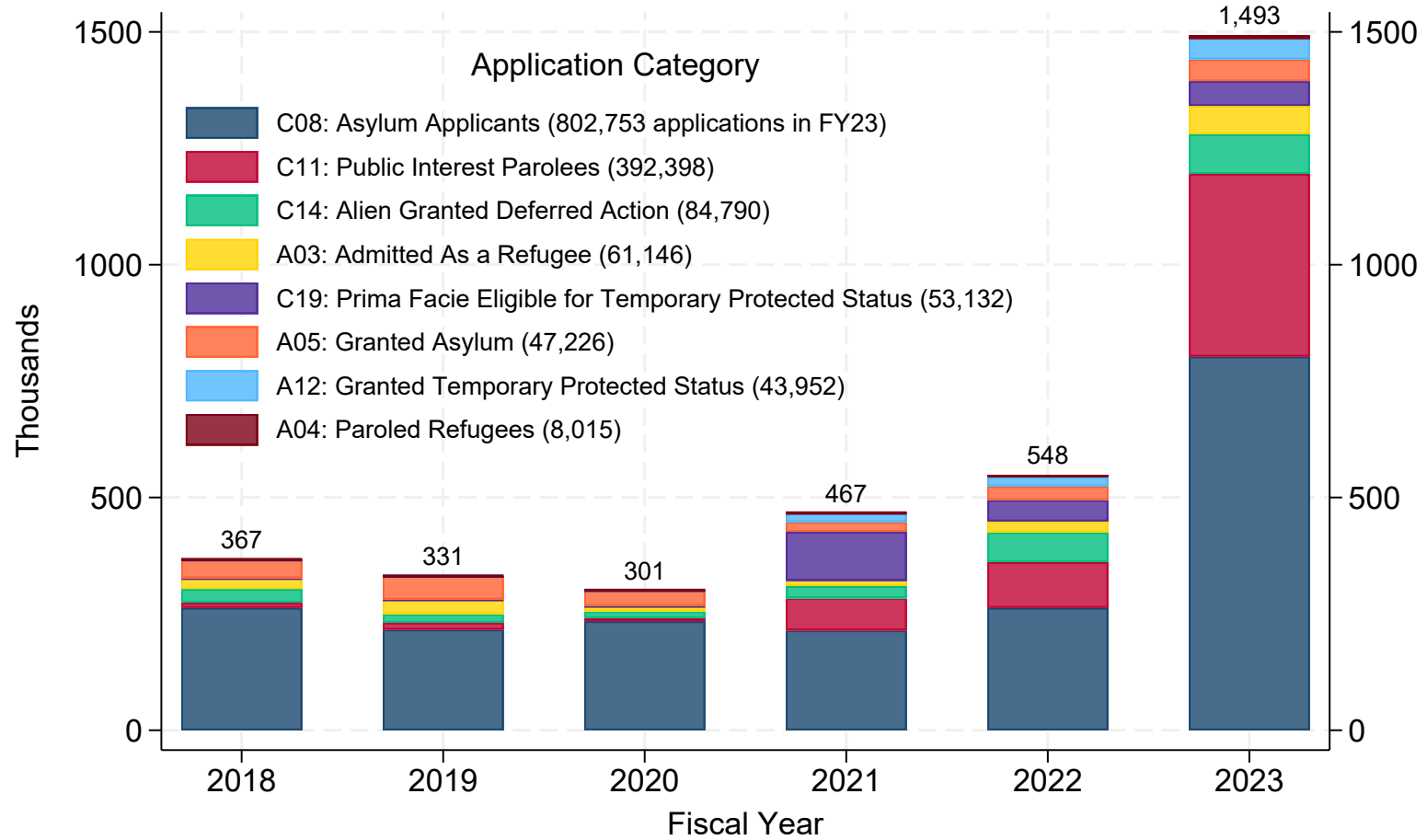
Figure 4. Initial Work-Permit Applications for Selected Categories: Fiscal Year 2018 to Fiscal Year 2023. *Note:* Categories are listed in Table 1. *Source:* US Citizenship and Immigration Services.
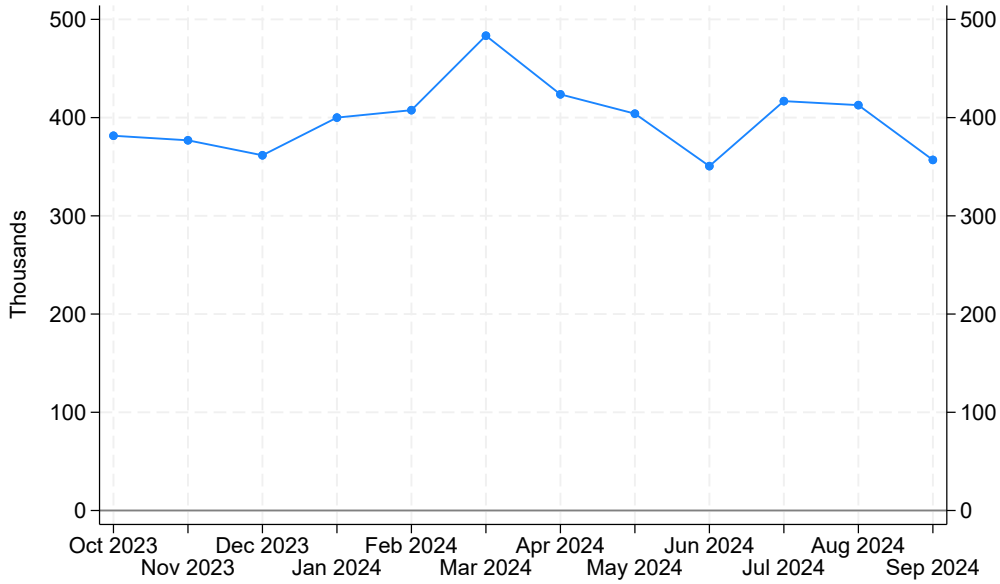
Figure 5. TOTAL APPLICATIONS FOR WORK PERMITS, BY MONTH: FISCAL YEAR 2024. *Note:* Data include all applications for work permits, including all initial applications as well as renewals and replacement applications. *Source:* US Citizenship and Immigration Services.
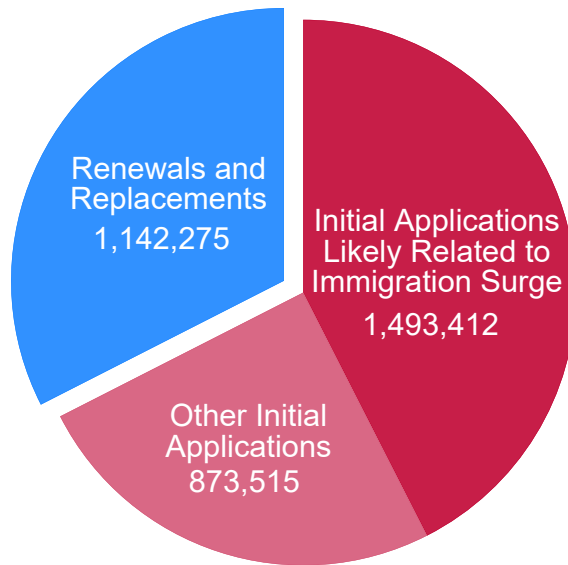

Figure 6. TOTAL APPLICATIONS FOR WORK PERMITS BY BROAD CATEGORY AND PURPOSE: FISCAL YEAR 2023. *Note:* Categories that are likely related to the immigration surge are listed in Table 1. The "Renewals and Replacements" category also includes a very small number of applications that USCIS lists in a "Not Requested" category. *Source:* Author's calculations using data from US Citizenship and Immigration Services.
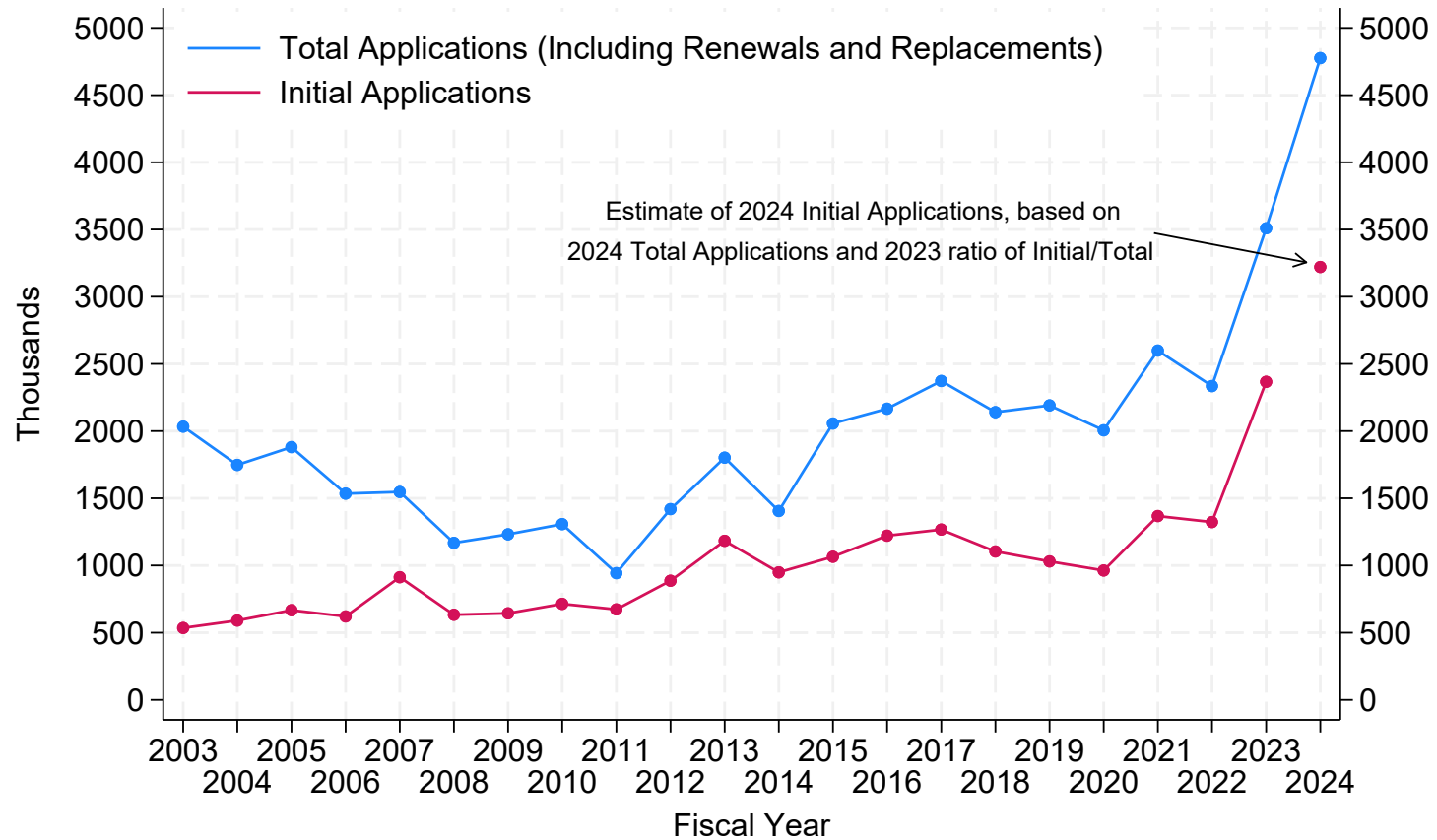
Figure 7. INITIAL AND TOTAL APPLICATIONS FOR WORK PERMITS, INCLUDING ESTIMATE FOR INITIAL APPLICATIONS IN FISCAL 2024. *Note:* The red line shows the number of initial work-permit applications received by US Citizens and Applications Services (also graphed in Figure 3). The blue line shows the number of total applications received, and the red dot is the estimate of initial applications received in FY2024 based on the 2023 ratio of initial to total applications (67.4%). *Source:* Author's calculations using data from US Citizenship and Immigration Services.
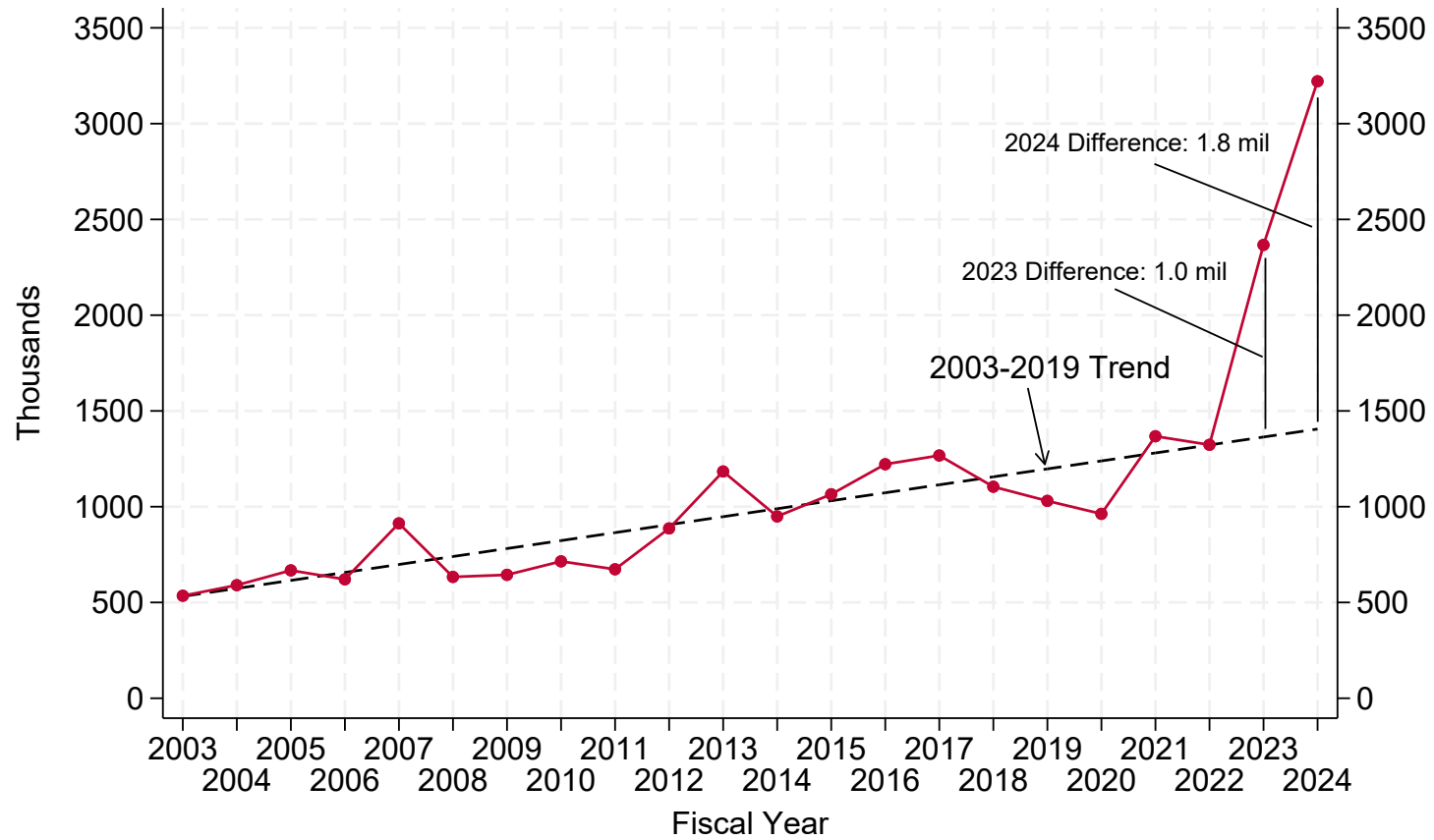
Figure 8. INITIAL WORK-PERMIT APPLICATIONS (INCLUDING 2024 ESTIMATE) AND 2003–2019 TREND. *Note:* The 2024 value of initial work-permit applications is an estimate described in Section 3.2 and the notes to Figure 7. The dashed line is a trend estimated with a linear regression, using data from 2003 to 2019. The estimated constant term in the regression is 490.5 (standard error = 67.3) and the estimated trend term is 41.6 (s.e.= 6.6). *Source:* Author's calculations using data from US Citizenship and Immigration Services.
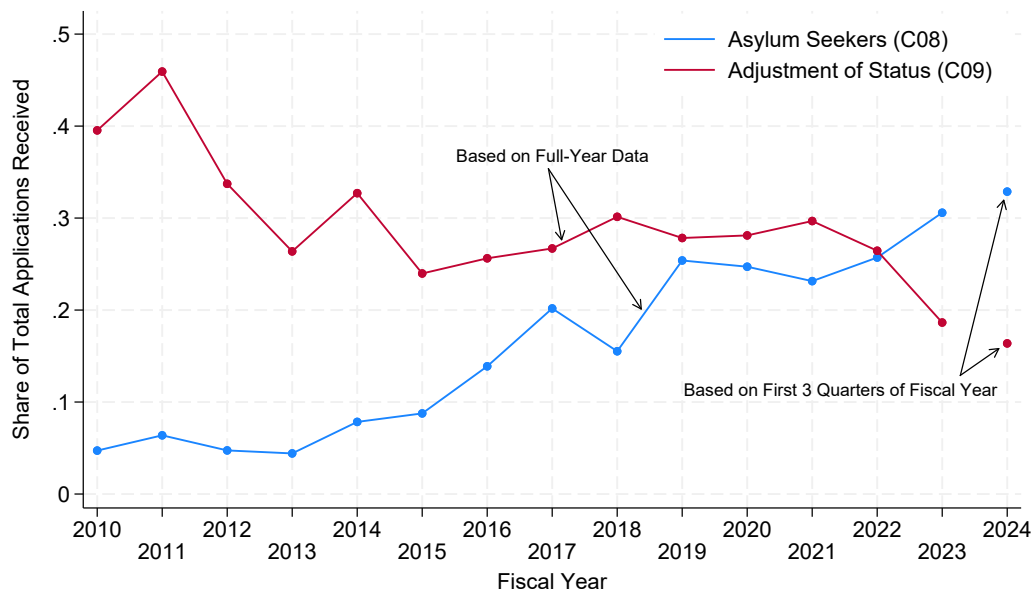
Figure 9. Shares of Total Applications Accounted for by Two Application Categories. *Source:* Author's calculations using data from US Citizenship and Immigration Services.

A Appendix

A.1 Persons Paroled or Given Notices to Appear at or Between Ports of Entry: FY 2023 and FY 2024

Appendix Table A.1 lists the numbers of migrants who received notices to appear (NTAs) before immigration judges or who were paroled into the United States by officials from Customs and Border Protection (CBP) in fiscal years 2023 and 2024. Panel A corresponds to persons crossing the border at ports of entry, who are processed by officials in CBP's Office of Field Operations (OFO). The data in this panel are complied by the Transactional Records Access Clearinghouse (TRAC) at Syracuse University and are available at https://trac.syr.edu/reports/750/. Panel B corresponds to persons crossing the US-Mexico border between ports of entry, who are processed by officials from CBP's Border Patrol. These data are regularly posted on CBP's Custody and Transfer Statistics website in a table titled "USBP Monthly Southwest Border Encounters by Processing Disposition." For FY 2024 data, see https://www.cbp.gov/newsroom/stats/custody-and-transfer-statistics-fy2024.

A.2 Yearly Data on Eight Application Categories

Appendix Figures A.1 and A.2 plot yearly data on the eight categories closely related to CBO's other-foreign-nationals (OFN) immigration category or otherwise related to asylum or refugee status. The number of FY 2023 applications for these categories also appears in Table 1.

A.3 Historical Data on Ratio of Initial Applications to Total Applications

Appendix Figure A.3 plots the ratio of initial applications for work permits to total applications. The FY 2023 value of 0.674 is used to construct an estimate for initial work-permit applications in FY 2024, which is plotted in Figures 7 and 8.

Panel A: At Ports of Entry
(Office of Field Operations)

	FY 2023	FY 2024
Notice To Appear (NTA)	370,910	550,412
Paroled	381,541	431,786
Total	752,451	982,198

Panel B: Between Ports of Entry
(Border Patrol)

	FY 2023	FY 2024
NTA: Own recognizance	604,834	861,233
NTA: Detained	223,147	115,196
Paroled	303,954	15
Total	1,131,935	976,444
Grand Total:	1,884,386	1,958,642

Table A.1. Persons Given Notices to Appear or Paroled At or Between Ports of Entry: FY 2023 and 2024. *Notes:* The NTA category in the first row of Panel B reports the number of persons given notices to appear before an immigration judge and released on their own recognizance. The second row of Panel B includes persons who were detained by Immigration and Customs Enforcement, often temporarily, and given notices to appear. Data in Panel B correspond to persons crossing the US-Mexico border only. *Source:* Author's calculations using data from US Customs and Border Protection and the Transactional Records Access Clearinghouse (TRAC) at Syracuse University.
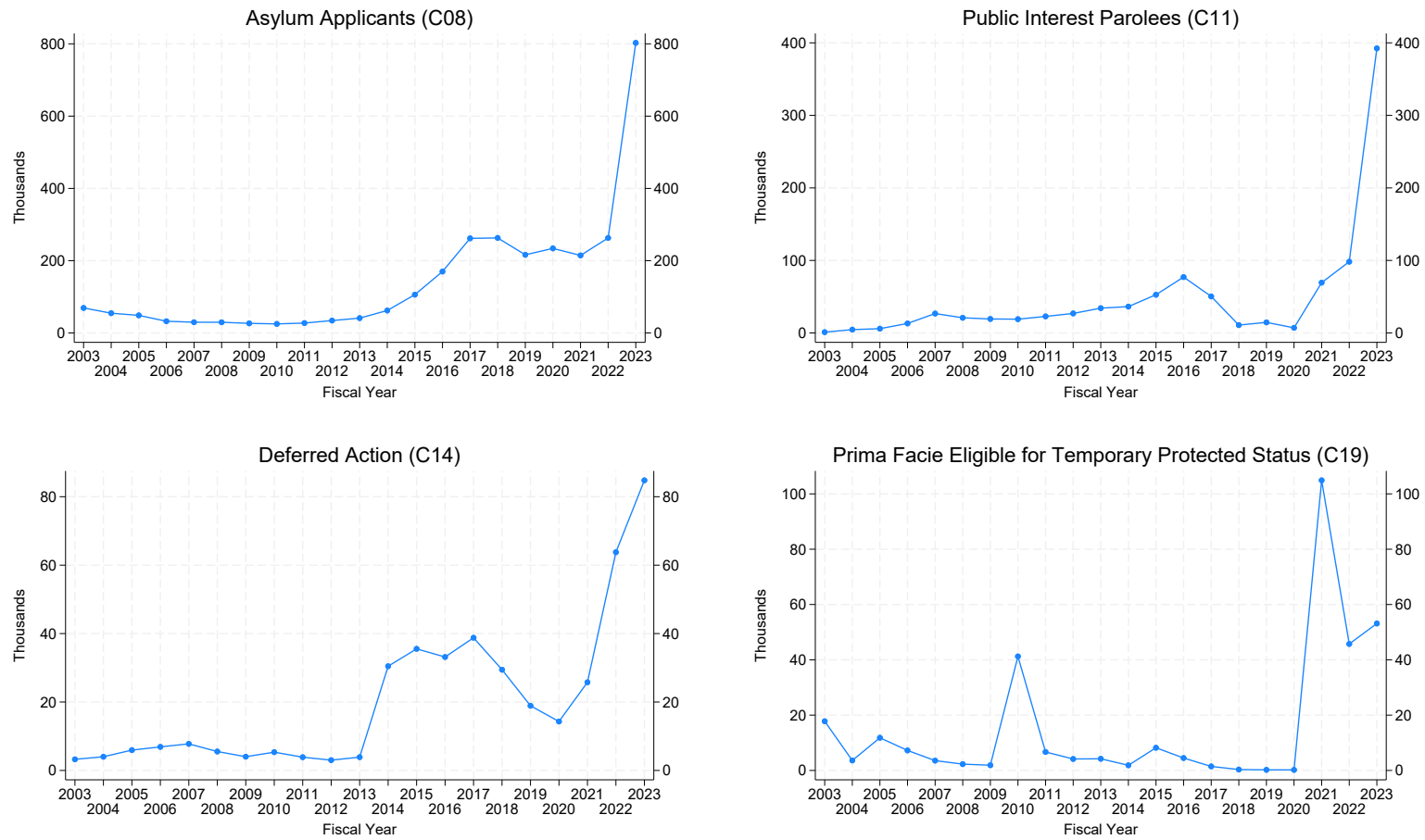
Figure A.1. INITIAL WORK-PERMIT APPLICATIONS FOR CATEGORIES IN FIRST FOUR ROWS OF TABLE 1. *Note:* Vertical scales are different across panels. Note that the series for Deferred Action (lower left panel) does not include Deferred Action for Childhood Arrivals (DACA), which has its own application category (C33). *Source:* US Citizenship and Immigration Services.
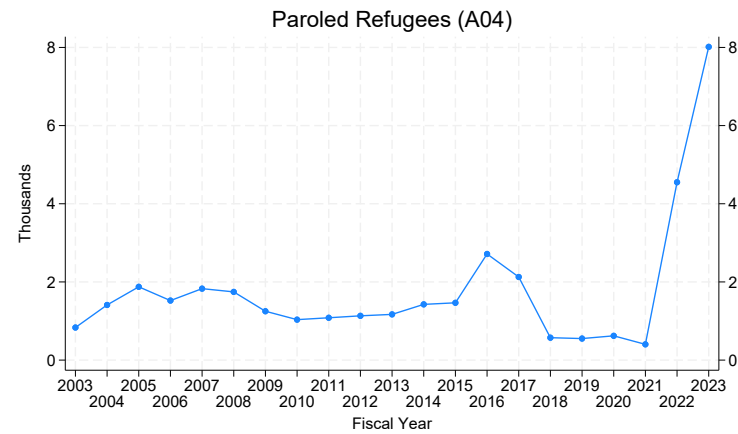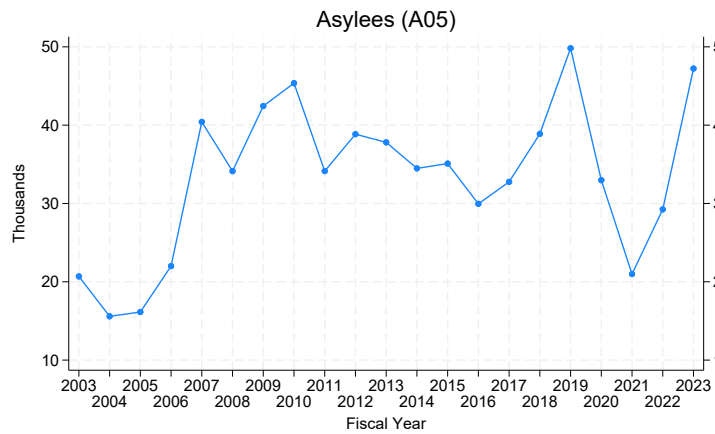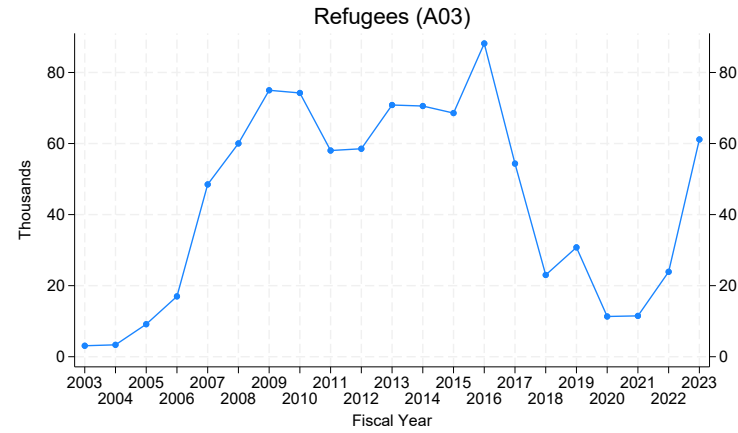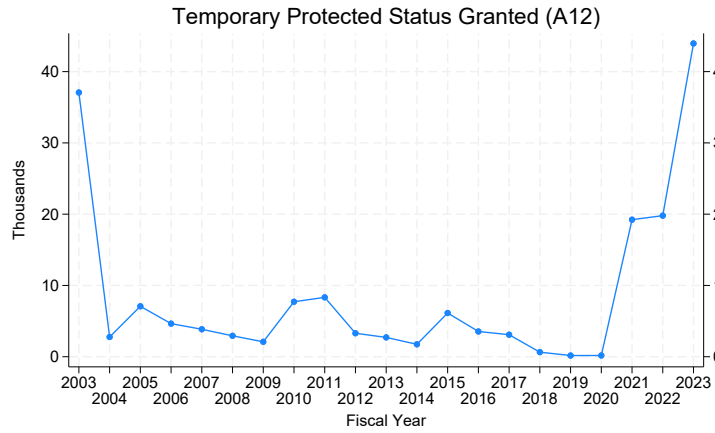
Figure A.2. INITIAL WORK-PERMIT APPLICATIONS FOR CATEGORIES IN LAST FOUR ROWS OF TABLE 1. *Note:* Vertical scales are different across panels. *Source:* US Citizenship and Immigration Services.
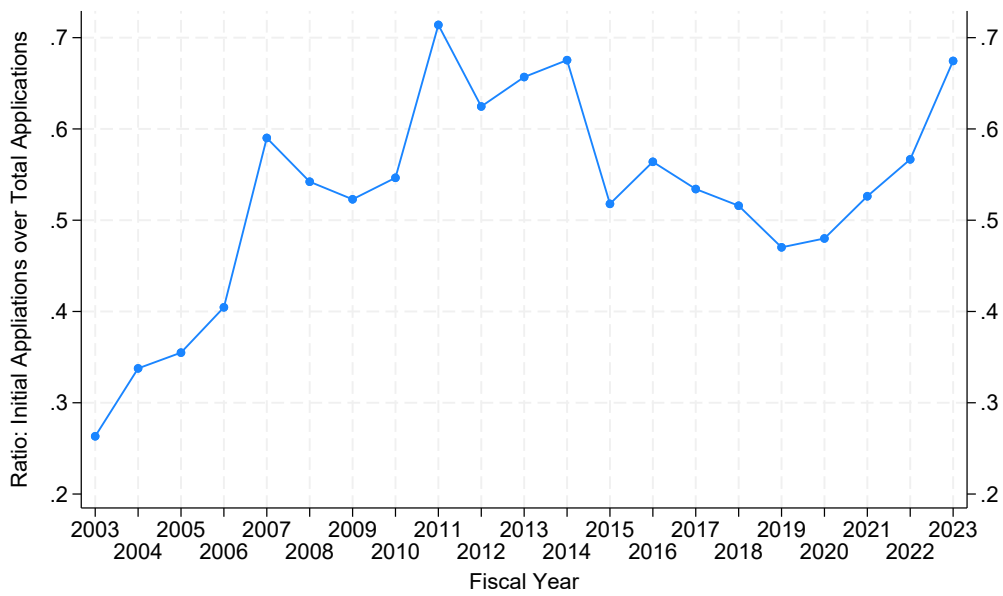
Figure A.3. RATIO OF INITIAL WORK PERMIT APPLICATIONS TO TOTAL WORK PERMITS APPLICATIONS. *Source:* Author's calculations using data from US Citizenship and Immigration Services.