The Effect of COVID-19 on Labor Market Outcomes of Immigrants in the U.S.

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Abstract: The unprecedented decrease in employment between March and April 2020 resulting from the Covid-19 pandemic and related government-imposed lockdowns was significantly more severe for immigrants than for the native-born. Immigrants' larger job loss during this critical early period was due in part to their greater employment in occupations that are more difficult to perform remotely. Unemployment also increased more for immigrants than for the native-born, and the gap in unemployment persisted for immigrant women into 2021. However, by early 2022, the differential impact of the Covid-19 shock on immigrant and native labor market outcomes had effectively disappeared: there is little evidence of longer-term changes in the immigrant-native gaps in employment rate, unemployment rate, or job loss. The Covid-19 shock disrupted the labor market outcomes of immigrants substantially, but with little or no apparent persistence.

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George J. Borjas and Hugh Cassidy*

1. Introduction

The Covid-19 pandemic, and the subsequent government-imposed restrictions on businesses activities and travel, resulted in an unprecedented reduction in the employment rate in a single month: from 75.9% in March 2020 to 66.2% in April 2020. The size of the employment decline, however, differed significantly between immigrants and the native-born, with the immigrant employment rate falling by 17% while the native-born employment rate fell only 12%. Relatedly, monthly job loss rates – largely similar between immigrants and natives in the pre-Covid period – increased much more for immigrants than natives in the March-April 2020 period.

What can explain the greater job loss and decreased employment rate suffered by immigrants compared to natives? We find evidence that a substantial amount (around one-third) can be attributed to differences in the occupational distribution between natives and immigrants; specifically, since immigrants are more likely to work in occupations that are more difficult to perform at home, they were more exposed to the unique nature of the Covid-19 labor market disruption.

By 2023, approximately three years after the onset of this pandemic, we are in a position to evaluate how the disparate effects of the pandemic on the labor market outcomes of immigrants versus and observed in the early pandemic evolved over time. In short, though the

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early pandemic labor market shocks were more severe for immigrants than natives, we find little evidence of a persistence in these effects: by early 2022, the employment rates for both immigrants and native had essentially returned to their pre-pandemic levels. For men, the employment rates of immigrants relative to natives had returned to "normal" as early as Fall 2020. For women, however, the disparate employment effect on immigrants persisted until mid-2021.

Similar patterns are observed for the evolution of the unemployment rate over the period: by early 2022, unemployment rates for both natives and immigrants had returned to their pre-pandemic levels. The relatively greater increase in unemployment for immigrant men persisted for only a few months, disappearing by late 2020; for immigrant women, however, their relatively greater increase in unemployment continued well into 2021, though by late 2021, had also disappeared.

Since legal immigration status can affect both the employment opportunities available to workers as well as access to unemployment insurance (UI), we also explore how the pandemic and subsequent recovery differed between native-born, legal immigrants, and undocumented immigrants. We assign likely legal status using individual and household characteristics, such as veteran status, Medicaid receipt, etc. The drop in employment early in the pandemic was more severe for undocumented than for legal immigrants. However, perhaps due in part to their restricted access to UI, we find that the employment rate for undocumented immigrants rose faster for undocumented than for legal immigrants or natives following the onset of the pandemic, especially for women.

In sum, although immigrants on average suffered greater labor market difficulties than natives due to the pandemic, the labor market outcomes of immigrants rebounded quickly compared to natives.

2. Data and the Job Remotability Measure

Our analysis utilizes Current Population Survey (CPS) basic monthly data provided by the Integrated Public Use Microdata Series (IPUMS) (Flood et al, 2022), covering the period January 2019 (to identify pre-pandemic differences between natives and immigrants) until August 2023, the most recent data available. Our sample consists of persons aged 21-64 who are not in school or in the Armed Forces.[1] As described in detail below, to identify legal versus undocumented immigrants, we also utilize the Annual Social and Economic (ASEC) supplement for years 2019-2023.

Historically, immigrants and natives tend to exhibit different labor market outcomes such as employment and unemployment rates. As such, to properly measure the impact of Covid-19 on such labor market outcomes, we estimate their pre-pandemic gaps using data from 2019. A person is employed if he/she is either "at work" or "has job, not at work last week."

To capture the ease with which a job can be performed remotely, we develop a measure of occupational *remotability* using data from the Occupational Information Network (O*NET).[2] We use occupational characteristics from the *Work Context* and *Work Activities* surveys that seem likely to be related to the ease with which an occupation can be performed from home,

[1] All analyses use CPS-provide sample weights and, where applicable, we cluster standard errors at the individual level to account for repeat sampling of individuals.

[2] Several other papers, including Dingel and Neiman (2020) and Montenovo et al. (2022), also develop similar measures of occupational remotability.

including: the frequency of telephone conversations on the job, the frequency of using electronic mail, whether the job breaks down information or data into separate parts, and whether the job requires that the worker interact with computers (such as programming). We combine these characteristics into a single "remotability index" using principal component analysis, which we reweight using our CPS sample to have mean zero and have a standard deviation of one.[3]

3. Early Pandemic: Employment, Unemployment, and Job Loss

We begin our analysis by showing the trends in employment over our whole sample period (January 2019-August 2023) for natives and immigrants in Figure 1. In this and subsequent figures, we show the results for men in Panel A and the results for women in Panel B. The onset of the pandemic is obvious: employment plunged for both natives and immigrants between March and April 2020. While immigrant men had, for decades, enjoyed a sizeable employment rate advantage relative to native men, in March 2020 their employment rates were nearly identical. Immigrant women experienced a slightly greater percentage point drop in employment between these two months than native women, and because of their lower pre-pandemic employment rates, the percentage drop in immigrant women's employment was more severe than that of native women.

Figure 1 shows only the unconditional values for employment, without any controls for demographic characteristics. In the first two columns of Table 1 we show results of linear probability model estimations, where our dependent variable equals one if the worker is employed and zero otherwise, and where we include demographic controls (age, education,

[3] See the appendix of Borjas and Cassidy (2023) for additional details of how we constructed the remotability index, as well as for details about the process for merging occupation codes between the O*NET and CPS.

marital status, presence of children, residence in a metropolitan area, and state of residence) as well as a vector of calendar month fixed effects. We control for an immigrant dummy variable, as well as this dummy variable interacted with the following time period: March 2020; April-June 2020; July-December 2020; 2021; 2022; and 2023. The omitted time period is "pre-Covid", i.e. February 2020 and earlier, and so each immigrant dummy variable and time period interaction can be interpreted as a deviation in immigrant versus native employment relative to before Covid. Consistent with Figure 1, we observe a larger employment drop for both male and female immigrants, even in the presence of demographic controls: 5.6 percentage points greater for male immigrants and 3.0 percentage points greater for female immigrants, relative to natives.

Figure 2 shows the trend in the unemployment rate of immigrants and natives, again separately for men (Panel A) and women (Panel B). As expected, though immigrant men had a somewhat lower unemployment rate prior to the pandemic (around 1 percentage point), in April 2020 their unemployment rate was over 3 percentage points greater than natives. Though native and immigrant women had similar unemployment rates before the pandemic, in April 2020, the immigrant unemployment rate was also over 3 percentage points greater than natives.

In the final two columns of Table 1, we repeat our exercise performed for employment but where our dependent variable is now a dummy variable that equals one if the individual is unemployed, and zero otherwise. Our sample for these estimations consists only of workers in the labor market. As shown in Figure 2, the probability of unemployment rose much more dramatically among immigrants than natives between March and April 2020, even in the presence of demographic controls: 4.1 percentage points more for male immigrants and 4.0 percentage points more for female immigrants, relative to natives.

Figure 3 shows the job loss rate, again for immigrants and natives, separately by gender (Panel A for men and Panel B for women). We define job loss as those who are employed in period t and but not employed (either unemployed or out of the labor force) in period $t + 1$. Prior to the pandemic, the job loss rates for native and immigrant men were nearly identical at around 2-3% per month; however, between March and April 2020, immigrant men had a job loss rate of 17.5%, while native men's rate was lower (though still very high) at 11.9%. For women, the job loss rate rose even greater than for men, up to 15.2% for natives and 23.0% for immigrants for March-April 2020. The job loss rates for both natives and immigrants remained elevated for a few months following the critical March-April period, though dropped quickly back to their pre-pandemic levels.

Why did immigrants experience a larger increase in job loss early on in the pandemic than natives? Immigrants and natives differ significantly in their occupational distributions, with natives tending to work in occupations that are, on average, easier to perform remotely. Using the measure of occupational remotability described above, immigrants are around 0.4 standard deviations lower in occupational remotability than natives. As a matter of comparison, this difference in remotability is similar to the difference between high school dropouts and high school graduates.[4] Women tend to work in more remotable jobs than men (approximately 0.3 standard deviations), and the native-immigrant remotability gap is slightly greater among women.

[4] While not reported here, we estimated job remotability regressions where we control for demographic characteristics, including education. The remotability gap between natives and immigrants shrinks, but remains both statistically significant and meaningfully large (around one-fifth of a standard deviation) even in the presence of these additional controls. See Table 4 of Borjas and Cassidy (2023).

Though Figure 3 does indicate greater job loss among immigrants early in the pandemic, the figure does not control for potentially important demographic characteristics like education level. We test the relevance of these demographic characteristics, as well as job remotability, on the probability of job loss by running a series of linear probability models. Our sample in these estimations includes only individuals employed in period t and also still in the sample (i.e., have not rotated out of the CPS sample) in period $t+1$. The outcome variable equals zero if the individual is still employed in period $t+1$, and one otherwise. We focus on the early pandemic, particularly the March-April 2020 period, and also include data from all months in 2019 to control for any pre-pandemic differences in job loss rates across groups, notably between natives and immigrants. As demonstrated in Figure 1 and Table 1, the disparate impact of the Covid-19 shock on the employment and unemployment rates among immigrants relative to native occurred early on in the pandemic, and so we focus on this time period to better understand what may be driving these results.

The results are shown in Table 2, with results for men in column 1-3, and results for women in columns 4-6. For comparison, the table also shows the mean job loss rate for the sample in 2019. Consistent with Figure 3, native and immigrant men showed essentially no job loss rate differences prior to the pandemic, while immigrant women had a pre-pandemic job loss rate that was 1.3 percentage points per month greater than native women. Also consistent with Figure 3, we observe a larger increase in job loss rate in March-April 2020 relative to the pre-pandemic rate for immigrants than for natives: 5.7 percentage points larger for men (column 1) and 6.5 percentage points larger for women (column 3).

Columns 2 and 4 add controls for job remotability and job remotability interacted with March 2020. Prior to the pandemic, job remotability was somewhat related to lower monthly job

loss rates; however, for March-April 2020, the importance of job remotability on job loss increase drastically: for a one-standard-deviation increase in job remotability, the probability of job loss between March and April 2020 fell by 4.8 percentage points for men and 8.7 percentage points for women.

How much of the increase in job loss for immigrants can be explained by job remotability? Comparing the coefficient on the immigrant variable interacted with the March 2020 period variable from columns 1 and 2, we observe a meaningful decline for both men and women: for men, the coefficient dropped from 0.057 to 0.041, a decrease of 28%, while for women, the immigrant coefficient dropped from 0.65 to 0.26, a decrease of 60%.[5] We conclude, therefore, that job remotability can explain some of the increase in job loss early in the pandemic among immigrants (especially women), though a large fraction remains unexplained. Columns 3 and 6 add controls for demographic characteristics (described above) and industry, all interacted with pre-Covid versus early-Covid periods to allow the effects of these characteristics to vary by time period, and our results are similar overall, though job remotability now lowers the coefficient on immigrant interacted with March 2020 for women by 40%.

4. Recovery, Legal Status, and Long-Term Effects

While the employment losses were severe around April of 2020, especially for immigrants, the labor market recovery began quickly: as shown in Figure 1, the months following the onset of the pandemic saw employment rates rise rapidly, and the increase was especially pronounced for immigrant men. However, the recovery appears to have largely stalled

[5] For both men and women, the difference in the coefficient on immigrant interacted with March 2020 between columns 1 and 2, and between columns 1 and 3, are statistically significant at the 1% level.

around 2021, with employment remaining several percentage points below the pre-Covid levels for immigrants and natives.

Results from Table 1 confirm the rapid recovery in both employment and unemployment among immigrants, relative to natives: by the second half of 2020, the greater employment loss among immigrants had mostly disappeared among men, though for women it remained elevated at 2.0 percentage points greater than among natives. By 2021, however, the employment rates were essentially equal (relative to pre-pandemic and including demographic controls) between natives and immigrants; for women, in 2022 and 2023, we actually see evidence of higher employment rates among immigrants than natives, again relative to pre-pandemic and including demographic controls.

Unemployment rates (Figure 2) fell rapidly for natives and immigrants after their peak in April 2020 but remained elevated well into 2021 for both groups. One interesting pattern in the unemployment data is that, among immigrant women, the unemployment rate remained significantly elevated compared to native women until later in 2021. For example, in January of 2021, the unemployment rate for immigrant women was 9.2%, while for native women the rate was only 5.5%; prior to the pandemic, there was little difference in the unemployment rates between native and immigrant women. And though immigrant men experienced higher unemployment rates for several months after the onset of the pandemic, by January 2021, their unemployment was roughly at the same rate as native men. Thus, immigrant women particularly appeared to struggle in the recovery phase of the pandemic. These results are confirmed in Table 1, in the presence of demographic controls.

An important factor to consider when exploring the experience of immigrants in the United States is the issue of legal status. Around 12 million undocumented immigrants resided in

the United States as of January 2015 (Baker, 2019), accounting for over one quarter of the foreign-born population. The labor market experience of these immigrants may be quite different from immigrants with legal status (Passel and Cohn, 2014;, Borjas, 2017; Borjas and Cassidy, 2019; Thus it is possible that their labor market experience during the Covid-19 pandemic may differ from those of legal immigrants.

Exploring the importance of legal status on labor market outcomes first requires us to identify immigrants who lack legal status in the micro data file. This is obviously a major challenge, as rarely do surveys, such as the CPS, explicitly include immigration status. Instead, we make use of an imputation method, implemented in the CPS in Borjas (2017) which builds on the work of Jeffrey Passel (see Passel and Cohn, 2014). The Passel-Cohn algorithm identifies the foreign-born persons in a particular sample who are likely to be legal, and then classifies the residual group of foreign-born persons as likely to be undocumented. We adopt this method and classify a foreign-born person as a *legal* immigrant if any of the following conditions hold:

a. that person arrived before 1980;
b. that person is a naturalized citizen;
c. that person receives Social Security benefits, SSI, Medicaid, Medicare, or Military Insurance;
d. that person is a veteran, or is currently in the Armed Forces;
e. that person works in the government sector;
f. that person resides in public housing or receives rental subsidies, or that person is a spouse of someone who resides in public housing or receives rental subsidies;
g. that person was born in Cuba (as practically all Cuban immigrants were granted refugee status);
h. that person's occupation requires some form of licensing (such as physicians, registered nurses, air traffic controllers, and lawyers);
i. that person's spouse is a legal immigrant or citizen.

We refer readers to Borjas (2017) and Borjas and Cassidy (2023) for additional details, but in short, an immigrant is assumed to be undocumented unless they meet one of several criteria that almost certainly indicates that the immigrant is legally residing in the United States.

This methodology requires using the Annual Social and Economic Supplement (ASEC), since only that survey contains the required socioeconomic information that can be used to impute immigration status. Since the ASEC is collected in March of every calendar year, and combined with the sampling pattern of the CPS, the data collection implies that we cannot impute the legal status of any immigrant who appears in the Basic monthly surveys only between July and November of a given year, since they will never be given the set of questions contained in the ASEC.

Figure 4 plots the employment rates from January 2019 to December 2022, again where Panel A shows the results for men and Panel B the results for women. Note that, prior to the pandemic, and consistent with Borjas (2017), the employment rates of undocumented immigrants exceeded those of legal immigrants, which in turn exceeded those of natives; for women, we see the opposite pattern, with the employment of native women exceeding that of legal immigrants, which in turn exceeded that of undocumented immigrants. The employment drop in the early pandemic was greater for undocumented immigrants than legal immigrants, for both men and women: between March and April 2020, the employment rate legal male immigrants dropped 11.9 percentage points but for undocumented male immigrants it dropped 14.4 percentage points; for women, the declines were 11.4 and 14.7 for legal and undocumented immigrants, respectively.[6]

[6] Note that the employment rates of undocumented immigrants dropped unexpected in June 2021 and December 2022. There are two likely causes. First, in those two calendar months, only around one-quarter of the monthly basic sample are also given the ASEC, due to the CPS rotational structure, and thus the sample size (especially for undocumented immigrants) is relatively small. Second, for June 2021, only individuals who joined the CPS in March 2020 or March 2021 are included, and given the pandemic hit in March 2020, this may have led to changes in the implementation of the CPS that may have differed between natives, legal immigrants, and undocumented immigrants.

While the drop in unemployment was more severe for undocumented than legal immigrants early in the pandemic, we also observe a more rapid employment recovery for undocumented immigrants than legal immigrants: between April 2020 and April 2021, one year after the onset of the pandemic, the employment rate of legal male immigrants had grown by 9.9 percentage points, compared to a 12.8 percentage point increase for undocumented male immigrants; for women, the difference was ever greater, with legal immigrant women experiencing only a 8.6 percentage point increase in their employment rate compared to a 16.8 percentage point increase for undocumented female immigrants.

To test the rate of labor market recovery among natives, legal immigrants, and undocumented immigrants, Table 3 reports estimates of a series of linear probability model estimations where, like in Table 1, the dependent variable is employment status. However, as our interest is in recovery phase relative to the early pandemic, we include the following time periods April-May 2020 (early pandemic), as well as March-May of 2021, 2022, and 2023. By restricting our months to only Spring, we make our early vs later pandemic samples as similar as possible. We include interaction terms between legal immigration status year to test the employment recover of legal and undocumented immigrants relative to natives.

We find that, consistent with Figure 4, the employment rates of both male and female immigrants, especially undocumented immigrants ware greater than that of natives, even when including demographic controls (columns 2 and 4). We find evidence that, between 2020 and 2021, the employment rates of undocumented immigrants recovered more rapidly than that of legal immigrants, especially among women.[7] By 2022, the recovery differences between legal

[7] Comparing the Legal x 2021 and Undocumented x 2021 coefficients, the p-values are 0.077 for men and 0.001 for women, when including demographic controls.

and undocumented male immigrants were not statistically different from zero; however, among women, they remained large and statistically different from zero up to and including 2023.

5. Summary

The Covid-19 pandemic shock hit immigrant workers especially hard, due in part to their employment in occupations that are more difficult to perform remotely which left them exposed to pandemic-related government-imposed lockdowns. Though employment and unemployment rates did not recover to their pre-pandemic levels until early to mid-2022, the gaps between natives and immigrants recovered to their pre-pandemic levels much more rapidly: by late 2020 for men, and by mid-2021 for women. Thus, we can conclude that the labor market recovery in the months following the early Covid-19 period was more rapid for immigrants than natives.

Extending our sample to include data for early 2023, we observe little difference in key labor market outcomes – employment rate, unemployment rate, job loss, and earnings – between natives and immigrants, relative to the differences that existed prior to the pandemic. Thus, though the early effects of pandemic shock were substantially different between immigrants and natives, we fail to detect any meaningful longer-term labor market effects.

References

Amuedo-Dorantes, Catalina, and Francisca Antman. 2017. "Schooling and labor market effects of temporary authorization: evidence from DACA," *Journal of Population Economics* 31(1): 339-373.

Albert, Christoph. 2020. "The Labor Market Impact of Immigration: Job Creation vs. Job Competition," *American Economic Journal, Macroeconomics* 13(1): 35-78.

Antoni, E.J. and Casey B. Mulligan. 2021. "The Pay Is Generous, the Work Nonexistent," *Wall Street Journal. https://www.wsj.com/articles/the-pay-is-generous-the-work-nonexistent-11623709614.* Accessed: August 16, 2021.

Baker, Bryan. 2019. "Estimates of the Illegal Alien Population Residing in the United States: January 2015," Department of Homeland Security, Office of Immigration Statistics.

Borjas, George J. 2017. "The Labour Supply of Undocumented Immigrants," *Labour Economics* 46: 1-13.

Borjas, George J. and Hugh Cassidy. 2019. "The Wage Penalty of Undocumented Immigrants," *Labour Economics* 61.

Borjas, George J. and Hugh Cassidy. 2023. "The Fall and Rise of Immigrant Employment During the COVID-19 Pandemic," *Research in Labor Economics* 50th Celebratory Volume, Volume 50: 327-367.

Cajner, Tomaz, Leland D. Crane, Ryan A. Decker, John Grigsby, Adrian Hamins-Puertolas, Erik Hurst, Christopher Kurz, Ahu Yildirmaz. 2020. "The U.S. Labor Market During the Beginning of the Pandemic Recession," NBER Working Paper No. 27159.

Cassidy, Hugh. 2019. "Occupational Attainment of Natives and Immigrants: A Cross-Cohort Analysis," *Journal of Human Capital*, 13(3): 375-409.

Chatterji, Pinka and Yue Li.2020. "Effects of the COVID-19 Pandemic on Outpatient Providers in the US," NBER Working Paper No. 27173.

Cho, Heepyung. 2019. "Driver's License Reforms and Job Accessibility among Undocumented Immigrants," Available at SSRN: https://ssrn.com/abstract=3356102 or http://dx.doi.org/10.2139/ssrn.3356102.

Churchill, Brandyn F., Taylor Mackay and Bing Yang Tan. 2021. "Unauthorized Immigrants' Access to Driver's Licenses and Auto Insurance Coverage," *Contemporary Economic Policy*, 39(1): 107-125.

Dingel, Jonathan I. and Brent Neiman. 2020. "How Many Jobs Can be Done at Home?" NBER Working Paper No. 26948, April 2020.

Flood, Sarah and Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren and Michael Westberry. Integrated Public Use Microdata Series, Current Population Survey: Version 10.0 [dataset]. Minneapolis, MN: IPUMS, 2022. https://doi.org/10.18128/D030.V10.0

Ganong, Peter, Pascal Noel, and Joseph Vavra. 2020. "US Unemployment Insurance Replacement Rates during the Pandemic," *Journal of Public Economics* 191.

Henney, Megan. 2021. "These 25 states are ending $300 unemployment benefits this summer," Fox Business. https://www.foxbusiness.com/economy/states-ending-boosted-unemployment-benefits-hiring-concerns. Accessed: August 16, 2021.

Hsin, Amy and Francesc Ortega. 2018. "The Effects of Deferred Action for Childhood Arrivals on the Educational Outcomes of Undocumented Students," *Demography* 55: 1487-1506.

Lang. Hanming, Long Wang, Yang Yang. 2020. "Human Mobility Restrictions and the Spread of the Novel Coronavirus (2019-nCoV) in China," NBER Working Paper No. 26906, April 2020.

Montenovo, Laura, Xuan Jiang, Felipe Lozano Rojas, Ian M. Schmutte, Kosali I. Simon, Bruce A. Weinberg, and Coady Wing. 2020. "Determinants of Disparities in Covid-19 Job Losses," NBER Working Paper No. 27132.

Passel, Jeffrey S. and D'Vera Cohn. 2014. "Unauthorized Immigrant Totals Rise in 7 States, Fall in 14 States: Decline in Those From Mexico Fuels Most State Decreases." Washington, DC: Pew Research Center.

Nekoei, Arash. 2013. "Immigrants' Labor Supply and Exchange Rate Volatility," American Economic Journal: Applied Economics 4: 144-164.

U.S. Bureau of Labor Statistics. May 8, 2020. "Frequently Asked Questions: The Impact of the Coronavirus (COVID-19) Pandemic on The Employment Situation for April 2020."

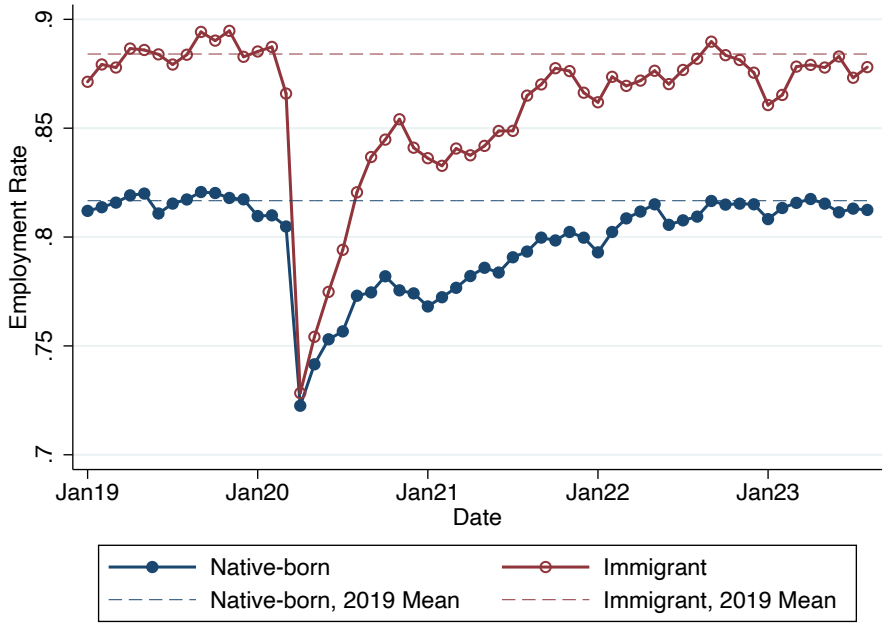
U.S. Department of Labor. 2021. "UI Replacement Rates Report." https://oui.doleta.gov/unemploy/ui_replacement_rates.asp. Accessed: July 12, 2021.

Von Gaudecker, Hans Martin, Radost Holler, Lena Janys, Bettina Siflinger, and Christian Zimpelman. 2020. "Labour Supplly in the Early Stages of the COVID-19 Pandemic: Empirical Evidence on Hours, Home Office, and Expectations," IZA Discussion Paper No. 13158.

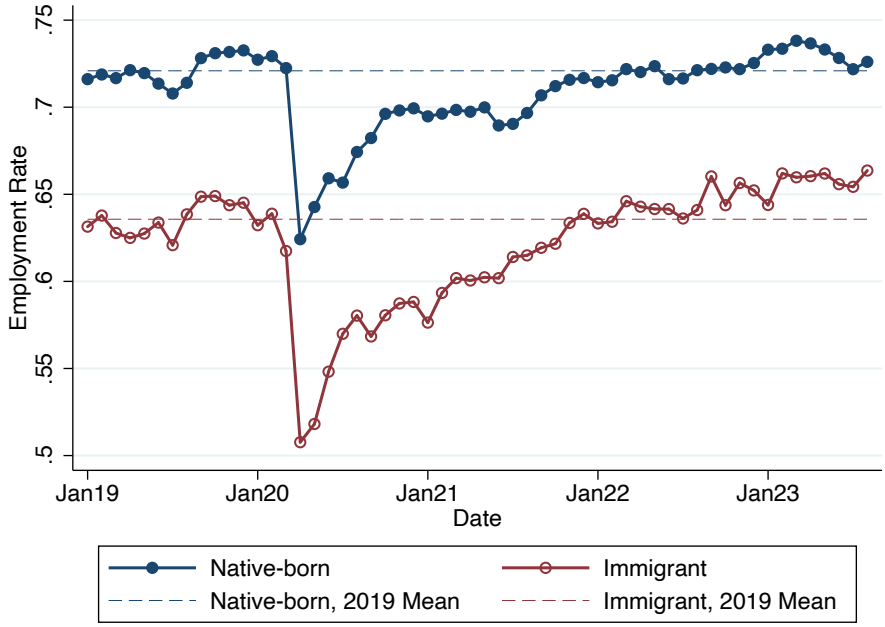
Yamaguchi, Shintaro. 2012. "Tasks and Heterogeneous Human Capital," *Journal of Labor Economics*, 30(1): 1-53.

Figure 1. Employment rate in Basic Monthly CPS, January 2019-August 2023

A. Men



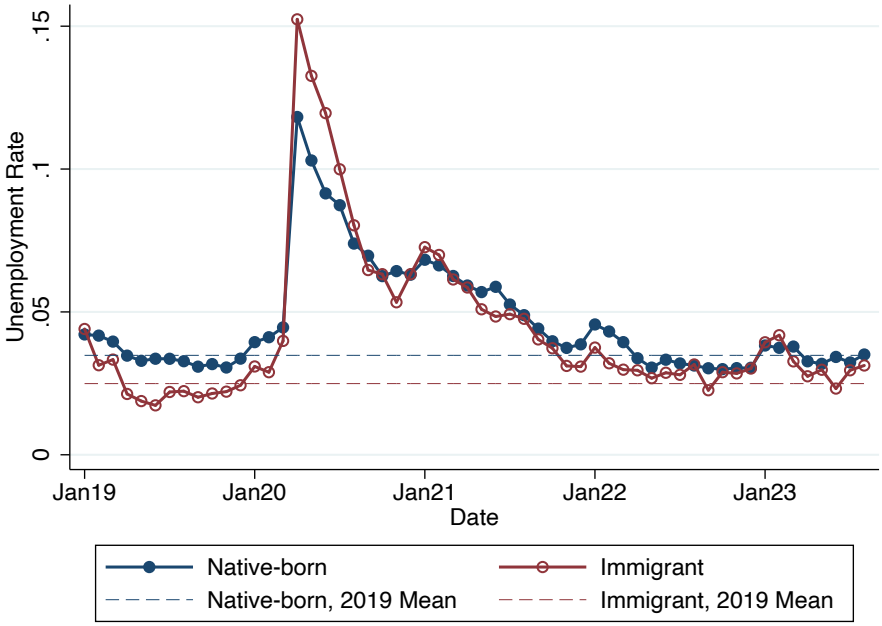
B. Women



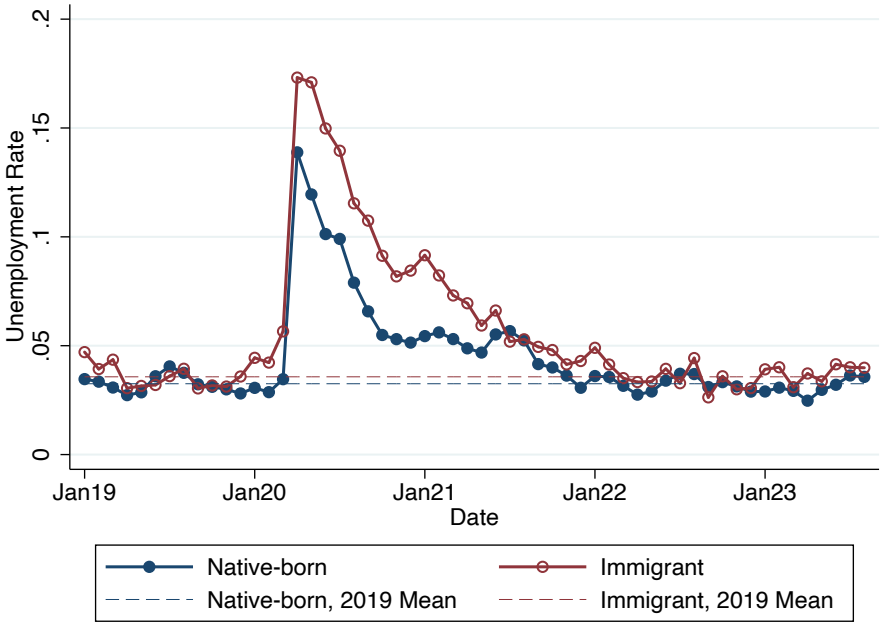
Notes: All samples consist of persons aged 21-64 who are not enrolled in school. The employment rate gives the fraction of persons who are "at work" or "has job, not at work last week."

Figure 2. Unemployment rate in Basic Monthly CPS, January 2019-August 2023

A. Men



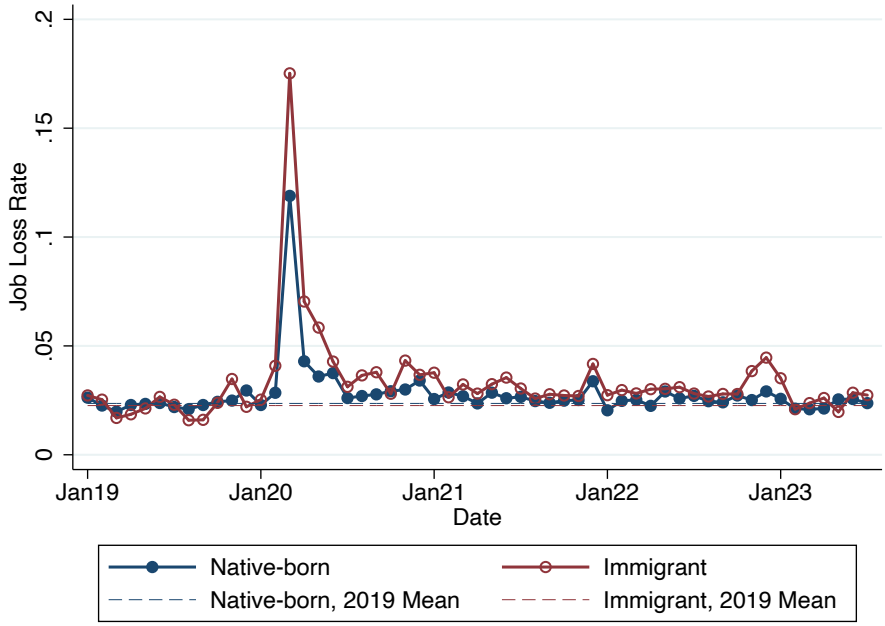
B. Women



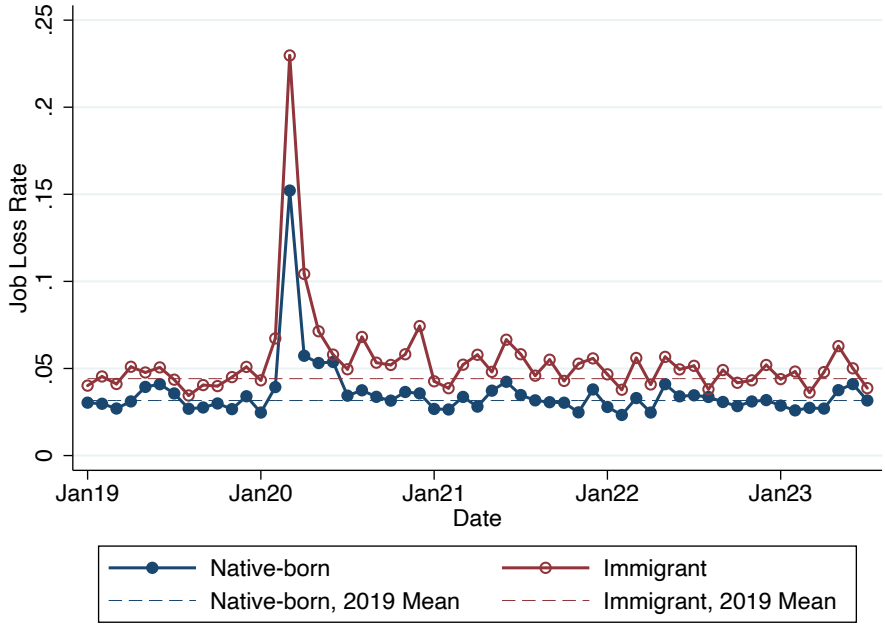
Notes: All samples consist of persons aged 21-64 who are not enrolled in school.

Figure 3. The job-loss rate, matched Basic Monthly CPS, January 2019-August 2023

A. Men



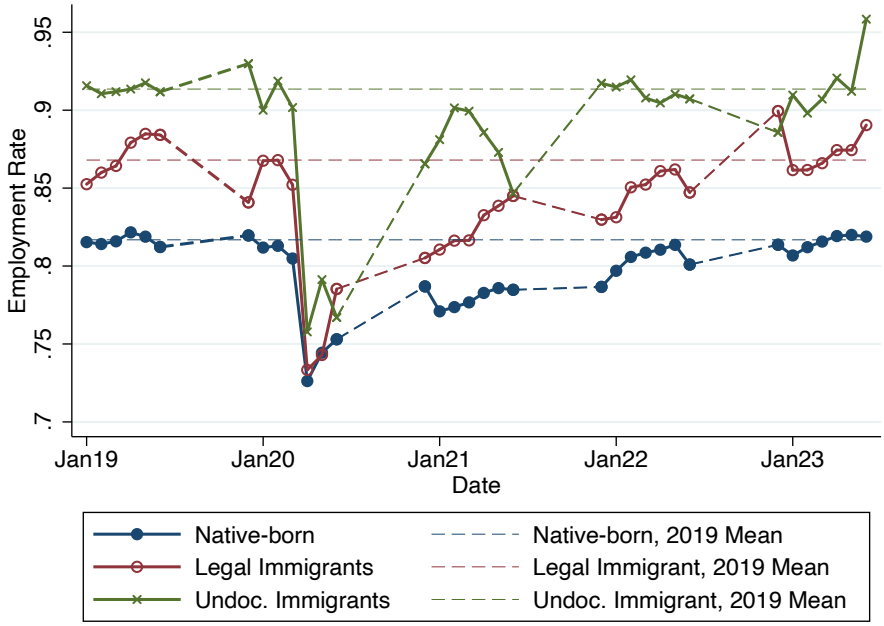
B. Women



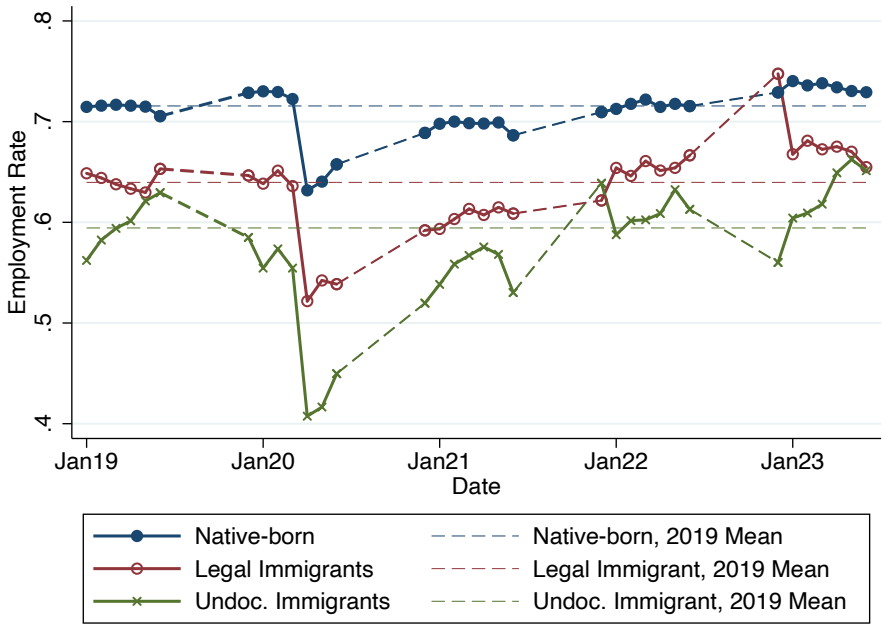
Notes: The dependent variable is set to unity if the person was "at work" or "has job, not at work last week" at time *t* but was not in that status at time *t*+1, and zero otherwise. The sample consists of persons who can be matched across two consecutive CPS files and were employed in the initial period.

Figure 4. Employment rate in Basic Monthly CPS by immigrant legal status, January 2019-June 2023

A. Men



B. Women



Notes: Immigrant legal status imputed for observations in the ASEC CPS using algorithm from Borjas (2017). The sample consists of persons aged 21-64 in the Basic CPS samples who are not enrolled in school and who can be matched to an ASEC supplement. Legal status cannot be imputed for respondents in the Basic CPS samples between August and November, indicated by the dashed lines. The employment rate gives the fraction of persons who are "at work" or "has job, not at work last week."

Table 1. Regressions estimated in pooled CPS cross-sections, January 2019-August 2023

	Employed		Unemployed	
	Men	Women	Men	Women
Immigrant	0.064	-0.040	-0.012	-0.001
	(0.003)	(0.004)	(0.001)	(0.001)
X March 2020	-0.010	-0.018	0.005	0.018
	(0.006)	(0.008)	(0.004)	(0.005)
X April-June 2020	-0.056	-0.030	0.041	0.040
	(0.007)	(0.008)	(0.005)	(0.006)
X July-Dec 2020	-0.007	-0.020	0.010	0.032
	(0.005)	(0.006)	(0.003)	(0.004)
X 2021	-0.000	-0.004	0.007	0.009
	(0.004)	(0.005)	(0.002)	(0.003)
X 2022	0.001	0.007	0.005	-0.000
	(0.004)	(0.005)	(0.002)	(0.002)
X 2023	-0.002	0.011	0.007	0.003
	(0.004)	(0.006)	(0.002)	(0.002)
Demographics	Yes	Yes	Yes	Yes
No. of observations	1,530,044	1,605,620	1,293,500	1,165,119

Notes: Robust standard errors in parentheses, clustered by the CPS individual identifier. The dependent variable is set to unity if the person works in the CPS reference week and zero otherwise. All specifications include a vector of calendar month fixed effects. "Demographics" indicates controls for age as a third-order polynomial, four categories of educational attainment, marital status, metro status, state fixed effects, and an indicator variable that equals one if the respondent has at least one child under age five, and zero otherwise.

Table 2. Impact of remotability on the rate of job loss, January 2019-December 2019 and March-April 2020

	Men			Women		
	(1)	(2)	(3)	(4)	(5)	(6)
Immigrant	-0.001	-0.004	-0.005	0.013	0.006	0.002
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)
× March 2020	0.057	0.041	0.039	0.065	0.026	0.039
	(0.010)	(0.010)	(0.010)	(0.012)	(0.011)	(0.012)
Remotability		-0.009	-0.006		-0.013	-0.007
		(0.000)	(0.001)		(0.001)	(0.001)
× March 2020		-0.048	-0.034		-0.087	-0.052
		(0.003)	(0.004)		(0.005)	(0.006)
Demographics	No	No	Yes	No	No	Yes
Industry fixed effects	No	No	Yes	No	No	Yes
Mean (2019)	.023	.023	.023	.033	.033	.033
No. of observations	221,980	221,980	221,980	200,419	200,419	200,419

Notes: Robust standard errors in parentheses, clustered by the CPS individual identifier. The dependent variable is set to unity if the person was employed at time *t* but was not employed at time *t*+1, and zero otherwise. The sample consists of persons who can be matched across two consecutive CPS files and were employed in the initial period. All independent variables are interacted with the period fixed effect, where two periods are included: 1) pre-pandemic (January 2019-December 2020); and 2) March 2020. All specifications also include a vector of calendar month fixed effects. "Demographics" indicates controls for age as a third-order polynomial, four categories of educational attainment, marital status, metro status, state fixed effects, and an indicator variable that equals one if the respondent has at least one child under age five, and zero otherwise.

Table 3. Differences in rate of employment recovery, by immigration status

	Men		Women	
	(1)	(2)	(3)	(4)
2021	0.050	0.052	0.062	0.061
	(0.005)	(0.004)	(0.005)	(0.005)
2022	0.080	0.082	0.082	0.083
	(0.005)	(0.005)	(0.006)	(0.005)
2023	0.087	0.086	0.099	0.095
	(0.005)	(0.005)	(0.006)	(0.005)
Legal	0.004	-0.008	-0.106	-0.067
	(0.011)	(0.011)	(0.012)	(0.012)
X Spring 2021	0.042	0.044	0.019	0.018
	(0.013)	(0.012)	(0.014)	(0.014)
X Spring 2022	0.043	0.052	0.043	0.042
	(0.014)	(0.013)	(0.016)	(0.015)
X Spring 2023	0.049	0.057	0.043	0.045
	(0.013)	(0.013)	(0.016)	(0.015)
Undocumented	0.037	0.055	-0.224	-0.153
	(0.017)	(0.017)	(0.021)	(0.020)
X Spring 2021	0.072	0.083	0.096	0.110
	(0.019)	(0.019)	(0.025)	(0.024)
X Spring 2022	0.060	0.070	0.115	0.110
	(0.019)	(0.019)	(0.027)	(0.026)
X Spring 2023	0.057	0.070	0.126	0.134
	(0.019)	(0.019)	(0.027)	(0.026)
Demographics	No	Yes	No	Yes
Legal – Undoc. 2021	0.170	0.078	0.007	0.001
Legal – Undoc. 2022	0.449	0.429	0.018	0.021
Legal – Undoc. 2023	0.705	0.547	0.006	0.002
No. of observations	190,566	190,566	199,173	199,173

Notes: Robust standard errors in parentheses, clustered by the CPS individual identifier. The dependent variable is set to unity if the person works in the CPS reference week and zero otherwise. The sample consists of persons who appeared in the April-May 2020 or March-May 2021-2023 monthly CPS and whose immigration status can be imputed (i.e., they appeared in the ASEC between 2019 to 2023). Excludes Washington, D.C. All specifications include a vector of calendar month fixed effects. “Demographics” indicates controls for age as a third-order

polynomial, four categories of educational attainment, marital status, metro status, state fixed effects, and an indicator variable that equals one if the respondent has at least one child under age five, and zero otherwise.