

Discussion Paper Series

IZA DP No. 18462

March 2026

Work Authorization Delays and Economic Integration of Asylum Seekers in the United States

Catalina Amuedo-Dorantes

University of California, Merced
and IZA@LISER

José R. Bucheli

University of Texas at El Paso

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Work Authorization Delays and Economic Integration of Asylum Seekers in the United States*

Abstract

Access to the labor market is crucial for the economic integration of asylum seekers. This study estimates the causal impact of work authorization timing on the labor market outcomes of likely asylum seekers. We link USCIS administrative records with American Community Survey microdata and use congestion-driven variation in processing times within an instrumental variable framework. Faster authorization boosts labor force participation, employment, and earnings, while effects on hours worked and occupational choices are modest. The impacts are concentrated within the first decade after arrival and diminish over time, indicating that processing delays slow integration but do not permanently hinder it.

JEL classification

J15, J61, J68, K37

Keywords

asylum seekers, work authorization, labor market integration, United States

Corresponding author

Catalina Amuedo-Dorantes

camuedo-dorantes@ucmerced.edu

* *Acknowledgements:* We are grateful to Alfonso Flores-Lagunes, Tara Watson, Jennifer Glick, and other presenters and participants at the 2026 ASSA, 2025 APPAM, 2025 All-California Labor Economics, and 2025 PAA conferences for their insightful comments and suggestions.

I. Introduction

Over the past decade, the United States has experienced a substantial increase in the number of arriving asylum seekers, raising important questions about their economic integration. Timely access to legal employment is a key determinant of early integration, as it promotes self-sufficiency, reduces dependence on informal or precarious work, and enables asylum seekers to contribute productively to local labor markets. However, access to authorized employment is not guaranteed. Administrative delays in processing employment authorization can hinder entry into formal employment during the critical initial settlement period, potentially resulting in lasting consequences for labor market trajectories.

Although asylum applications in the United States do not confer automatic work authorization, regulations allow applicants to seek employment authorization through an Employment Authorization Document (EAD) after a mandatory waiting period. Applicants must wait 150 days after filing for asylum to submit an EAD application, and U.S. Citizenship and Immigration Services (USCIS) may not grant authorization until at least 180 days have elapsed. In practice, processing times frequently exceed these statutory minimums due to administrative backlogs and capacity constraints. During this interim period, asylum seekers who engage in work without authorization risk violating immigration law and compromising their future legal status. Therefore, regulatory and administrative delays render legal employment inaccessible for many during the early stages of the asylum process. Given that asylum adjudication commonly spans several years, EADs serve as the principal mechanism by which asylum seekers obtain lawful employment access during a prolonged period of legal uncertainty.

Despite growing policy attention, there is limited evidence on the impact of work authorization on asylum seekers' labor market integration in the United States during the early and intermediate stages of settlement. Most existing U.S. studies are descriptive, focusing on barriers

such as legal uncertainty, ineligibility for public benefits, and delayed access to employment (Fix et al., 2017). However, causal evidence on how timely access to legal employment affects labor force participation, employment, and earnings among asylum seekers remains scarce, even though authorized work is central to their economic self-sufficiency.

Related research on refugees—who already arrive with protection and the legal right to work—provides important context for understanding early labor integration. A substantial body of work documents lower employment rates, earnings penalties, and occupational downgrading among refugees (Capps et al., 2015; Connor, 2010; Cortes, 2004; Evans & Fitzgerald, 2017). These disadvantages are particularly pronounced for women, who experience persistent occupational gaps even after controlling for education (Akresh, 2008). Causal studies have examined the role of early support programs. For example, LoPalo (2019) shows that timely access to means-tested welfare programs, such as Temporary Assistance for Needy Families (TANF), significantly increases refugee wages. While refugees and asylees share important similarities, asylum seekers often face distinct constraints stemming from delayed work authorization and more limited access to public assistance. Understanding how legal access to employment shapes their integration trajectory in the United States is therefore of paramount importance.

Outside the United States, quasi-experimental evidence increasingly highlights the importance of timely work authorization. In Switzerland, Hainmueller *et al.* (2016) exploit quasi-random assignment of asylum cases to adjudicators and show that longer processing times reduce subsequent employment probabilities. Similarly, Marbach *et al.* (2018) find that delayed access to legal work in Germany significantly lowers long-run employment and earnings among refugees. Evidence from low- and middle-income settings also indicates substantial gains. Peitz *et al.* (2023) report that granting work permits to Syrian refugees in Jordan increased household income,

improved food security, and reduced child labor. In contrast, comparable causal evidence for asylum seekers in the U.S. context remains limited.

This study addresses the existing evidence gap by examining how variation in access to work authorization affects early labor-market outcomes for asylum seekers in the United States. To address the lack of linked data on legal work authorization and labor market outcomes, USCIS administrative records on Employment Authorization Document (EAD) applications are merged with individual-level data from the American Community Survey (ACS). This linkage enables the construction of cell-level measures of EAD approval rates and average processing times, with cells defined by country of origin, gender, PUMA of residence, and year of arrival. Because the ACS does not report the year of EAD application, we use the year of arrival as a proxy for application timing. This is a reasonable approximation, as asylum seekers typically file for asylum shortly after entry and become eligible to apply for work authorization 150 days later. These cell-level indicators of EAD processing conditions approximate individuals' exposure to processing delays and are merged with ACS microdata for foreign-born individuals with matching characteristics. The analysis then focuses on various labor outcomes, including labor force participation, employment, annual earnings, usual hours worked, and occupational characteristics.

Because processing times may respond to local economic conditions, we address potential endogeneity in the average time to EAD approval using a two-stage least squares (2SLS) design. We instrument processing times with the national volume of non-asylum EAD applications filed by individuals from other countries of origin. Higher volumes of these unrelated filings increase congestion at centralized USCIS service centers, lengthening queues and raising processing times. Since these filings are driven by separate populations and national trends rather than local labor

demand or asylum seekers' own filing behavior, this approach isolates plausibly exogenous variation in timely access to legal employment.

Our findings indicate that shorter EAD processing times result in statistically significant and economically meaningful increases in labor force participation, employment, and annual earnings among likely asylum seekers. These gains occur primarily along the extensive margin, indicating that work authorization facilitates entry into formal employment rather than altering work intensity. Effects on hours worked are modest. Some shifts in occupational allocation are observed, such as reductions in mid-skill employment and modest increases in low-desirability jobs in certain specifications, but there is limited evidence of broad-based occupational upgrading in the short term.

The magnitude of these effects varies across groups. Gender-disaggregated estimates reveal sizable penalties from delays for both women and men, with consistently larger employment and earnings losses for men. Women also experience meaningful reductions in employment and hours worked. Heterogeneity by region of origin shows that effects are strongest and most consistently estimated for asylum seekers from the Asia–Pacific region. For applicants from Europe, Africa, and the Middle East and North Africa, estimates are more mixed and less precise, whereas for applicants from the Americas, effects are generally small and statistically indistinguishable from zero. Regional heterogeneity within the United States is present but uneven, with stronger effects observed in major asylum-destination areas.

To further understand how these effects evolve over time, we estimate the model separately by years since arrival. The results indicate that the adverse labor market effects are concentrated within the first decade after entry and attenuate thereafter. Employment and earnings losses are economically meaningful during the early and intermediate stages of settlement but become

statistically indistinguishable from zero for migrants with longer residence in the United States. This pattern suggests that delays slow labor market integration rather than permanently impede it.

We conduct several additional robustness exercises to assess the validity of our identification strategy. Balance tests indicate that the instrument is not systematically correlated with observable demographic or local economic characteristics. Placebo tests using naturalized immigrants—a group not subject to EAD regulations—yield no systematic labor market effects, reinforcing the interpretation that the estimates operate through access to legal employment rather than broader local shocks. Reduced-form estimates show that increases in national non-asylum EAD filings are directly associated with weaker labor market attachment among likely asylum seekers, with signs and magnitudes aligned with the 2SLS findings and consistent with a congestion-based mechanism. In addition, excluding years exhibiting sharp deviations from the overall trend—such as the temporary decline in 2018 and the pandemic-related disruption in 2020—leaves the core estimates largely unchanged, indicating that isolated shocks do not drive the results. Finally, restricting the sample to high-asylum-intensity cells yields qualitatively similar patterns, mitigating concerns about measurement error arising from the absence of direct asylum identifiers in the ACS.

By examining how administrative variation in work authorization affects employment trajectories over the course of settlement, this paper makes three main contributions. First, it provides causal evidence on the labor-market effects of legal access to work for asylum seekers in the United States—an important yet understudied population in the empirical immigration literature. Second, it introduces a novel linkage between USCIS administrative records and ACS microdata, enabling the analysis of asylum seekers as a distinct group despite the absence of direct identifiers in survey data. Third, by exploiting congestion-driven variation in EAD processing

times, the paper isolates the role of administrative capacity constraints—rather than statutory eligibility changes—in shaping access to legal employment and early economic integration.

Overall, the findings highlight the importance of timely access to work authorization in promoting labor market integration during the early and intermediate stages of settlement among asylum seekers in the United States. Delays in EAD processing reduce employment and earnings during the early and intermediate stages of settlement. While work authorization alone cannot eliminate structural disparities across groups, reducing administrative backlogs and expediting access to legal employment constitute concrete, economically significant strategies to promote self-sufficiency and improve integration outcomes among asylum seekers.

II. The Asylum Process, Work Authorization, and Economic Integration

A) The U.S. Asylum System and the Application Process

Asylum seekers are individuals who flee their home countries due to persecution and request protection after entering a host country. In the United States, the *Immigration and Nationality Act* (INA) defines eligibility based on a “well-founded fear” of persecution due to race, religion, nationality, political opinion, or membership in a particular social group (8 U.S.C. § 1158). Unlike refugees, who are vetted and admitted from abroad with status through the resettlement program, asylum seekers arrive in varied ways (on temporary visas, on parole, or without inspection), which shapes how they access protection and basic supports.

There are *three* pathways to seek protection in the United States: affirmative, defensive, and expedited. The *affirmative* process applies to individuals not in removal proceedings who file Form I-589 with USCIS. After a non-adversarial interview, USCIS may grant asylum, issue a procedural denial (*e.g.*, under the one-year filing rule), or refer the case to immigration court if the applicant lacks lawful status; applicants with valid status generally retain it if denied.

The *defensive* process applies to individuals already in removal proceedings, typically following a border apprehension, an alleged immigration violation, or a referral from the affirmative asylum system. Applicants must present their claims in an adversarial hearing before an immigration judge. Although interpreters are provided, the government does not supply counsel. Decisions may be appealed to the Board of Immigration Appeals, and in recent years, Attorneys General have increasingly exercised their authority to certify cases for precedential review.

The *expedited* track applies to certain recent entrants who are subject to expedited removal. As of January 21, 2025, its use was expanded nationwide to the full extent permitted by statute, covering individuals unable to demonstrate at least two years of continuous U.S. presence. Within this framework, a noncitizen must affirmatively express a fear of return to trigger a credible-fear interview with a USCIS asylum officer. If the officer finds a credible fear of persecution or torture, the case is referred to immigration court for full removal proceedings. If the officer issues a negative determination, the individual may request review by an immigration judge. Detention is common during the credible-fear screening process and frequently continues while removal proceedings are pending.

Figure 1 illustrates the sharp rise in asylum applications filed over the past decade, driven primarily by post-pandemic growth in affirmative and defensive cases. While applications remained relatively stable from 2015 through 2021, averaging 100,000 to 150,000 cases per fiscal year, they began to rise sharply in 2021. This surge reflects both an increase in border encounters and broader shifts in immigration enforcement policy that routed more cases into removal proceedings.

The sustained growth in asylum applications placed a significant strain on the U.S. asylum system. In early 2018, more than 311,000 affirmative asylum cases were pending. By the end of fiscal year 2022, the backlog had doubled to over 625,000 cases, and by 2023, it had surpassed one million (U.S. Department of Homeland Security Office of Inspector General, 2024). These mounting backlogs have delayed case adjudication, prolonged uncertainty for applicants, and increased pressure on an already overstretched system. These delays can have significant consequences, especially considering that asylum adjudications often take years, as discussed in the following section.

B) Legal Framework and Access to Work Authorization

Asylum seekers in the U.S. are not granted immediate work authorization. Instead, they must apply for and obtain an Employment Authorization Document (EAD) to work legally while their case is pending. Under current regulations, applicants must wait 150 days after filing Form I-589 (Application for Asylum and Withholding of Removal) to become eligible to apply for an EAD. USCIS cannot issue the EAD until 180 days have elapsed since the asylum application was submitted. If asylum is ultimately granted, work authorization is conferred automatically. However, if the claim is denied and not appealed, the individual's work authorization terminates within 30 days.

Although designed as a temporary form of relief, Employment Authorization Documents (EADs) are central to the economic survival of asylum seekers, particularly given that asylum adjudications often take years to resolve. Figure 2 illustrates the sharp increase in EAD filings, which rose nearly tenfold between 2012 and 2017 before stabilizing at historically elevated levels. This sustained surge signals a substantial rise in demand for lawful access to the labor market. As filing volumes expanded, service centers faced mounting caseloads, increasing the likelihood of

backlogs and longer adjudication times. The scale and timing of this expansion underscore the role of administrative congestion in constraining timely access to legal employment.

C) The Economic Importance of Work Authorization

A growing body of research shows that when legal pathways to employment are restricted, asylum seekers and refugees are often pushed into informal labor markets, where they face heightened risks of wage theft, exploitation, and unsafe working conditions (Fasani et al., 2021; Marbach et al., 2018). These effects are not limited to the short term. Early exclusion from the formal labor market can result in long-lasting economic scarring, reducing future earnings potential, weakening employment stability, and hindering access to jobs with legal protections. Such consequences are especially concerning given that the early years after displacement are often critical for economic and social integration.

Much of the existing evidence comes from European countries, where labor-market restrictions on asylum seekers have varied over time and across countries, allowing researchers to estimate their long-term effects. For example, Fasani et al. (2021) show that delayed access to legal work substantially reduces employment probabilities even years after status is granted. Similarly, Marbach *et al.* (2018) and Lay (2024) find that early labor market exclusion during the asylum process results in persistent earnings and occupational disadvantages. Peitz *et al.* (2023) examine a large-scale work-permit program for Syrian refugees in Jordan and find modest but significant employment gains when legal work becomes accessible. Åslund *et al.* (2024) use linked Swedish registry data to show that longer asylum waiting times significantly reduce employment and earnings in the years following recognition, highlighting the costs of administrative delays. Foged *et al.* (2024) compare multiple policies for refugee labor market integration in Denmark, showing that active measures, such as language training and job placement, outperform restrictive welfare

approaches. These findings are consistent with economic theories of job ladder dynamics, which suggest that early instability can trap workers in lower-quality jobs or limit future mobility. They also speak to broader concerns about segmentation and the prevalence of inequality through institutional exclusion.

While this international evidence is growing, the U.S. context presents a markedly different institutional landscape. Asylum seekers in the United States are ineligible for most federal public assistance programs while their cases are pending, restricting access to formal safety nets (Capps et al., 2015; Fix et al., 2017).¹ They must also wait at least 150 days after applying for asylum before requesting an Employment Authorization Document (U.S. Citizenship and Immigration Services, 2025), with processing delays often extending this period due to administrative backlogs.

In this setting, legal work authorization becomes a critical determinant of self-sufficiency, legal protection, and household stability. Without it, asylum seekers often resort to informal jobs or exploitative work arrangements, facing heightened risks of wage theft and unsafe conditions (Fasani et al., 2021; Fix et al., 2017). Despite these challenges, causal evidence on how EAD access shapes asylum seekers' labor market outcomes in the United States is virtually nonexistent. Existing U.S. studies have largely focused on refugees (Cortes, 2004; Evans & Fitzgerald, 2017) or broader immigrant groups, without isolating the effects of work authorization for asylum seekers (LoPalo, 2019).

¹ For example, asylum seekers awaiting a decision generally are not eligible for Medicaid or CHIP. Some individuals may qualify for Marketplace plans if they have work authorization and can access limited public health services (*e.g.*, immunizations, treatment for communicable diseases). As with SNAP and most federal benefits, comprehensive public coverage typically begins only after asylum is granted. States partly fill the gap, with wide variation. KFF reports that 22 states extend CHIP to pregnant people regardless of status; as of June 2024, 12 states plus D.C. cover children regardless of status (CA, CT, IL, ME, MA, NJ, NY, OR, RI, UT, VT, WA); and 10 states offer 12-month postpartum coverage regardless of status (CA, CT, IL, ME, MA, NJ, NY, OR, RI, WA).

This paper extends the international literature by filling a critical evidence gap in the United States. By leveraging plausibly exogenous variation in processing delays, the study estimates the effects of work authorization on key employment outcomes for asylum seekers. This approach provides new insights into how institutional constraints on legal work contribute to labor market segmentation and influence long-term integration trajectories.

III. Data and Descriptive Evidence

To conduct our analysis, we rely on two primary data sources. First, we use individual-level administrative records from U.S. Citizenship and Immigration Services (USCIS) covering all applications for Employment Authorization Documents (EADs submitted between 2012 and 2021, regardless of applicants' immigration status. For asylum seekers, these records include their year of arrival, U.S. place of residence, country of origin, gender, and the dates of EAD application and approval. Using this information, we construct cell-level measures of EAD approval rates and average days to approval by year of arrival, gender, country of origin, and Public Use Microdata Area (PUMA).

As shown in Figure 3, asylum seekers' EAD applications throughout the study period are concentrated in major metropolitan PUMAs. A few clusters appear in the Bay Area and across Southern California, around cities such as San Francisco and Los Angeles. Elevated concentrations are also evident in PUMAs in the Houston metropolitan area and across southern Florida. In the Northeast, EAD submissions are concentrated in the Washington, D.C.–New York–Boston corridor, reflecting the high levels of resettlement of asylum seekers in these areas. Additional PUMAs with high application volumes are observed in other large urban centers nationwide.

Turning to adjudication measures, Figures 4 and 5 illustrate geographic and temporal variation in EAD approval rates and processing times. Approval rates are high on average but

exhibit meaningful cross-PUMA dispersion, with some areas reporting approval rates below 50 percent and others approaching universal approval. Despite this variation, approval rates exceed 85 percent in most cells. Because most applicants ultimately receive work authorization, differences in approval probabilities are unlikely to be the main constraint on labor market entry. The binding margin in this setting is the timing of approval, not whether authorization is granted. Processing times, however, vary substantially across locations and over time. This heterogeneity in adjudication speed provides the identifying variation used in the empirical analysis.

Beyond measuring asylum seekers' EAD processing outcomes, USCIS records also allow us to construct a proxy for nationwide administrative congestion that underpins our identification strategy. Specifically, we aggregate the total number of EAD applications filed each year by non-asylum seekers and treat this series as a measure of system-wide workload at the centralized USCIS service centers that adjudicate employment authorization requests. Figure 6 plots the evolution of this measure over time. Between 2012 and 2021, non-asylum EAD filings averaged approximately 2.8 million per year, rising sharply in 2015–2016 (peaking at nearly 3.4 million), falling in 2017, partially recovering in 2018, and then declining through 2019–2021 to approximately 2.45 million. These pronounced year-to-year fluctuations, which generate shocks to overall administrative workload, are driven by unrelated categories of employment authorization. Because these filings are not directly tied to asylum seekers' local labor market conditions or their own filing behavior, they provide a source of plausibly exogenous variation in processing congestion.²

Our second data source is the 2012–2021 waves of the American Community Survey (ACS), which we use to examine how access to timely work authorization shapes labor market

² Details on the construction, timing, and interpretation of this measure are provided in the methodology section.

outcomes. We merge the USCIS-derived cell-level measures to ACS microdata by matching noncitizens on year of arrival, gender, country of origin, and PUMA of residence. For each ACS respondent, the key exposure is the average EAD processing time in their matched cell. For example, a Honduran woman who arrived in 2012 and resides in the Los Angeles PUMA is assigned the mean number of days to adjudication for applicants in the same arrival year, origin, gender, and location cell. This measure captures how quickly eligible individuals in her local and demographic cohort typically obtain work authorization. Because approval is common and varies little across cells, identification comes from differences in processing times rather than from variation in approval likelihood.

The ACS does not identify asylum status, EAD receipt, or detailed visa categories. We therefore approximate the population of interest by selecting noncitizen respondents whose demographic, migration, and geographic characteristics mirror those used to construct the asylum-seeker EAD cells. To sharpen this approximation, we exclude individuals likely to have obtained permanent residence or work authorization through other legal channels. Specifically, we drop Cubans; noncitizens who arrived before 1980 and may have legalized under IRCA; individuals reporting income from Social Security, Supplemental Security Income, or other means-tested public assistance (including Medicare or Medicaid); and respondents employed by federal, state, or local governments.

Some exclusions rely on realized outcomes, such as receipt of public assistance or government employment, which raises the possibility of conditioning on post-treatment variables. However, pending asylum seekers are generally ineligible for most federal means-tested programs and for government employment. If longer EAD delays reduce formal employment or increase

hardship, these exclusions would disproportionately remove the individuals most adversely affected by delays, biasing estimates toward zero rather than generating spurious positive effects.

We also exclude individuals who are likely to have work authorization through Temporary Protected Status (TPS) or Deferred Action for Childhood Arrivals (DACA). Because the ACS does not report participation in these programs, we proxy eligibility using statutory criteria. For TPS, we exclude respondents from TPS-designated countries who arrived before the relevant cutoff year and are observed in survey years when the designation was still active, as they would have had work authorization independent of the asylum EAD process. We retain individuals from TPS countries whose designation had expired by the survey year, as they may have transitioned to other legal pathways, including asylum.

For DACA, we exclude individuals who meet the core eligibility criteria: those under age 31 as of June 15, 2012, who arrived before age 16, and who have lived in the United States since at least 2007. Because the ACS does not include information on criminal history, this approach approximates DACA eligibility and may exclude some individuals who never received DACA. Together, these restrictions reduce the inclusion of individuals with stable legal status or independent work authorization, helping isolate a population whose labor market outcomes are more likely to be affected by EAD adjudication timing.

This approach rests on the identifying assumption that, among ACS respondents meeting our selection criteria, noncitizens are disproportionately likely to be asylum seekers. Although individual-level identification is not possible, the empirical design exploits the concentration of asylum-related EAD applications within specific arrival cohorts and origin-country groups to approximate the target population at scale.

One might attempt to validate this proxy by comparing observable characteristics of the ACS “likely asylum seeker” sample to official USCIS tabulations. However, publicly available USCIS reports provide detailed demographic information primarily for affirmative asylum applicants, while comparable statistics for defensive applicants are not systematically available. Because defensive cases represent a substantial share of asylum filings, any such comparison would be incomplete and potentially misleading. Instead, we assess the plausibility of our proxy by restricting the analysis to high-asylum-intensity cells, where the likelihood that ACS sample individuals are asylum seekers is greatest. The results remain qualitatively unchanged under this restriction.

A remaining concern is measurement error arising from the imperfect classification of asylum seekers in survey data. Some individuals who share observable characteristics with likely asylum seekers may not, in fact, be awaiting an asylum adjudication. This group may include individuals whose asylum cases have already been granted and who therefore no longer face work authorization constraints, as well as individuals who are not asylum seekers and either possess independent work authorization or work without authorization. Including such individuals would tend to attenuate estimated effects toward zero, since their labor market outcomes should be less responsive to variation in EAD processing times. Accordingly, the estimated coefficients should be interpreted as conservative estimates of the effect of processing delays on true asylum seekers. To assess the sensitivity of the results to this concern, we further restrict the sample to high-asylum-intensity cells in robustness analyses.

Table 1 presents descriptive statistics for the analysis sample, which consists of 287,486 noncitizen observations. All statistics are weighted using ACS person weights. On average, 76 percent of individuals participate in the labor force, and 72 percent report being at work at the time

of the survey. Mean annual labor income is approximately \$24,600 (2010 USD), with substantial dispersion (standard deviation \$38,900) and a pronounced right tail. Usual work hours average 30 hours per week.

Occupational outcomes also display considerable heterogeneity. Approximately 13 percent of individuals are employed in low-desirability jobs—defined as low-skill occupations with annual earnings below \$15,000. Essential workers account for roughly 41 percent of the sample, reflecting the concentration of noncitizens in sectors such as healthcare, cleaning, and food preparation. Only about 1 percent fall into the low-hours/low-earnings category. By skill tier, approximately 12 percent are employed in high-skill occupations, whereas 22 percent are employed in mid-skill occupations.

The table further documents substantial variation in EAD processing conditions across cells. The average approval rate is 88 percent, with a standard deviation of 22 percentage points, while processing times average 74 days and range from same-day approvals to delays exceeding one year. The volume of non-asylum EAD filings from other countries—the instrument used in the analysis—also varies widely over time, with a mean of approximately 860,000 filings and a standard deviation exceeding 500,000.

Demographically, the sample is relatively young, with a mean age of 36.6. Women comprise about 43 percent of the sample; 67 percent identify as Hispanic; and 62 percent report having at least a high school diploma or equivalent. The average household size is 3.5 members, and the time since U.S. arrival averages 8.3 years, with arrival cohorts spanning 2000–2021.

Overall, Table 1 highlights substantial demographic and socioeconomic heterogeneity among noncitizens, as well as pronounced variation in EAD approval rates and processing times. This cross-cell variation, driven in part by administrative congestion and procedural timing rather

than individual characteristics, forms the empirical foundation for our identification strategy and motivates the analysis that follows.

IV. Methodology

To estimate the impact of access to work authorization on asylum seekers' labor market outcomes, we construct cell-level measures of average EAD processing times. Cells are defined by gender g , country of origin o , PUMA of residence p , and year t . We match these aggregate measures to individuals in the ACS by assigning each person the average processing time for their cell. This procedure links administrative variation in the timing of work authorization to individual labor market outcomes observed in the ACS.

Because the ACS does not specify the year when an individual applies for work authorization, we base EAD processing times on the year of arrival, which is observed in both the administrative data and the ACS. In the asylum context, the year of arrival serves as a reliable proxy for the application date. Affirmative asylum applicants are required to apply within one year of entry, while defensive applicants file upon initiation of removal proceedings. Given that work authorization may be requested 150 days after filing, initial EAD applications are highly concentrated within the first two years after arrival. Consistent with this institutional framework, the administrative data show that EAD filings peak in the year of arrival and the following year. We therefore consider the year of arrival as indicative of individuals' initial exposure to EAD processing delays. In all analyses, processing times are assigned based on the year of arrival, while labor market outcomes are measured in the ACS survey year. This timing structure enables us to estimate the medium- to long-term labor market effects of variation in initial EAD processing delays, rather than only contemporaneous impacts.

Our primary explanatory variable is the average number of days it takes for an EAD application to be approved within each demographic–origin–PUMA–year cell. As noted earlier, this measure may, however, be endogenous if local conditions shape processing speed. For instance, in areas experiencing labor shortages, immigration offices may face pressure to accelerate approvals, while asylum seekers in those same areas could find work more quickly once authorized. Such simultaneity would confound the estimated effects of access to legal work with underlying labor demand. Thus, to identify the impact of cell-level average processing times on individual labor market outcomes, we estimate the following two-stage least squares model with average days to approval (DTA) as the endogenous regressor:

$$Y_{igopt} = \alpha_0 + \alpha_1 \widehat{DTA}_{gopt} + X'_{ipt}\alpha_2 + W'_{pt}\alpha_3 + \lambda_p t + \delta_g + \delta_o + \delta_p + \delta_t + \epsilon_{igopt} \quad (1)$$

$$DTA_{gopt} = \beta_0 + \beta_1 Z_{-o,t} + X'_{ipt}\beta_2 + W'_{pt}\beta_3 + \theta_g + \theta_o + \theta_p + \theta_t + \varepsilon_{gopt} \quad (2)$$

where Y_{igopt} represents the labor market outcomes of interest for individual i , of gender g , from country of origin o , living in PUMA p at time t . The vector X'_{ipt} includes control for individual-level characteristics, including the respondent's age, age squared, Hispanic ethnicity, marital status, educational attainment, family size, and time in the U.S., which could be correlated with processing times and labor market outcomes. The vector W'_{pt} accounts for time-varying PUMA-level traits, including the size of the noncitizen population and the share of the population living in a metropolitan area, to account for potentially confounding variations in local economic conditions. The model also includes fixed effects for gender (θ_g), country of origin (θ_o), PUMA of residence (θ_p), and survey year (θ_t) to account for unobserved characteristics that may influence the labor market outcomes of migrants by gender, country of origin, locality, and calendar year. In additional specifications, we include PUMA-specific time trends ($\lambda_p t$) to account for potential

trends that may be correlated with EAD processing times and labor market outcomes. In the model estimation, we use ACS person weights and cluster the standard errors at the PUMA level.³

To isolate plausible exogenous variation in cell-level processing times, we use the nationwide volume of non-asylum EAD applications filed by individuals from all countries other than o in year t as an instrumental variable Z :⁴

$$Z_{-o,t} = \sum_{o' \neq o} EAD_{o',t}^{(non-asylum)}.$$

We focus on non-asylum EAD applications because higher volumes of these filings congest the processing system, thereby increasing average wait times for asylum seekers (Åslund et al., 2024). Importantly, applications from both groups are subject to the same administrative capacity constraints but are driven by different populations, making applications from non-asylum seekers plausibly exogenous to asylum seekers' local labor market outcomes. Under a standard queueing model, increases in other-origin filings weakly lengthen processing times for all cells, satisfying monotonicity conditions. In addition, the leave-one-out design excludes applications from the country of origin o . As such, the instrument reflects system-wide congestion rather than origin-specific filing behavior that may be correlated with economic or migration shocks. This distinction helps isolate variation in congestion from origin-specific shocks.

The routing of EAD applications further supports the plausibility of our identification strategy. All EAD applications (Form I-765) are submitted to centralized lockboxes and then

³ Results are robust to two-way clustering at the PUMA and origin-by-year levels, as well as to clustering at more granular cell definitions. Estimated coefficients remain stable, and statistical significance is unaffected.

⁴ To verify that the leave-one-out instrument retains identifying variation after absorbing fixed effects in equation (2), we residualize it with respect to survey year, country-of-origin, and PUMA fixed effects. The resulting R^2 is 0.34, implying that approximately 65 percent of the instrument's variation remains unexplained by the fixed effects. The standard deviation of the residualized instrument (40.8) remains virtually unchanged when additionally controlling for non-asylum filings from the respondent's own origin. This confirms that substantial identifying variation remains after accounting for fixed effects.

distributed, based on eligibility category and workload balancing, across five USCIS service centers located in California, Nebraska, Texas, Vermont, and Virginia. Differences in caseloads, staffing levels, and shifting administrative priorities generate substantial variation in processing speed across centers and over time. Applicants have no control over this assignment and typically do not know where their case will be adjudicated. Two asylum seekers in the same PUMA filing during the same week can be routed to different centers and experience very different waiting times. This centralized, opaque allocation process creates congestion-driven variation in approval times that is plausibly unrelated to individual labor-market potential.

Unobserved cell-level factors, such as rates of legal assistance and NGO support, or the typical case strength, could still be correlated with both processing time and labor market outcomes. If these factors vary systematically across cells and are not absorbed by observable characteristics or fixed effects, the exclusion restriction may be violated. We mitigate this concern by including a rich set of controls and saturated fixed effects, and by verifying that the instrument is not systematically related to other cell-level demographic or economic characteristics.

V. Assessing the Impact of Delays in Work Authorization on Labor Market Integration

How do delays in work authorization affect labor market integration among likely asylum seekers? Tables 2–4 present 2SLS estimates of the impact of EAD approval timing on a broad set of labor market outcomes. These outcomes encompass both standard measures of labor market participation and more detailed indicators of job quality, work intensity, and occupational sorting. Because the average respondent in our ACS sample has been in the United States for approximately 8.3 years (Table 1), the estimates in Tables 2–4 should be interpreted primarily as medium- to long-run effects of EAD processing delays. While initial exposure to work

authorization delays occurs early in the settlement process, the outcomes we observe reflect the lasting consequences of those delays for migrants' subsequent labor market trajectories.

Table 2 focuses on core indicators of economic integration, including labor force participation, employment status, and annual earnings. Table 3 extends the analysis to intensive-margin outcomes and qualitative aspects of employment, such as usual weekly hours worked, the likelihood of holding a low-desirability job, and employment in essential occupations. Finally, Table 4 examines occupational allocation, distinguishing among low-, mid-, and high-skill jobs and assessing employment concentration in flexible, low-income arrangements often associated with informal or precarious work.

The broad set of outcomes we examine is particularly important in the asylum context, where legal barriers and delays to work authorization can constrain not only whether individuals are employed but also the stability, quality, and types of jobs they can access. Even among those who secure employment, the timing and reliability of EAD access may shape the number of hours they work, their earnings trajectory, and their opportunities for upward occupational mobility. By considering both the extensive and intensive margins of labor market integration, this analysis provides a more complete understanding of how access to legal employment influences asylum seekers' ability to work and the conditions under which they do so.

The first-stage estimates provide strong support for the instrumental variable strategy. As shown in Table 2, higher volumes of non-asylum EAD filings from other countries significantly increase processing times for asylum seekers. The estimated coefficients range from 0.04 to 0.09 additional days per 10,000 filings, indicating a strong and precisely estimated relationship. Given the distribution of the instrument reported in Table 1 (mean = 860,000 filings; s.d. = 512,000), a one-standard deviation increase in non-asylum EAD inflows predicts an increase in processing

times of approximately 2 to 4 days, depending on the specification. Kleibergen-Paap rk F -statistics range from 50 to 198, exceeding conventional weak-instrument thresholds and indicating a strong first stage across all specifications. The positive first-stage relationship is consistent with a congestion mechanism—namely, increases in national non-asylum EAD demand strain shared processing capacity, lengthening queues, and delaying approvals for asylum seekers. Because EAD adjudication is centralized and applicants cannot select service centers, these inflow-driven fluctuations are plausibly orthogonal to local labor market conditions at the gender \times origin \times PUMA \times year cell level.

The second-stage estimates indicate that delays in work authorization substantially hinder labor market integration during the early and intermediate stages of settlement among non-citizens. In the most saturated specifications, a one-week increase in EAD waiting time reduces labor force participation and employment by about 1.4 percentage points, corresponding to roughly a 2 percent decline relative to the respective sample means (0.76 and 0.72). Annual labor income falls by approximately \$1,300 per additional week of delay, which represents about 5.3 percent of mean annual earnings (\$24,600). These effects are stable across specifications and remain precisely estimated after including individual controls and PUMA-specific time trends. Although magnitudes attenuate modestly with additional covariates, the qualitative interpretation is unchanged: longer waits to obtain work authorization impose a sizable penalty on labor force attachment, employment, and earnings. Overall, the findings suggest that timely access to legal employment is important for promoting labor market integration in the early and intermediate stages of settlement among likely asylum seekers.

Table 3 extends the analysis to intensive margin and job-quality outcomes. We examine three measures: (i) usual weekly hours worked, (ii) an indicator for employment in a low-

desirability job (defined as low-skill employment with annual earnings below \$15,000), and (iii) an indicator for employment in an essential occupation. In the most saturated specifications with PUMA-specific time trends, delays in EAD approval modestly reduce hours worked. A one-week increase in waiting time lowers usual hours by about 0.5 hours, relative to a mean of 30 hours per week. Delays are also associated with statistically significant shifts in job composition, increasing the likelihood of employment in low-desirability jobs by 5 percent relative to the mean and reducing the probability of working in essential occupations by 1.7 percent.

Table 4 examines additional occupational outcomes to assess whether delays in work authorization affect the types of jobs that asylum seekers obtain. We consider three outcomes: (i) employment in a low-hours/low-earnings job cluster, defined as low-skill, part-time, or self-employed work with annual earnings below \$15,000; (ii) employment in a high-skill occupation; and (iii) employment in a mid-skill occupation. Across specifications, delays in EAD approval have no detectable effect on employment in low-hours/low-earnings jobs or in high-skill occupations. In contrast, longer processing times are associated with reductions in mid-skill employment. A one-week increase in EAD processing time lowers the probability of working in a mid-skill occupation by roughly 1.4 percentage points. Evaluated at the sample mean of 22 percent, this represents a decline of nearly 6.5 percent.

Overall, Tables 2–4 reveal a clear and consistent pattern. Faster access to work authorization encourages labor market integration by boosting labor force participation, employment, and earnings. In contrast, adjustments along the intensive margin and in job composition are more limited. While delays in EAD approval are associated with changes in hours worked and certain aspects of job quality, these effects are secondary to the extensive-margin effects and less stable across specifications. We find little evidence of broad shifts into low-hours

or low-earnings employment or of widespread movements across occupational skill levels. Instead, the results indicate that processing delays may impede progression into mid-skill jobs rather than inducing generalized downward mobility.

Appendix Table A.1 reports reduced-form estimates linking national non-asylum EAD filings to labor market outcomes. Interpreting these estimates through the first stage, a one-standard deviation increase in filings predicts roughly one-half week of additional processing delay. Applying the baseline 2SLS magnitudes, this corresponds to economically meaningful declines in labor force participation and employment and to several hundred dollars in lost annual earnings. The reduced-form signs and implied magnitudes therefore align closely with the main results in Tables 2–4 and support a congestion-based mechanism operating through slower access to work authorization.

We also conduct two robustness checks. First, we restrict the ACS sample to individuals residing in high-EAD cells, defined as gender–country–PUMA–year cells with more than 50 observed EAD applications. This restriction focuses the analysis on cells with high asylum-related activity and reduces the potential for misclassifying non-asylum respondents. Appendix Tables A.2–A.4 report the resulting estimates. The magnitudes remain similar to the baseline results: a one-week increase in EAD processing time continues to predict economically meaningful declines in labor force participation, employment, annual earnings, and hours worked, as well as reductions in mid-skill employment. Although some coefficients are estimated less precisely due to the smaller sample size, the implied weekly effects are of comparable order to those in Tables 2–4. These results reinforce the interpretation that delays in work authorization weaken labor market attachment, while suggesting that short-run occupational upgrading remains limited.

Secondly, we assess whether the baseline results are driven by years characterized by unusually high EAD demand or atypical administrative conditions. Appendix Table A.5 reports 2SLS estimates excluding 2015, 2016, and 2020, years marked by pronounced filing surges and pandemic-related disruptions. The weekly effects remain economically meaningful: a one-week increase in processing time continues to reduce labor force participation, employment, and annual earnings, with magnitudes comparable to those in Tables 2–4. Although some coefficients attenuate modestly when specific years are excluded, the estimated declines in employment and earnings remain substantial relative to sample means. These findings suggest that the results are not attributable to isolated high-congestion years but rather reflect a stable, sustained relationship between processing delays and labor market integration during the early and intermediate stages of settlement.

VI. Identification Checks

A) Instrument Validity

Our identification assumption is that variation in EAD processing times affects labor market outcomes only through access to legal employment. A potential concern is that processing delays may be correlated with local economic conditions or systematic differences in case composition and support infrastructure across origin groups or regions. For example, stronger local labor demand could coincide with faster adjudication, or variation in legal assistance and case strength could jointly influence processing times and employment prospects. If so, estimated effects would reflect underlying economic or compositional differences rather than administrative congestion.

Because the instrument varies at the national level, another concern is that surges in non-asylum EAD filings could coincide with broader macroeconomic or policy shocks that

differentially affect particular origin groups or demographic profiles. In that case, the instrument could proxy for compositional or economic shocks rather than purely administrative congestion.

Beyond the inclusion of gender, country-of-origin, PUMA, and year fixed effects, along with PUMA-specific time trends, we therefore directly examine whether the instrument is systematically related to observable characteristics of the asylum-seeker population. Specifically, we regress the instrumental variable—the national volume of non-asylum EAD filings from other countries of origin—on cell-level demographic and socioeconomic characteristics, including average age, ethnic composition, educational attainment, unemployment, and poverty rates, controlling for PUMA, country of origin, and year fixed effects. We then re-estimate these relationships, including PUMA-specific time trends, to assess whether any correlations reflect time-varying local conditions.

Table 5 reports standardized coefficients from these balance-check regressions. Because coefficients are standardized, they capture the association between a one-standard deviation increase in the instrument—approximately 500,000 filings—and changes in each characteristic measured in standard deviation units. Although some characteristics are statistically correlated with the instrument, the magnitudes of these correlations are uniformly small. Standardized coefficients are generally below 0.1 in absolute value, indicating economically negligible associations. Moreover, the signs do not follow a coherent pattern consistent with labor-demand or demographic shocks. For example, higher non-asylum EAD volumes are associated with higher poverty rates and higher educational attainment, while also being linked to a younger average population and a larger female share. These mixed relationships do not suggest systematic alignment with underlying economic shocks. Importantly, results are robust to the inclusion of

PUMA-specific time trends, indicating that these small correlations are not driven by time-varying local factors that could jointly influence EAD processing times and labor market outcomes.

In sum, the balance checks provide no evidence that the instrument is meaningfully related to observable demographic or economic conditions at the cell level. Consistent with the centralized structure of EAD adjudication, the findings support the interpretation that variation in processing times reflects national congestion dynamics rather than contemporaneous economic or compositional shocks.

B) Falsification and Placebo Tests

To further assess whether the estimated effects of EAD processing delays reflect the causal impact of access to legal employment rather than unobserved confounders, we conduct a placebo test using a population not subject to EAD regulations. A central identification concern is that variation in processing times may proxy for local labor market conditions or contemporaneous shocks that also influence employment outcomes. Although the instrumental variable strategy isolates variation plausibly orthogonal to local labor demand, it is important to verify empirically that the estimated effects are specific to individuals directly constrained by EAD policies.

The placebo exercise serves two related purposes. First, it provides a falsification test: if the baseline results were driven by local labor market shocks, compositional changes, or area-level trends rather than by EAD processing delays, similar patterns should be observed among workers whose employment outcomes are not governed by EAD rules. Second, it allows us to assess potential spillovers. If changes in asylum seekers' access to legal employment meaningfully affect local labor markets through displacement or crowding, variation in EAD processing times could influence outcomes for other workers residing in the same areas.

We implement this test by estimating the same 2SLS specification for naturalized U.S. citizens with family income at or below 200 percent of the federal poverty threshold. This group provides a close comparison because naturalized immigrants share many demographic and geographic characteristics with likely asylum seekers—including country of origin, gender composition, migration background, and place of residence—yet are not subject to EAD requirements. The specification mirrors the baseline framework, using average EAD processing times as the endogenous regressor and national non-asylum EAD filings as the instrument.

The results, reported in Table 6, reveal largely null relationships between EAD processing times and labor market outcomes for naturalized immigrants. The second-stage estimates are small and statistically indistinguishable from zero across all outcomes examined, including labor force participation, employment, income, hours worked, essential-worker status, low-hours/low-earnings employment, and occupational skill composition. While one specification indicates a weak positive association with employment in a low-desirability job, the magnitude is small relative to the baseline effects and does not persist across related outcomes. The first stage remains strong in these cells, indicating that the absence of detectable effects is not driven by weak identification but rather reflects a lack of substantive response among naturalized immigrants.

Interpreted as a falsification exercise, the absence of economically meaningful effects among naturalized immigrants suggests that the main findings are specific to individuals awaiting work authorization. The results provide no evidence of systematic spillovers onto more established immigrant workers and reduce the likelihood that the baseline estimates are driven by broader local labor market shocks rather than by delays in access to authorized employment.

C) **Heterogeneous Impacts**

i. By Gender

Table 7 reports 2SLS estimates of the impact of EAD processing delays on labor market outcomes, estimated separately for women (Panel A) and men (Panel B). Examining gender heterogeneity is important in this setting, as immigrant women often face distinct constraints on labor market access and occupational mobility, even after controlling for legal status (Antecol, 2000). All specifications include individual controls, fixed effects for year, country of origin, and PUMA, and PUMA-specific time trends.

For women, longer waits for work authorization in the early stages of settlement significantly impede labor market integration. The estimates imply that a one-week increase in EAD processing time reduces labor force participation and employment by roughly 4 percentage points. Weekly delays are also associated with sizable reductions in annual earnings and modest declines in hours worked. Occupational effects are more muted, though there is evidence of reduced employment in essential and mid-skill occupations. These findings indicate that delayed access to legal employment weakens labor market attachment and earnings among female asylum seekers, consistent with evidence that immigrant women face compounded barriers to stable employment (Akresh, 2008; Brell et al., 2020).

For men, the estimated effects are economically meaningful and larger in magnitude. A one-week delay is associated with greater reductions in labor force participation, employment, and earnings than those observed among women. There is also evidence of shifts in occupational allocation, including declines in mid-skill employment and modest increases in low-desirability jobs. These patterns suggest that delayed work authorization constrains both employment entry and job quality among male asylum seekers.

Overall, EAD processing delays weaken labor market outcomes for both women and men, with consistently larger effects for men. In both absolute and relative terms, delays reduce employment and earnings more substantially among men. The evidence indicates that delayed work authorization hampers early labor market integration for both groups, primarily through reductions in employment and earnings, with more heterogeneous effects on hours worked and occupational composition.

ii. By U.S. Region of Residence

We also examine heterogeneity in the effects of EAD processing delays across U.S. Census regions. This breakdown is motivated by substantial spatial variation in labor market conditions, immigrant settlement patterns, and state-level policy environments that may shape how access to legal work translates into labor market outcomes. Census regions encompass diverse local contexts and asylum destinations. The Northeast includes large urban labor markets such as New York City as well as smaller areas in New England. The West spans major immigrant hubs such as Los Angeles alongside interior states with distinct economic structures. Region-level estimates, therefore, capture broad geographic differences rather than fine-grained local variation.

Figure 7 provides context for interpreting these results. EAD applications are heavily concentrated in the South, West, and Northeast, while the Midwest accounts for a much smaller share of total applications throughout the period. This uneven distribution implies differences in identifying variation across regions, which directly affect statistical power.

Table 8 presents the labor market effects by U.S. Census region. It indicates that in the Northeast, longer EAD processing times are associated with statistically significant declines in labor force participation, employment, annual labor income, and hours worked. The implied weekly effects are economically meaningful and comparable to the baseline estimates. There is

also evidence of increased employment in low-desirability jobs and reduced employment in mid-skill occupations. These patterns are consistent with delayed work authorization weakening early labor-market attachment in a region with high application intensity and sustained exposure.

In the West, the estimated effects are smaller in magnitude but directionally similar. Weekly delays are associated with lower earnings, modest reductions in participation and employment, and declines in mid-skill employment. Occupational shifts are present but limited in economic magnitude. Given the large volume of applications shown in Figure 7, the relative precision of these estimates is expected, even if effects are somewhat attenuated relative to the Northeast.

In the South, point estimates also indicate negative effects on participation, employment, earnings, and hours worked, although statistical significance is weaker. Because the South accounts for the largest share of applications in Figure 7, the reduced precision likely reflects greater within-region heterogeneity rather than insufficient exposure. The direction of effects remains consistent with the baseline results.

By contrast, estimates for the Midwest are highly unstable. The first-stage relationship between national non-asylum EAD filings and regional processing times is extremely weak in this region, resulting in a near-zero F -statistic. Consequently, the 2SLS estimates lack identifying power and are not informative about causal effects. For this reason, we do not emphasize Midwest estimates when interpreting labor market effects.

Overall, the regional analysis points to broadly consistent negative effects of EAD processing delays across major destination areas. Differences across regions arise primarily in magnitude and precision, not in direction. Appendix Table A.6 further disaggregates the analysis for the four largest asylum-destination states—California, New York, Texas, and Florida

(Schofield & Yap, 2024). The adverse effects are most pronounced and precisely estimated in California and New York, where weekly delays are associated with significant reductions in employment, earnings, and hours worked. In Texas and Florida, estimates are smaller and generally imprecise. This pattern reinforces the interpretation suggested by Figure 7. The main findings are driven by high-destination, high-intensity states rather than by idiosyncratic outcomes in a single location.

iii. By Region of Origin

Table 9 examines whether the effects of EAD processing delays vary by region of origin. Disaggregating by broad world regions allows us to assess whether access to legal employment translates differently into labor market integration depending on migrants' pre-migration characteristics, legal pathways, and post-arrival constraints. These regional groupings pool heterogeneous countries and asylum processes, including both affirmative and defensive cases within the same category. The estimates should therefore be interpreted as average effects within relatively coarse origin groupings rather than country-specific responses.

The clearest and most consistent effects appear among asylum seekers from Asia and the Pacific (excluding the Middle East) in Panel C, and to a lesser extent among those from Europe (including Russia) in Panel E. For Asia–Pacific applicants, longer EAD processing times are associated with statistically significant reductions in labor force participation and employment, lower annual earnings, and fewer hours worked. A one-week delay reduces employment and participation by roughly 3–4 percentage points and lowers annual income by approximately \$2,500. There is also evidence of occupational downgrading, including increased employment in low-desirability jobs and reduced employment in mid- and high-skill occupations. For European applicants, the direction of effects is similar, though estimates are somewhat less uniformly precise

across outcomes. These results indicate that timely work authorization plays an important role in both labor market entry and job quality for these groups.

For asylum seekers from the Americas in Panel A, the estimates are imprecise and do not reveal a clear or consistent pattern. For applicants from Africa (excluding North Africa) in Panel B and from the Middle East and North Africa in Panel D, the estimated effects are relatively smaller and noisier. The absence of precise effects suggests weaker or less detectable responses within these origin groups.

The concentration of significant effects among Asia–Pacific applicants, and to a lesser extent among Europeans, likely reflects differences in both case composition and labor-market transferability across regions of origin. Affirmative and defensive asylum channels differ in timing, predictability, and exposure to removal proceedings, which shape reliance on and responsiveness to work authorization. Regions with a higher share of affirmative applicants may face more predictable EAD timelines and therefore exhibit stronger labor market responses to marginal changes in processing delays. At the same time, differences in education, English proficiency, and the transferability of prior work experience may amplify responsiveness in some groups relative to others. By contrast, applicants who are more heavily represented in defensive proceedings or have lower initial labor market attachment may experience prolonged legal uncertainty, which can dampen the marginal impact of variation in EAD timing on observed employment outcomes.

Differences in human capital transferability and occupational sorting may also contribute to the observed heterogeneity. Applicants from regions with higher average education levels or more transferable credentials may be better positioned to convert timely authorization into stable employment and occupational mobility. For groups facing structural barriers such as limited

English proficiency, credential recognition constraints, or concentration in weaker local labor markets, access to legal employment alone may generate more muted short-run gains.

Overall, the origin-region analysis reveals meaningful heterogeneity in the responsiveness to EAD delays. At the same time, the absence of a uniform pattern across origin groups is consistent with the centralized administration of EAD processing, which operates through national queues rather than region-specific channels. The results suggest that timely work authorization interacts with pre-existing legal pathways and group-specific characteristics, implying that complementary policies may be required to fully support labor market integration for some origin populations.

VII. Persistence of Labor Market Effects from EAD Processing Delays

To assess whether the labor market effects of employment authorization delays persist over time, we use information in the ACS on individuals' year of arrival and survey year. Immigrants are classified into four groups based on years since arrival at the time of observation: 0–4 years, 5–9 years, 10–14 years, and 15 or more years. Within each group, we estimate equations (1) and (2), measuring labor market outcomes in the survey year while defining EAD processing delays and the corresponding instrumental variable at the year of arrival. All specifications include individual time-varying controls, year, country-of-origin, and PUMA fixed effects, along with PUMA-specific time trends. Because the pooled estimates in Tables 2–4 average individuals at different durations since arrival, this specification allows us to examine how the effects of processing delays evolve over time.

Table 10 shows that the adverse effects of EAD processing delays are concentrated in the first decade after arrival. For individuals observed within 0–4 years, longer processing times significantly reduce labor force participation, employment, annual earnings, and usual hours

worked. There is also evidence of reduced employment in high- and mid-skill occupations, indicating weaker early occupational attachment.

For individuals observed 5–9 years after arrival, negative effects remain statistically significant for participation, employment, earnings, and hours worked. The income effects in this window are economically meaningful, suggesting that early authorization delays may slow earnings growth beyond the initial years of settlement. These medium-run impacts account for a substantial portion of the pooled estimates.

By contrast, for individuals observed 10–14 years or 15 or more years after arrival, the estimated effects are small and generally imprecise. The attenuation of coefficients at longer durations suggests that while delays generate meaningful short- and medium-term disruptions, their observable impact diminishes as immigrants accumulate U.S. work experience and adjust to local labor markets.

Overall, the evidence indicates that timely access to employment authorization is most critical during the first decade of settlement, when labor market trajectories are being established and early work experience plays a central role.

VII. Summary and Conclusions

The number of asylum seekers in the United States has risen sharply in recent years, contributing to substantial adjudication backlogs and extended waiting periods for work authorization. These delays occur at a consequential stage of settlement, when individuals are establishing labor market attachment and economic self-sufficiency. At the same time, many local labor markets face persistent labor shortages. Understanding how administrative processing times shape employment outcomes is therefore both economically and policy relevant. This study examines the labor market consequences of Employment Authorization Document (EAD)

approval timing by exploiting congestion-driven variation in processing times generated by national fluctuations in non-asylum EAD filings.

Linking administrative EAD data to American Community Survey microdata, we find that faster access to work authorization increases labor force participation and employment and raises annual earnings. These effects operate primarily along the extensive margin. Delays suppress entry into employment rather than substantially altering hours among those already working. Consistent with this mechanism, we find limited evidence of broad occupational upgrading in the short run. Although longer waits reduce mid-skill employment and modestly increase employment in low-desirability jobs in some specifications, the dominant impact of timely authorization is improved labor market attachment and earnings growth.

Geographic heterogeneity does not overturn this pattern. Across major destination regions, longer processing times are generally associated with weaker employment and earnings outcomes. Effects are strongest and most precisely estimated in high-application regions such as the Northeast and West. In lower-intensity regions, estimates are less precise, and in the Midwest the first-stage relationship is weak, limiting identification rather than indicating substantively different responses. State-level analysis similarly indicates that the most pronounced effects arise in high-destination states.

Multiple validation exercises reinforce the credibility of these findings. Reduced-form estimates closely mirror the instrumental-variable results. The estimates remain stable when restricting the sample to high-application cells and when excluding peak-demand and pandemic years. Importantly, we do not observe comparable patterns among naturalized immigrants, who are not subject to EAD processing delays. The absence of systematic effects in this placebo group

supports the interpretation that the estimated impacts operate through access to authorized employment rather than through broader local labor market conditions.

The magnitude of effects varies across subgroups, but the direction is consistent. Both women and men experience meaningful penalties from processing delays. Men exhibit larger absolute declines in employment and earnings when authorization is delayed, while women—who begin with lower baseline labor force attachment—also experience significant reductions in employment and hours worked. Heterogeneity by origin further suggests that timely authorization interacts with pre-migration characteristics and legal pathways. Effects are strongest and most consistently estimated for asylum seekers from the Asia–Pacific region and more mixed or imprecise for Europe, Africa, the Middle East and North Africa, and the Americas.

The persistence analysis indicates that the consequences of delayed authorization are concentrated in the first decade after arrival. Employment and earnings effects are economically meaningful during the early and intermediate stages of settlement but attenuate over time. This pattern suggests that delayed access to work authorization slows labor market integration rather than permanently impeding it. Hence, administrative delays generate medium-run economic costs, even if long-run convergence ultimately occurs.

In sum, the results highlight administrative processing times as a consequential determinant of labor market integration. In the context of rising asylum applications and strained adjudication capacity, even modest increases in processing delays can translate into meaningful employment and earnings losses during the first decade of settlement. Policies that reduce backlogs, streamline renewals, and expand timely access to work authorization are not merely procedural adjustments. They shape the speed and trajectory of labor market integration for newly arrived asylum seekers.

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TABLES

Table 1: Descriptive Statistics for the Sample of Non-citizens

Statistic:	Mean	Std. dev.	Min.	Max.
<i>Labor market outcomes</i>				
In the labor force (1=yes)	0.758	0.428	0	1
At work (1=yes)	0.720	0.449	0	1
Annual labor income (2010 USD)	\$24,634	\$38,899	0.00	\$626,000
Usual hours worked (number of hours)	29.97	18.82	0.00	96.00
Employed in a low-desirability job (1=yes)	0.126	0.332	0	1
Essential worker (1=yes)	0.409	0.492	0	1
Employed in low-hours/low-earnings jobs (1=yes)	0.011	0.103	0	1
Employed in a high-skill occupation (1=yes)	0.122	0.327	0	1
Employed in a mid-skill occupation (1=yes)	0.217	0.412	0	1
<i>EAD variables (at cell level)</i>				
Approval rate (percent)	87.76	21.91	0.00	100.00
Average time to approval (days)	73.61	42.91	0.00	385.00
Non-asylum EADs from other countries (number)	860,787	512,591	230,156	1,935,932
<i>Individual characteristics</i>				
Age	36.60	9.83	20	65
Female (1=yes)	0.428	0.495	0	1
Hispanic (1=yes)	0.671	0.470	0	1
High school diploma or equivalent (1=yes)	0.616	0.486	0	1
Married (1=yes)	0.586	0.493	0	1
Family members in the household	3.536	1.998	1	20
Time since U.S. arrival (years)	8.283	5.667	0	23
US arrival year	2009	5.917	2000	2021
Observations	287,486			

Notes: The table presents the descriptive statistics for the variables included in the analysis. Individual-level variables are weighted using the ACS person weights. Low-desirability jobs are defined as occupations with low skill levels and annual incomes below \$15,000. Essential workers are those employed in healthcare, cleaning, food preparation, and selected labor-intensive sectors flagged as essential during the COVID-19 pandemic. Individuals in low-hours/low-earnings jobs are defined as workers in low-skill, part-time, or self-employment earning under \$15,000 annually.

Table 2: 2SLS Estimates for the Impact of EAD Processing Times on Labor Market Outcomes

Dependent variable:	In LF			At work			Labor income		
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Days to EAD approval	-0.014*** (0.002)	-0.002*** (0.0001)	-0.002*** (0.0001)	-0.017*** (0.002)	-0.002*** (0.0001)	-0.002*** (0.0001)	-1,363.47*** (189.168)	-190.02*** (31.641)	-183.29*** (30.857)
Indiv. & time-varying controls	–	✓	✓	–	✓	✓	–	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA time trends	–	–	✓	–	–	✓	–	–	✓
Dependent variable mean	0.758	0.758	0.758	0.720	0.720	0.720	24,634	24,634	24,634
Observations	287,486	287,486	287,486	287,486	287,486	287,486	287,486	287,486	287,486
<i>First-stage IV results</i>									
Non-asylum EAD filings from other countries (×10,000)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)
KP Wald rk <i>F</i> -statistic	49.84	198.43	198.05	49.84	198.43	198.05	49.84	198.43	198.05

Notes: The table presents two-stage least squares (2SLS) estimates of the effect of EAD processing times on individual labor-market outcomes. The endogenous regressor is the average number of days to EAD approval at the gender × country-of-origin × PUMA × year level. The instrument is the national volume of non-asylum EAD applications filed by individuals from countries other than the cell's country of origin (×10,000). All specifications include year, country of origin, and PUMA fixed effects. Columns (3), (6), and (9) additionally include PUMA-specific time trends. Robust standard errors clustered at the PUMA level are shown in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 3: 2SLS Estimates for the Impact of EAD Processing Times on Additional Labor Market Outcomes

Dependent variable:	Usual hours worked			Low-desirability job			Essential worker		
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Days to EAD approval	-0.571*** (0.082)	-0.071*** (0.015)	-0.072*** (0.015)	0.005*** (0.001)	0.001*** (0.0001)	0.001*** (0.0001)	-0.009*** (0.002)	-0.001*** (0.0001)	-0.001*** (0.0001)
Indiv. & time-varying controls	–	✓	✓	–	✓	✓	–	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA time trends	–	–	✓	–	–	✓	–	–	✓
Dependent variable mean	29.96	29.96	29.96	0.126	0.126	0.126	0.409	0.409	0.409
Observations	287,486	287,486	287,486	287,486	287,486	287,486	287,486	287,486	287,486
<i>First-stage IV results</i>									
Non-asylum EAD filings from other countries (×10,000)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)
KP Wald rk <i>F</i> -statistic	49.84	198.43	198.05	49.84	198.43	198.05	49.84	198.43	198.05

Notes: The table presents two-stage least squares (2SLS) estimates of the effect of EAD processing times on individual labor-market outcomes. The endogenous regressor is the average number of days to EAD approval at the gender × country-of-origin × PUMA × year level. The instrument is the national volume of non-asylum EAD applications filed by individuals from countries other than the cell’s country of origin (×10,000). All specifications include year, country of origin, and PUMA fixed effects. Columns (3), (6), and (9) additionally include PUMA-specific time trends. Robust standard errors clustered at the PUMA level are shown in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 4: 2SLS Estimates for the Impact of EAD Processing Times on Additional Labor Market Outcomes

Dependent variable:	Low hours/Low earnings job cluster			Employed in a high-skill occupation			Employed in a mid-skill occupation		
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Days to EAD approval	-0.000 (0.0001)	0.000 (0.0001)	0.000 (0.0001)	-0.000 (0.0001)	-0.000 (0.0001)	-0.000 (0.0001)	-0.010*** (0.002)	-0.002*** (0.0001)	-0.002*** (0.0001)
Indiv. & time-varying controls	–	✓	✓	–	✓	✓	–	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA time trends	–	–	✓	–	–	✓	–	–	✓
Dependent variable mean	0.0107	0.0107	0.0107	0.122	0.122	0.122	0.217	0.217	0.217
Observations	287,486	287,486	287,486	287,486	287,486	287,486	287,486	287,486	287,486
<i>First-stage IV results</i>									
Non-asylum EAD filings from other countries (×10,000)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)	0.036*** (0.005)	0.084*** (0.006)	0.085*** (0.006)
KP Wald rk <i>F</i> -statistic	49.84	198.43	198.05	49.84	198.43	198.05	49.84	198.43	198.05

Notes: The table presents two-stage least squares (2SLS) estimates of the effect of EAD processing times on individual labor-market outcomes. The endogenous regressor is the average number of days to EAD approval at the gender × country-of-origin × PUMA × year level. The instrument is the national volume of non-asylum EAD applications filed by individuals from countries other than the cell’s country of origin (×10,000). All specifications include year, country of origin, and PUMA fixed effects. Columns (3), (6), and (9) additionally include PUMA-specific time trends. Robust standard errors clustered at the PUMA level are shown in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 5: Identification Check
Correlation Between Non-Asylum EAD Filings and Cell-Level Characteristics

Statistic:	Standardized coefficient	Standardized coefficient
Column:	[t-statistic]	[t-statistic]
	(1)	(2)
Share Hispanic	-0.001 [-0.843]	-0.001 [-0.854]
Share non-Hispanic White	0.004* [1.893]	0.004* [1.848]
Share female	0.061*** [12.901]	0.062*** [12.657]
Mean age	-0.133*** [-25.728]	-0.131*** [-24.806]
Share with a high school diploma	0.056*** [13.277]	0.057*** [13.187]
Unemployment rate	0.046*** [8.449]	0.046*** [8.273]
Poverty rate	0.070*** [13.804]	0.068*** [13.387]
Fixed effects	✓	✓
PUMA-specific time trends	–	✓
Observations	91,154	91,154

Notes: The table reports standardized beta coefficients from balance regressions relating selected cell-level demographic and socioeconomic characteristics to the instrument used in the main analysis, i.e., the national number of non-asylum EAD applications filed by individuals from countries other than the cell's country of origin. Each row corresponds to a separate regression of a characteristic j_{gopt} , defined at the gender \times country-of-origin \times PUMA \times year cell level, on the instrument $Z_{(-o,t)}$, controlling for gender, country of origin, PUMA, and year fixed effects. Column (2) additionally includes PUMA-specific time trends. Robust standard errors clustered at the PUMA level are shown in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 6: Placebo 2SLS Estimates for Naturalized Immigrants
2SLS Estimates of the Impact of EAD Processing Times on Labor Market Outcomes

Dependent variable:	In LF	At work	Labor income	Usual hours worked	Low-desirability job	Essential worker	Low hours or pay	Employed in a high-skill occupation	Employed in a mid-skill occupation
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Days to EAD approval	0.000 (0.001)	0.002 (0.001)	-6.417 (25.767)	-0.009 (0.047)	0.002* (0.001)	-0.001 (0.001)	0.000 (0.0001)	-0.000 (0.001)	-0.001 (0.001)
Indiv. & time-varying controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year and country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs and time trends	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dependent variable mean	0.704	0.638	10,710	25.20	0.195	0.387	0.0171	0.0638	0.257
Observations	40,549	40,549	40,549	40,549	40,549	40,549	40,549	40,549	40,549

Notes: The table reports 2SLS placebo estimates for naturalized citizens with family income at or below 200% of the poverty threshold, using cell-level average days to EAD approval as the endogenous regressor and national non-asylum EAD filings by other countries of origin as the instrument. All specifications include individual-level time-varying controls. We include year, country of origin, and PUMA fixed effects, as well as PUMA-specific time trends. Robust standard errors clustered at the PUMA level are shown in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 7: 2SLS Estimates for the Impact of EAD Processing Times on Labor Market Outcomes by Gender

Dependent variable:	In LF	At work	Labor income	Usual hours worked	Low-desirability job	Essential worker	Low hours or pay	Employed in a high-skill occupation	Employed in a mid-skill occupation
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Females									
Days to EAD approval	-0.004*** (0.001)	-0.004*** (0.001)	-301.322*** (55.465)	-0.168*** (0.038)	-0.001 (0.0001)	-0.002** (0.001)	-0.000 (0.0001)	-0.000 (0.0001)	-0.002** (0.001)
Indiv. & time-varying controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year and country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs and time trends	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dependent variable mean	0.561	0.514	13,822	20.34	0.106	0.299	0.00681	0.0989	0.264
Observations	128,397	128,397	128,397	128,397	128,397	128,397	128,397	128,397	128,397
Panel B: Males									
Days to EAD approval	-0.008*** (0.002)	-0.009*** (0.003)	-884.439*** (245.485)	-0.260*** (0.083)	0.006*** (0.002)	0.000 (0.002)	0.001 (0.000)	-0.003*** (0.001)	-0.007*** (0.002)
Indiv. & time-varying controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year and country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs and time trends	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dependent variable mean	0.906	0.874	32,727	37.17	0.141	0.492	0.0136	0.139	0.183
Observations	158,909	158,909	158,909	158,909	158,909	158,909	158,909	158,909	158,909

Notes: The table reports 2SLS estimates of the effect of a one-day increase in average EAD processing times on individual labor market outcomes, estimated separately for women (Panel A) and men (Panel B). The endogenous regressor is the cell-level average number of days to EAD approval, and the instrument is the national volume of non-asylum EAD applications filed by individuals from countries other than the individual's country of origin. All specifications include individual-level and time-varying controls, fixed effects for year, country of origin, and PUMA, and PUMA-specific time trends. Robust standard errors clustered at the PUMA level are reported in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 8: 2SLS Estimates for the Impact of EAD Processing Times on Labor Outcomes by U.S. Census Region

Dependent variable:	In LF	At work	Labor income	Usual hours worked	Low-desirability job	Essential worker	Low hours or pay	Employed in a high-skill occupation	Employed in a mid-skill occupation
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Northeast									
Days to EAD approval	-0.008*** (0.002)	-0.010*** (0.002)	-734.199*** (201.524)	-0.396*** (0.094)	0.003** (0.001)	-0.005** (0.002)	0.000 (0.0001)	-0.001 (0.001)	-0.005*** (0.002)
Observations	51,682	51,682	51,682	51,682	51,682	51,682	51,682	51,682	51,682
Panel B: West									
Days to EAD approval	-0.003*** (0.001)	-0.004*** (0.001)	-495.274*** (101.186)	-0.114*** (0.035)	0.001** (0.001)	0.000 (0.001)	0.000 (0.000)	-0.001*** (0.001)	-0.003*** (0.001)
Observations	112,188	112,188	112,188	112,188	112,188	112,188	112,188	112,188	112,188
Panel C: South									
Days to EAD approval	-0.005** (0.003)	-0.006** (0.003)	-475.356** (200.160)	-0.186* (0.100)	0.003* (0.002)	0.002 (0.002)	0.001 (0.001)	-0.002 (0.001)	-0.004* (0.002)
Observations	104,673	104,673	104,673	104,673	104,673	104,673	104,673	104,673	104,673
Panel D: Midwest									
Days to EAD approval	-0.066 (0.192)	-0.069 (0.199)	-3,264.285 (9,419.063)	-1.952 (5.672)	0.005 (0.017)	0.001 (0.016)	-0.001 (0.004)	0.003 (0.013)	-0.018 (0.054)
Observations	18,943	18,943	18,943	18,943	18,943	18,943	18,943	18,943	18,943

Notes: The table reports 2SLS estimates of the effect of a one-day increase in average EAD processing times on individual labor market outcomes, estimated separately by U.S. Census region. All specifications include individual and time-varying controls, fixed effects for year, country of origin, and PUMA, as well as PUMA-specific time trends. Robust standard errors clustered at the PUMA level are reported in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 9: 2SLS Estimates of the Impact of EAD Processing Times on Labor Market Outcomes by Asylum Seekers' Region of Origin

Dependent variable:	In LF	At work	Labor income	Usual hours worked	Low-desirability job	Essential worker	Low hours or pay	Employed in a high-skill occup.	Employed in a mid-skill occup.
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Americas									
Days to EAD approval	0.014 (0.019)	0.018 (0.024)	1,419.405 (1,890.380)	0.559 (0.756)	-0.020 (0.027)	0.005 (0.010)	-0.001 (0.002)	-0.009 (0.012)	0.033 (0.043)
Observations	188,014	188,014	188,014	188,014	188,014	188,014	188,014	188,014	188,014
Panel B: Africa (excluding North Africa)									
Days to approval	-0.001 (0.001)	-0.003* (0.001)	3.855 (62.151)	-0.078 (0.054)	-0.000 (0.001)	-0.000 (0.001)	0.001 (0.000)	-0.001 (0.001)	-0.002 (0.001)
Observations	5,732	5,732	5,732	5,732	5,732	5,732	5,732	5,732	5,732
Panel C: Asia and the Pacific (excluding the Middle East)									
Days to EAD approval	-0.004*** (0.000)	-0.004*** (0.001)	-363.114*** (58.992)	-0.148*** (0.020)	0.001** (0.000)	-0.000 (0.000)	0.000** (0.000)	-0.002*** (0.000)	-0.001** (0.000)
Observations	81,683	81,683	81,683	81,683	81,683	81,683	81,683	81,683	81,683
Panel D: Middle East and North Africa									
Days to EAD approval	-0.002* (0.001)	-0.002* (0.001)	-112.747 (134.419)	-0.080 (0.055)	0.002** (0.001)	0.000 (0.002)	0.000 (0.000)	-0.000 (0.001)	-0.001 (0.001)
Observations	4,954	4,954	4,954	4,954	4,954	4,954	4,954	4,954	4,954
Panel E: Europe (including Russia)									
Days to EAD approval	-0.003* (0.002)	-0.004** (0.002)	-312.598* (168.462)	-0.034 (0.065)	0.001 (0.001)	-0.001 (0.002)	0.000 (0.000)	0.000 (0.001)	-0.002 (0.001)
Observations	7,103	7,103	7,103	7,103	7,103	7,103	7,103	7,103	7,103

Notes: The table reports 2SLS estimates of the effect of a one-day increase in average EAD processing times on individual labor market outcomes, estimated separately by region of origin. All specifications include individual and time-varying controls, fixed effects for year, country of origin, and PUMA, as well as PUMA-specific time trends. Robust standard errors clustered at the PUMA level are reported in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

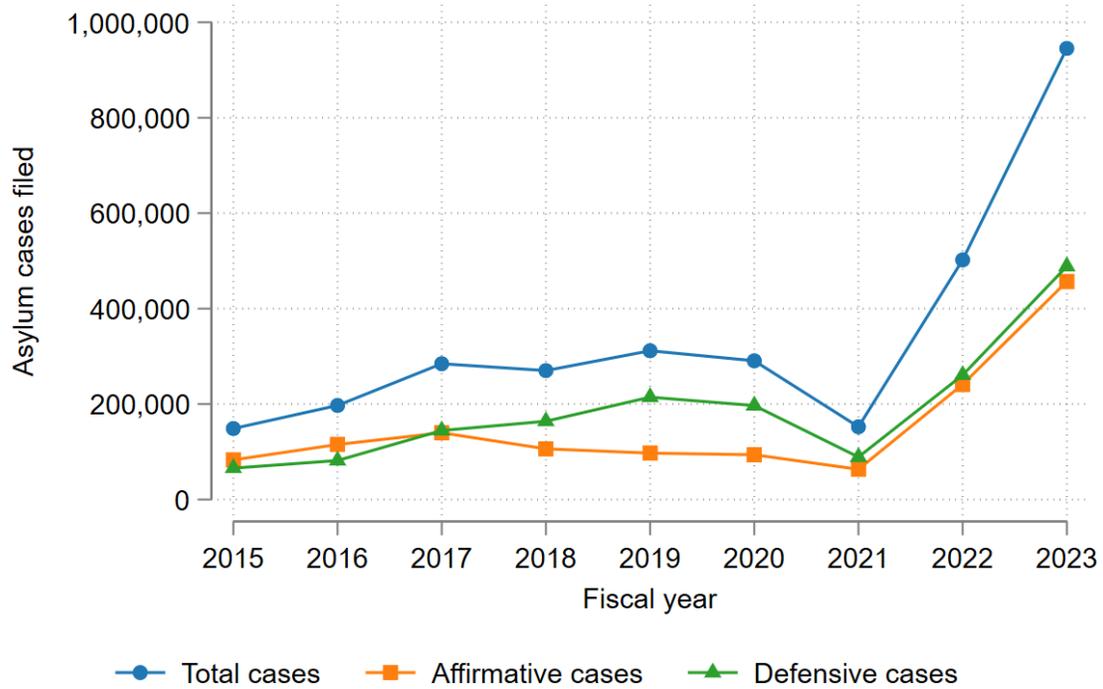
Table 10: Dynamic Effects of EAD Processing Delays by Years Since Arrival

Dependent variable:	In LF	At work	Labor income	Usual hours worked	Low-desirability job	Essential worker	Low hours or pay	Employed in a high-skill occupation	Employed in a mid-skill occupation
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Years Since Arrival:									
0 – 4 years	-0.004*** (0.000)	-0.004*** (0.001)	-204.143*** (33.316)	-0.115*** (0.019)	0.001** (0.000)	-0.002*** (0.000)	-0.000 (0.000)	-0.001*** (0.000)	-0.002*** (0.000)
5 – 9 years	-0.002** (0.001)	-0.002** (0.001)	-611.295*** (108.290)	-0.124*** (0.041)	0.002** (0.001)	-0.001 (0.001)	0.001** (0.000)	-0.002*** (0.001)	-0.001 (0.001)
10 – 14 years	-0.002 (0.008)	-0.008 (0.013)	52.649 (807.055)	0.006 (0.342)	-0.004 (0.009)	-0.004 (0.012)	0.004 (0.005)	-0.001 (0.005)	-0.018 (0.024)
15+ years	0.023 (0.053)	0.022 (0.052)	805.268 (2,046.044)	0.793 (1.844)	-0.010 (0.026)	0.034 (0.079)	-0.001 (0.005)	0.010 (0.024)	0.050 (0.114)
Indiv. & time-varying controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year & Country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs & PUMA time trends	✓	✓	✓	✓	✓	✓	✓	✓	✓
DV mean (full sample)	0.758	0.720	24,634	29.97	0.126	0.409	0.011	0.112	0.217

Notes: The table reports 2SLS estimates of the effect of EAD processing delays on individual labor market outcomes, estimated separately by years since arrival in the United States (0–4, 5–9, 10–14, and 15+ years). EAD processing delays and the corresponding instrumental variable are defined at the individual’s year of arrival, while labor market outcomes are measured in the ACS survey year. The endogenous regressor is the average number of days to EAD approval within each gender × country-of-origin × PUMA × arrival-year cell. The instrumental variable is total non-asylum EAD filings by other countries of origin in the same year. All specifications include individual-level controls, fixed effects for survey year, country of origin, and PUMA, and PUMA-specific time trends. Standard errors clustered at the PUMA level are reported in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

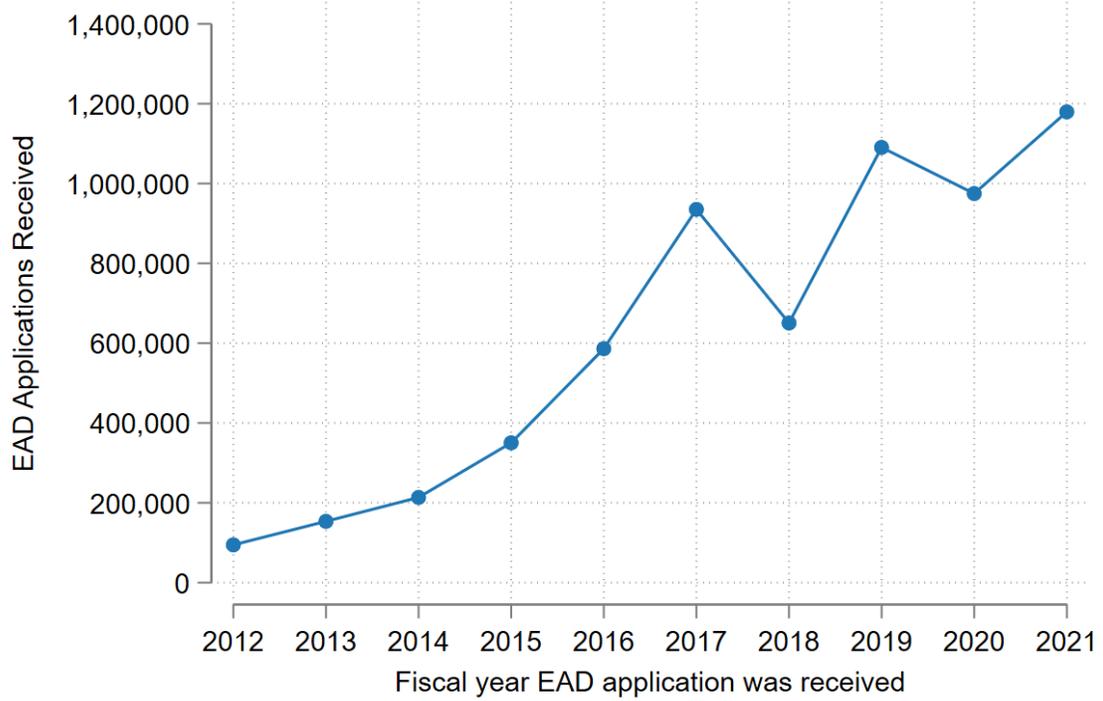
FIGURES

Figure 1: Asylum Cases Filed by Fiscal Year, 2015–2023



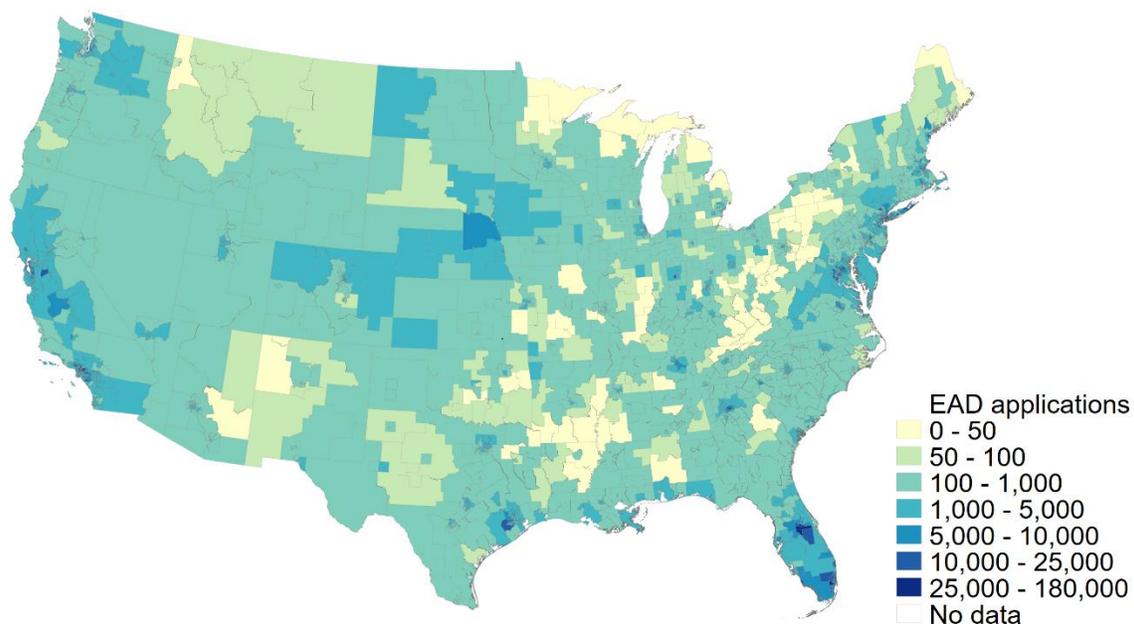
Notes: The figure displays the total number of affirmative and defensive asylum cases filed by fiscal year. In many cases, more than one person is included in the same case, for example, when a family unit with children under 21 applies together. Data obtained from the U.S Department of Homeland Security Annual Flow Reports.

Figure 2: EAD Applications by Asylum Seekers, 2012–2021



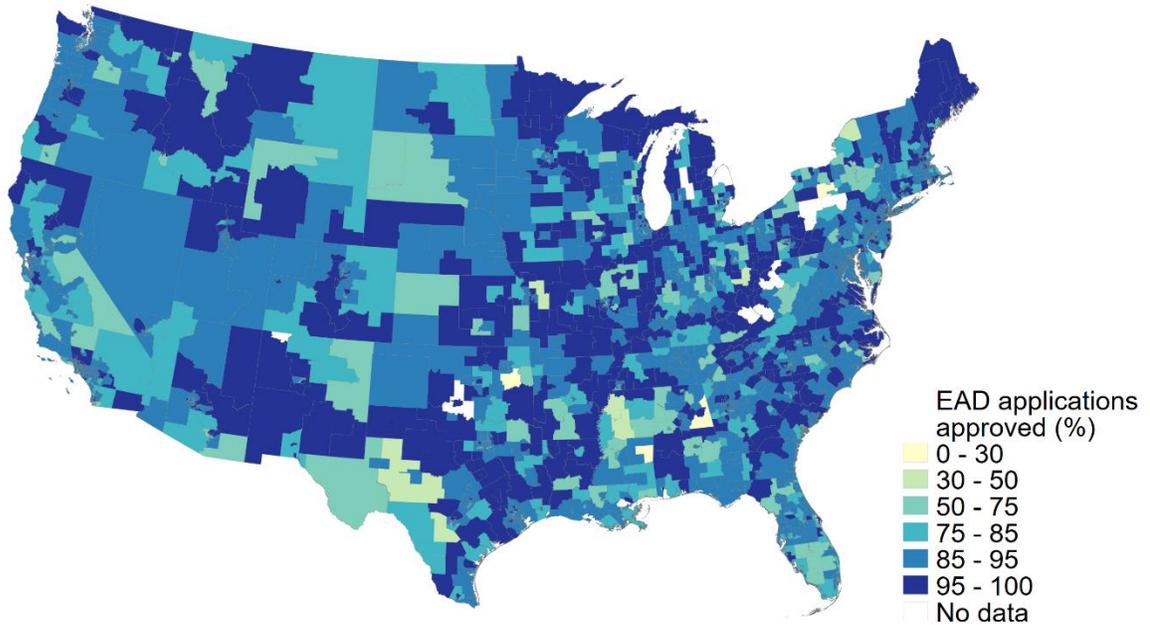
Notes: The figure shows the total number of EAD applications submitted by asylum seekers by fiscal year. Data obtained through a FOIA request with the U.S Department of Homeland Security.

Figure 3: EAD Applications Submitted by Asylum Seekers, by PUMA (2012–2021)

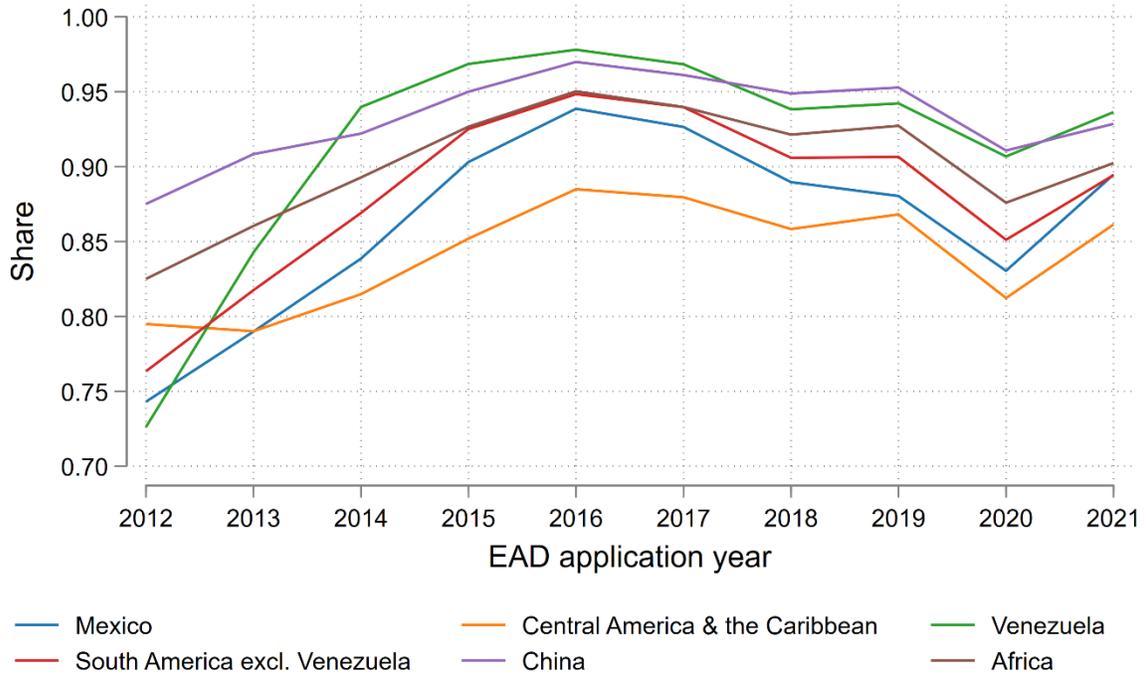


Notes: The figure shows the total number of EAD applications submitted by asylum seekers during the entire study period (2012-2021), by PUMA. Data obtained through a FOIA request with the U.S Department of Homeland Security.

Figure 4: Geographic and Temporal Variation in EAD Approval Rates

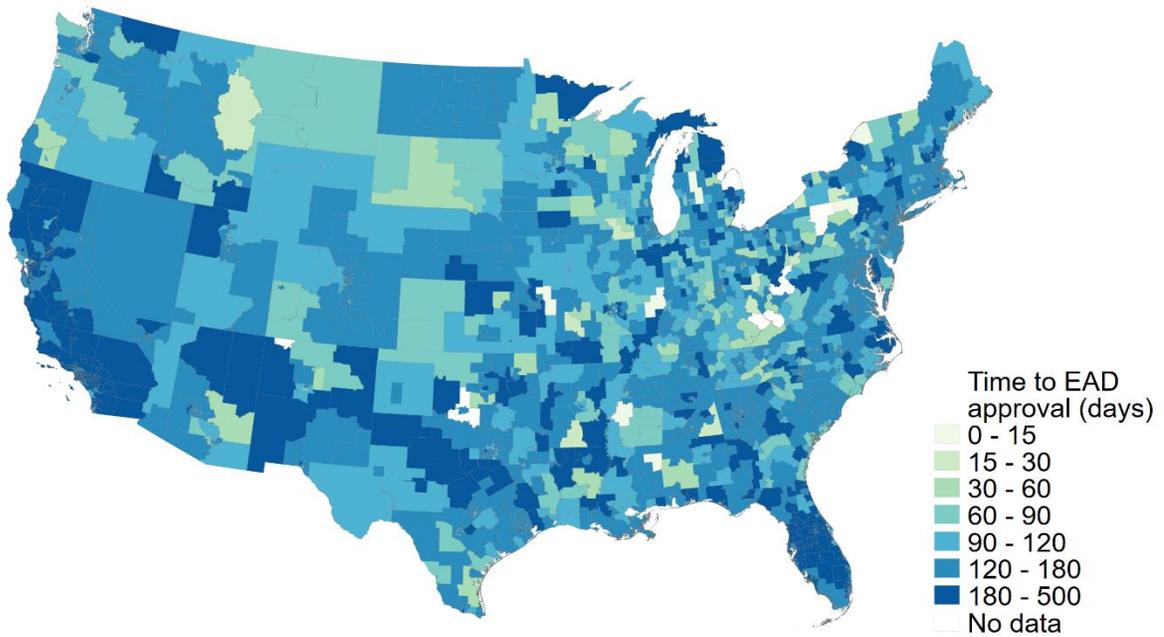


(a) Proportion of EAD Applications Approved by PUMA, 2021

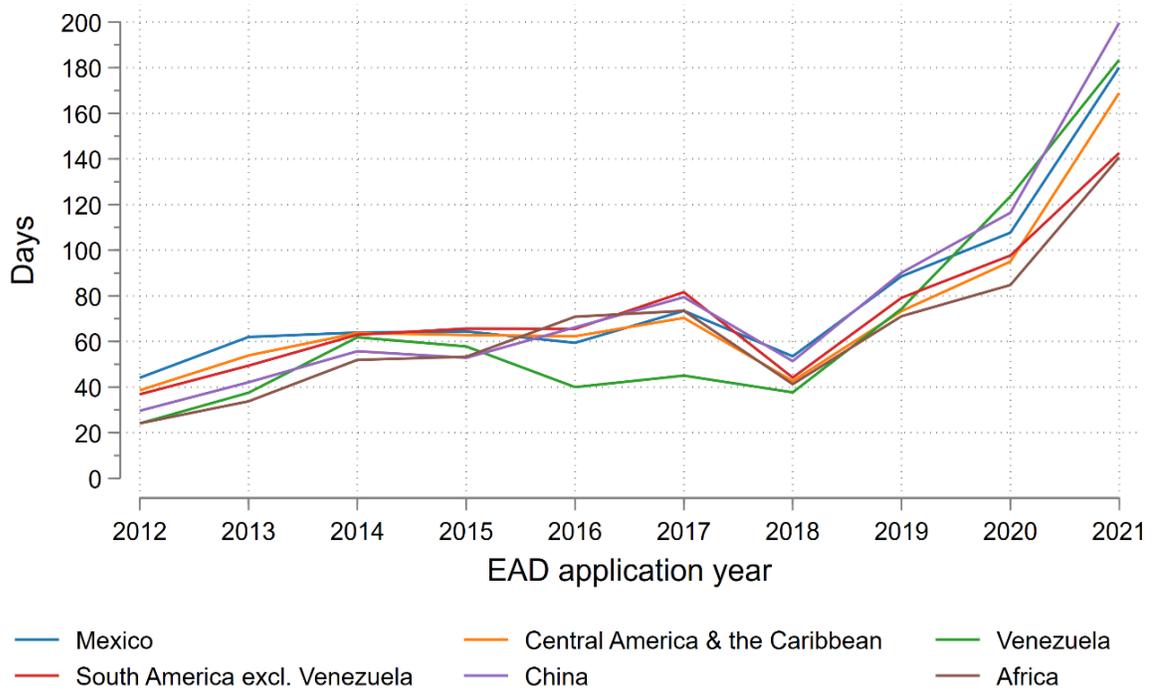


(b) EAD Approval Shares by Year and Origin Region

Figure 5: Geographic and Temporal Variation in EAD Processing Times

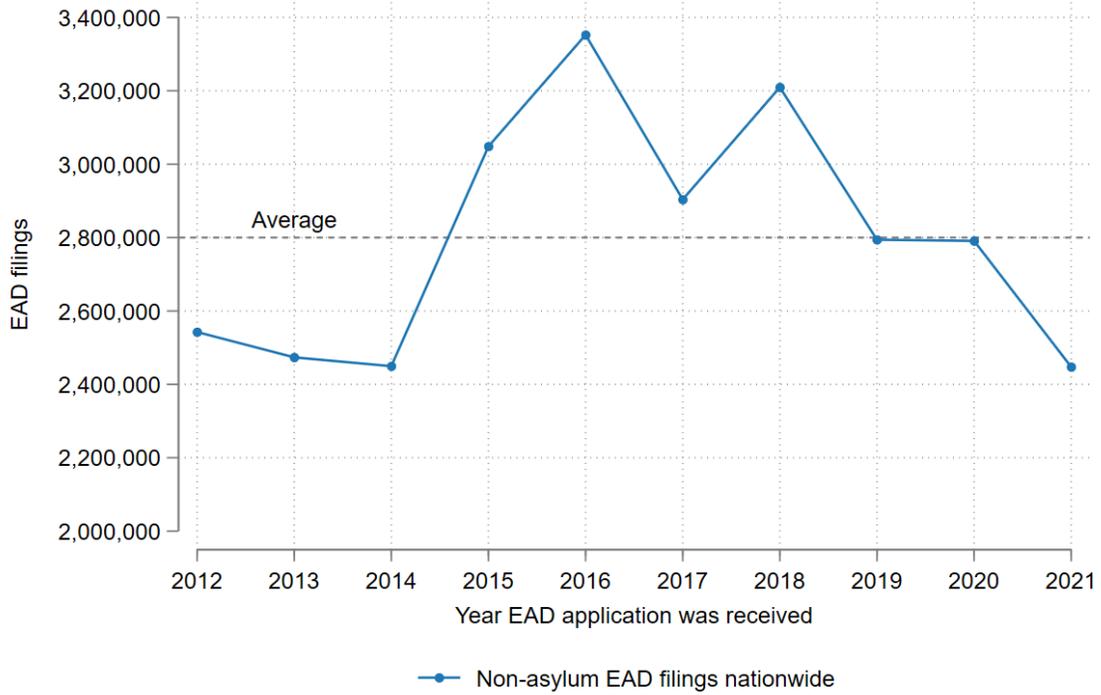


(a) Average Time to EAD Approval by PUMA, 2021



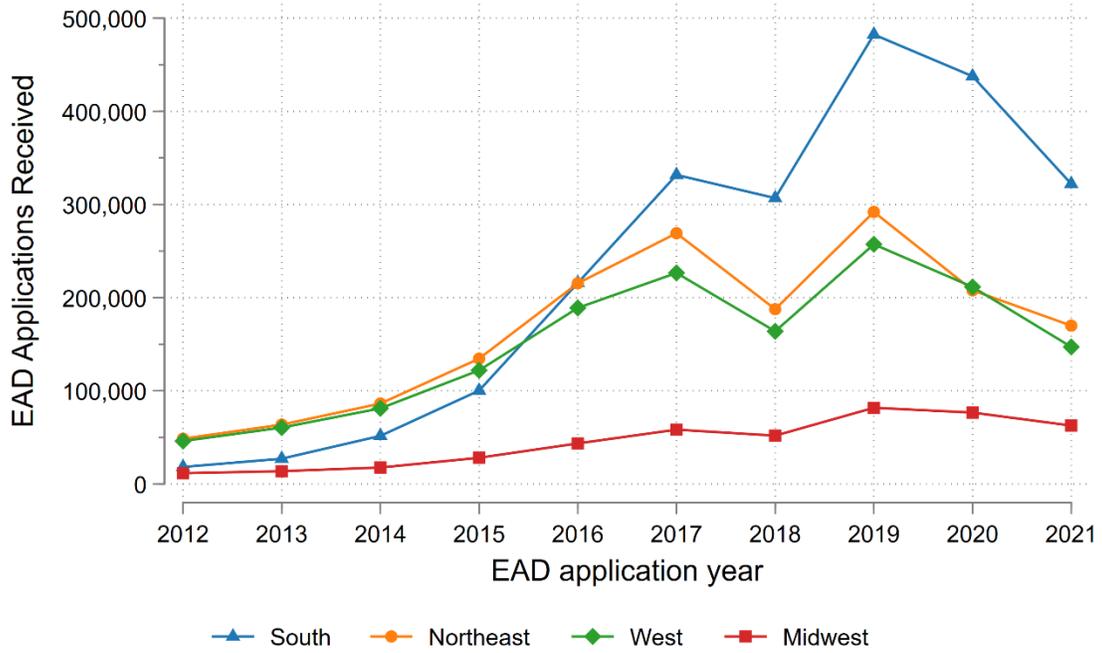
(b) Average Time to EAD Approval by Year and Origin Region

Figure 6: National Non-Asylum EAD Filings, 2012–2021



Notes: The figure shows the annual volume of EAD applications submitted by non-asylum seekers. Data obtained through a FOIA request with the U.S Department of Homeland Security.

Figure 7: Annual EAD Applications by Asylum Seekers, by Census Region (2012–2021)



Notes: The figure shows the annual volume of EAD applications submitted by asylum seekers by U.S. Census region. Data were obtained through a FOIA request to the U.S. Department of Homeland Security.

APPENDIX

Table A.1: Reduced-Form Effects of Non-Asylum EAD Filings on Labor Market Outcomes

Dependent variable:	In LF	At work	Labor income	Usual hours worked	Low-desirability job	Essential worker	Low hours or pay	Employed in a high-skill occupation	Employed in a mid-skill occupation
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Non-asylum EAD filings from other countries ($\times 10,000$)	-0.0001*** (0.0001)	-0.0001*** (0.0001)	-15.587*** (2.364)	-0.006*** (0.001)	0.0001*** (0.0001)	-0.0001*** (0.0001)	0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001*** (0.0001)
Indiv. & time-varying controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year and country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs and time trends	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dependent variable mean	0.766	0.726	23,920	30.19	0.130	0.414	0.0105	0.114	0.220
Observations	322,442	322,442	322,442	322,442	322,442	322,442	322,442	322,442	322,442
R^2	0.222	0.217	0.297	0.253	0.056	0.196	0.024	0.305	0.111

Notes: The table reports reduced-form estimates of the effect of the instrument—non-asylum EAD filings from other countries—on labor market outcomes. All specifications include individual-level time-varying controls, as well as year, country-of-origin, and PUMA fixed effects, and PUMA-specific time trends. Robust standard errors, clustered at the PUMA level, are reported in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.2: 2SLS Estimates for the Impact of EAD Processing Times on Labor Market Outcomes in High-EAD-Volume Cells

Dependent variable:	In LF			At work			Labor income		
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Days to EAD approval	-0.010*** (0.002)	-0.002*** (0.001)	-0.002*** (0.001)	-0.011*** (0.002)	-0.002** (0.001)	-0.002** (0.001)	-742.646*** (169.463)	-208.002*** (61.791)	-243.249*** (73.804)
Indiv. & time-varying controls	–	✓	✓	–	✓	✓	–	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA time trends	–	–	✓	–	–	✓	–	–	✓
Dependent variable mean	0.763	0.763	0.763	0.717	0.717	0.717	24166	24166	24166
Observations	35,905	35,905	35,905	35,905	35,905	35,905	35,905	35,905	35,905
<i>First-stage IV results</i>									
Non-asylum EAD filings from other countries (×10,000)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)
KP Wald rk <i>F</i> -statistic	18.30	52.49	50.38	18.30	52.49	50.38	18.30	52.49	50.38

Notes: The table presents the 2SLS-estimated impact of an additional day in EAD processing times on the labor-market outcomes of individuals in high-EAD-volume cells. Columns (1), (4), and (7) include year, country of origin, and PUMA fixed effects. Columns (2), (5), and (8) additionally control for individual-level covariates. Columns (3), (6), and (9) incorporate PUMA-specific time trends. Robust standard errors clustered at the PUMA level are shown in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.3: 2SLS Estimates for the Impact of EAD Processing Times on Labor Market Outcomes in High-EAD-Volume Cells

Dependent variable:	Usual hours worked			Low-desirability job			Essential worker		
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Days to EAD approval	-0.379*** (0.083)	-0.052* (0.029)	-0.059** (0.030)	-0.000 (0.001)	-0.000 (0.001)	-0.001 (0.001)	-0.005** (0.002)	-0.001 (0.001)	-0.001 (0.001)
Indiv. & time-varying controls	–	✓	✓	–	✓	✓	–	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA time trends	–	–	✓	–	–	✓	–	–	✓
Dependent variable mean	29.67	29.67	29.67	0.134	0.134	0.134	0.407	0.407	0.407
Observations	35,905	35,905	35,905	35,905	35,905	35,905	35,905	35,905	35,905
<i>First-stage IV results</i>									
Non-asylum EAD filings from other countries (×10,000)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)
KP Wald rk <i>F</i> -statistic	18.30	52.49	50.38	18.30	52.49	50.38	18.30	52.49	50.38

Notes: The table presents the 2SLS-estimated impact of an additional day in EAD processing times on the labor-market outcomes of individuals in high-EAD-volume cells. Columns (1), (4), and (7) include year, country of origin, and PUMA fixed effects. Columns (2), (5), and (8) additionally control for individual-level covariates. Columns (3), (6), and (9) incorporate PUMA-specific time trends. Robust standard errors clustered at the PUMA level are shown in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.4: 2SLS Estimates for the Impact of EAD Processing Times on Labor Market Outcomes in High-EAD-Volume Cells

Dependent variable:	Low hours or pay			Employed in a high-skill occupation			Employed in a mid-skill occupation		
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Days to EAD approval	0.000 (0.0001)	0.000 (0.0001)	0.000 (0.0001)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.006*** (0.002)	-0.002** (0.001)	-0.002** (0.001)
Indiv. & time-varying controls	–	✓	✓	–	✓	✓	–	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country of origin FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
PUMA time trends	–	–	✓	–	–	✓	–	–	✓
Dependent variable mean	0.0123	0.0123	0.0123	0.123	0.123	0.123	0.220	0.220	0.220
Observations	35,905	35,905	35,905	35,905	35,905	35,905	35,905	35,905	35,905
<i>First-stage IV results</i>									
Non-asylum EAD filings from other countries (×10,000)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)	0.070*** (0.0156)	0.128*** (0.0177)	0.125*** (0.0177)
KP Wald rk <i>F</i> -statistic	18.30	52.49	50.38	18.30	52.49	50.38	18.30	52.49	50.38

Notes: The table presents the 2SLS-estimated impact of an additional day in EAD processing times on the labor-market outcomes of individuals in high-EAD-volume cells. Columns (1), (4), and (7) include year, country of origin, and PUMA fixed effects. Columns (2), (5), and (8) additionally control for individual-level covariates. Columns (3), (6), and (9) incorporate PUMA-specific time trends. Robust standard errors clustered at the PUMA level are shown in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.5: Robustness Check: 2SLS Estimates Excluding Selected High-Volatility Years

Dependent variable:	In LF	At work	Labor income	Usual hours worked	Low-desirability job	Essential worker	Low hours or pay	Employed in a high-skill occupation	Employed in a mid-skill occupation
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Excluding 2015									
Days to EAD approval	-0.001*** (0.0001)	-0.002*** (0.0001)	-153.403*** (30.627)	-0.050*** (0.015)	0.001*** (0.0001)	-0.001* (0.0001)	0.000 (0.0001)	0.000 (0.0001)	-0.002*** (0.0001)
Dependent var. mean	0.761	0.722	24942	30.03	0.125	0.409	0.0109	0.123	0.217
Observations	262,597	262,597	262,597	262,597	262,597	262,597	262,597	262,597	262,597
Excluding 2016									
Days to EAD approval	-0.001*** (0.0001)	-0.001*** (0.0001)	-142.946*** (30.593)	-0.032** (0.014)	0.001*** (0.0001)	-0.000 (0.0001)	0.000 (0.0001)	0.000 (0.0001)	-0.002*** (0.0001)
Dependent var. mean	0.760	0.722	24845	30.05	0.126	0.410	0.0107	0.122	0.217
Observations	260,778	260,778	260,778	260,778	260,778	260,778	260,778	260,778	260,778
Excluding 2020									
Days to EAD approval	-0.003*** (0.0001)	-0.003*** (0.0001)	-204.793*** (32.999)	-0.105*** (0.017)	0.001*** (0.0001)	-0.001*** (0.0001)	0.000 (0.0001)	-0.000 (0.0001)	-0.003*** (0.0001)
Dependent var. mean	0.758	0.721	24052	29.94	0.127	0.413	0.0108	0.118	0.220
Observations	264,480	264,480	264,480	264,480	264,480	264,480	264,480	264,480	264,480

Notes: The table reports 2SLS estimates of the effect of a one-day increase in average EAD processing times on individual labor market outcomes, sequentially excluding 2015, 2016, and 2020. All specifications include individual-level time-varying controls, fixed effects for year, country of origin, and PUMA, as well as PUMA-specific time trends. Robust standard errors clustered at the PUMA level are reported in parentheses. *p < 0.1; **p < 0.05; ***p < 0.01.

Table A.6: 2SLS Estimates of the Impact of EAD Processing Times on Labor Market Outcomes in Main Destination States for Asylum Seekers

Dependent variable:	In LF	At work	Labor income	Usual hours worked	Low-desirability job	Essential worker	Low hours or pay	Employed in a high-skill occupation	Employed in a mid-skill occupation
Column:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: California									
Days to EAD approval	-0.003*** (0.001)	-0.004*** (0.001)	-418.604*** (95.157)	-0.130*** (0.040)	0.001 (0.001)	-0.001 (0.001)	0.000 (0.000)	-0.001** (0.001)	-0.003*** (0.001)
Observations	85,068	85,068	85,068	85,068	85,068	85,068	85,068	85,068	85,068
Panel B: New York									
Days to EAD approval	-0.008** (0.003)	-0.011** (0.005)	-956.581** (463.428)	-0.424** (0.201)	0.003 (0.002)	-0.006 (0.004)	0.000 (0.001)	0.001 (0.002)	-0.005 (0.003)
Observations	23,959	23,959	23,959	23,959	23,959	23,959	23,959	23,959	23,959
Panel C: Texas									
Days to EAD approval	0.028 (0.074)	0.031 (0.082)	2,524.702 (6,670.956)	1.259 (3.296)	-0.016 (0.042)	-0.000 (0.014)	-0.004 (0.010)	0.015 (0.041)	0.009 (0.026)
Observations	45,060	45,060	45,060	45,060	45,060	45,060	45,060	45,060	45,060
Panel D: Florida									
Days to EAD approval	-0.002 (0.002)	-0.001 (0.002)	-143.436 (107.094)	0.023 (0.066)	0.002 (0.001)	0.002 (0.002)	0.000 (0.000)	0.001 (0.001)	-0.001 (0.002)
Observations	23,343	23,343	23,343	23,343	23,343	23,343	23,343	23,343	23,343

Notes: The table reports 2SLS estimates of the effect of a one-day increase in average EAD processing times on individual labor market outcomes, estimated separately by asylum seekers' top states of residence, as listed in Schofield & Yap (2024). All specifications include individual and time-varying controls, fixed effects for year, country of origin, and PUMA, as well as PUMA-specific time trends. Robust standard errors clustered at the PUMA level are reported in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.