A grayscale photograph of the Austin skyline, featuring several prominent skyscrapers and a body of water in the foreground. A semi-transparent green rectangular overlay covers the central portion of the image, serving as a background for the title and logo.

Economic Impacts of the COVID-19 Pandemic and the Distribution of PPP Loans in Austin

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Executive Summary

Economic impacts of the COVID-19 pandemic and the distribution of PPP loans in Austin

The COVID-19 pandemic has resulted in unprecedented challenges to small businesses as well as to their employees. In 2020 the Paycheck Protection Program (PPP) was established by the Coronavirus Aid, Relief, and Economic Security (CARES) Act (Pub.L. 116-136) as a way to mitigate the COVID-19 effects on businesses. The PPP program, administered by the Small Business Administration (SBA), engages private lenders to disburse government funded loans to small businesses to pay for expenses such as up to 8 weeks of payroll costs, including benefits. In January 2021 Congress authorized a second wave of PPP loans to prevent additional layoffs and business closures.

During the Summer of 2020, the Hobby School of Public Affairs in collaboration with the Austin Chamber of Commerce (ACC) conducted a survey of 1,050 business owners in the Austin area. The aim of the survey was to understand how Austin businesses were impacted by and responded to the COVID-19 pandemic.¹ The survey also asked businesses about their financial needs and their experience with the first wave of the PPP program. In this report we analyze secondary data sources to further understand the impact of COVID-19 and the distribution of PPP loans in the Austin area.

Our main findings show that:

- By April of 2020, industries in the Austin MSA experienced the largest employment loss since the pandemic started. The industries that lost the highest number of employees during this month were services as well as leisure and hospitality, both of which have not yet returned to pre-pandemic levels. During this same month, around 29% of the total PPP loans in the area were approved.
- Ethnic majority neighborhoods received on average fewer PPP funds than white majority neighborhoods.

¹See The COVID-19 Pandemic in Austin: Impact, Reaction & Survival (Business Survey): <https://uh.edu/hobby/austinsurveys/austin-survey-reports/austinreporthobbyschool.pdf>.

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- The first wave of PPP loans in 2020 protected around 38% of the pre-COVID-19 jobs, more than twice the jobs protected in the second wave of PPP loans.
 - On average, the first and second wave of PPP loans covered around 20% of the pre-pandemic payroll per worker. The difference in the amount of payroll covered across different neighborhoods was not significant.
 - Most of the industries that received PPP loans are in the sectors of professional, scientific and technological services, health care and social assistance, and other services.
 - Jobs and businesses receiving PPP loans are concentrated in white and high income neighborhoods. The majority of businesses in ethnic majority neighborhoods are from the retail sector while most the businesses in white majority neighborhoods are in professional, scientific, and technical services.
 - In contrast with the first wave of PPP loans in 2020, the distribution of PPP loans in the second wave had less variance between ethnic and white neighborhoods as well as between neighborhoods with different income levels. Moreover, during the second wave of PPP loans there was a highest percentage of small businesses who received the loan than in the first wave.
 - As expected, companies with higher credit scores received more PPP money on average than those with lower credit scores.

These findings highlight the importance of identifying firms' needs at times of economic hardship, providing information for accessing financing opportunities to small and medium-sized firms, particularly those owned by women and minorities, that are often in worse position to endure large scale economic shocks, and designing and implementing public policies aimed at mitigating the economic impacts of public health crises such as the COVID-19 pandemic. The higher access to PPP loans by small and minority businesses in the second wave reflects efforts by ACC and other chambers of commerce in the Austin area, the city of Austin, state and federal agencies, including the SBA, to make the application process easier to navigate. Yet these patterns also suggest that lack of access to financial resources, including the PPP, at the early stages of the pandemic might have pushed many small, minority- and women-owned firms out of business. The corollary is that providing sound responses to fundamental problems facing our communities demands careful attention to the roll out and implementation of the policy responses.

In the full report, we further elaborate on our analyses and findings. First, we present a summary of employment and business trends in the Austin and Round Rock Metropolitan Statistical Area (MSA) throughout the pandemic. Next, we briefly describe the baseline (pre-pandemic) economic and demographic characteristic of Austin. Lastly, we analyze how the PPP loans were distributed at the firm level and neighborhood levels.

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Introduction

On March 13, 2020, the White House declared a national emergency because of the Coronavirus pandemic. Subsequently, Travis county issued a "Stay Home-Work Safe" order on March 24, 2020. Seventeen months later, we revisit the impact of COVID-19 on the Austin area economic activity. Of particular focus is the access to, disbursement, and impact of the federal Paycheck Protection Program (PPP) loans on the businesses in the area.

To assess the impact of the COVID-19 pandemic to Austin businesses, the Hobby School of Public Affairs in collaboration with the Austin Chamber of Commerce conducted a survey of business owners, between June 11-25, 2020.¹ In this report, we revisit some of the results from the 2020 survey and explore how the Paycheck Protection Program addressed some of the main needs of businesses throughout the pandemic.

More than a year ago, businesses in Austin were already experiencing hardships due to COVID-19.² When business owners were asked how long their business could operate under the COVID-19 pandemic conditions, 47% answered less than 10 months, and 39% said they could scale their business as needed. Most firms implemented actions to cope with COVID-19 conditions such as temporary closures, hiring freezes, reducing employment hours, layoffs, and pay cuts among others. However, many of these actions implied a reduction in revenue with ongoing liabilities. These changes to businesses resulted in increasing financial needs for the businesses. Because of these reasons, firms were concerned (greatly or somehow) about generating cash flow (82%), the lack of customer demand (77%), higher cost of operations (61%), debt burden (60%), access to finance (60%), and to a minor extent workforce availability (43%). In general, 35% of all businesses were concerned about obtaining access to finance in the COVID-19 business environment. However, access to finance represented a particularly salient concern for businesses in three threatened industries: Live Music (74%), Hospitality Services (52%), and Restaurants and Bars (51%).

In response to these concerns, this report finds that access to PPP funds financed by the federal government might have provided relief to Austin businesses by generating access to much needed cash. The PPP aimed at helping businesses maintain their payroll and stay in business at a time when revenue dropped dramatically while financial liabilities remained close to pre-pandemic

¹See The COVID-19 Pandemic in Austin: Impact, Reaction & Survival (Business Survey): <https://uh.edu/hobby/austinsurveys/austin-survey-reports/austinreporthobbyschool.pdf>.

²Ibid fn. 1

levels. Additionally, we find that it helped businesses maintain jobs that otherwise would have been lost.

PPP loans were distributed in two waves, one in 2020 and the other in early 2021. We find different distribution patterns within the two waves of PPP in terms of number of employees and loan amounts. The PPP funded around 7% fewer loans in the second wave than the first, for an average value of nearly half of that in the first wave (\$48,871 in 2021 compared to \$97,491 in 2020). We also find that the first draw of PPP loans in 2020 protected more than twice as many pre-pandemic jobs (38.2%) than the second draw in 2021 (15.4%). This happened for two reasons: first, the pandemic had pushed many establishments out of business, and second, because the second wave of PPP funding disbursed more loans to smaller businesses (those with fewer than 5 employees). Out of the small businesses that received PPP loans, 31% were businesses with fewer than 5 employees during the first wave and 38% during the second wave. However, in terms of distribution, we find that, on average, there were more disparities in the distribution of the first wave of PPP loans while the second wave provided more loans to businesses in ethnic majority neighborhoods.

For the relevant and more threatened industries in Austin, the PPP provided more loans to arts and entertainment during the second wave than during the first. On the other hand, it provided more loans for accommodation and food services during the first wave than during the second. This might also be explained by the fact that, on average, most of the firms in art and entertainment are smaller in terms of the number of employees than those firms in the accommodation and food service industry.

We suggest that the differences between the two waves of PPP funding are a likely result of changes to the requirements for applying to the PPP during the second wave. Just like in other states,³ language barriers, limited relationships with banking or financial institutions, cultural differences, and lack of understanding of the process may have also led many small businesses not to apply for PPP loans. For instance, sole proprietors may not have realized they were eligible for PPP loans during the first wave. We find evidence that for the case of Austin, more sole proprietor, self employed, and single member LLCs applied for PPP loans during the second wave than during the first. Another plausible explanation for the differences in PPP loans distribution between both waves is that firms that applied to the program in 2020 could have either overcome their financial needs or gone out of businesses.

In the ensuing sections we discuss the evolution of the business climate in the Austin area throughout the pandemic. Next, we describe pre-pandemic demographic and businesses characteristics, and finally, we explore the impact of PPP loan distributions across businesses and neighborhoods after the first and second waves of the program.

³See <https://coloradosun.com/2021/08/23/paycheck-protection-ppp-loans-forgiven-colorado/>

Evolution of the Austin economy during the COVID-19 pandemic

In this section, we examine the evolution of the Austin area business climate from the onset of the COVID-19 pandemic using data from the Census Bureau's Small Business Pulse Survey, and the Quarterly Census of Employment and Wages (QCEW).¹ The data suggest that the Austin region experienced a sharp decline in economic activity and large employment losses early in the pandemic, with an important, albeit incomplete, recovery towards the second half of 2020. Yet we also observe differential patterns of economic impact and recovery across industries, neighborhoods, firms of different size and ownership structure, as well as different trends over time. In the following sections we further elaborate on these trends.

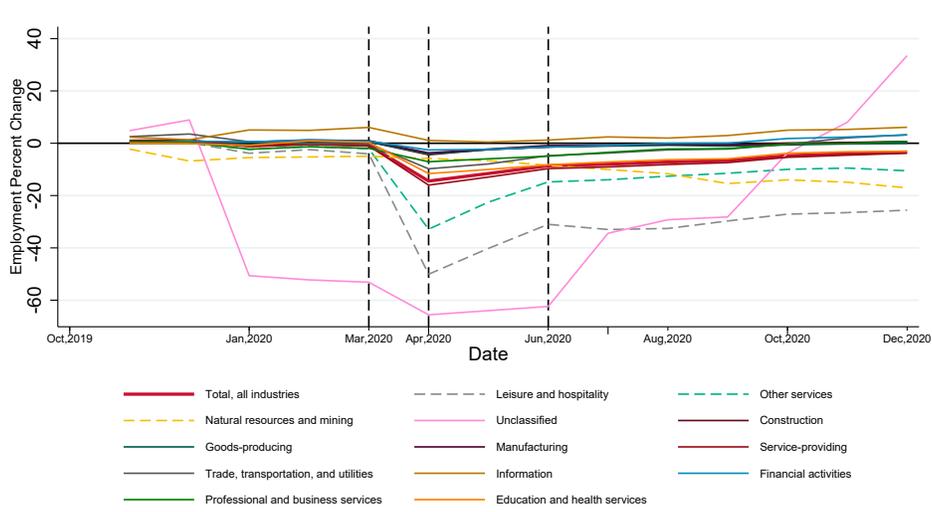
2.1 Pandemic employment trend by industry

Data from the QCEW reveal that in December 2020, most industries had returned to pre-pandemic employment levels (October 2019) except for natural resources and mining, service-providing, education and health services, leisure and hospitality, and other services. Nonetheless, employment in general has slowly recovered from its lowest drop in April 2020.

The industries that appear to have lost the highest number of employees in April 2020 were other services as well as leisure and hospitality, both of which have not yet returned to pre-pandemic levels. Figure 2.1 also shows that leisure and hospitality was the hardest hit sector by the pandemic. After dropping to 50% lower employment in April 2020 compared to pre-pandemic levels, employment in leisure and hospitality slowly increased to 26% lower employment than before the pandemic started. Similarly, the industry of natural resources and mining industry shows a steady decrease in employment since the last quarter of 2019, a trend the pandemic only seemed to have intensified. As of December 2020, employment in natural resources and mining was 17% lower than pre-pandemic levels.

¹Census Bureau, [Small Business Pulse Survey](https://www.bls.gov/small-business-pulse-survey); Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW): <https://www.bls.gov/cew/data.htm>.

Figure 2.1: Employment by industry October 2019-December 2020



Source: Census Small Business Pulse Survey (2021)

2.2 Overview of business climate during COVID-19

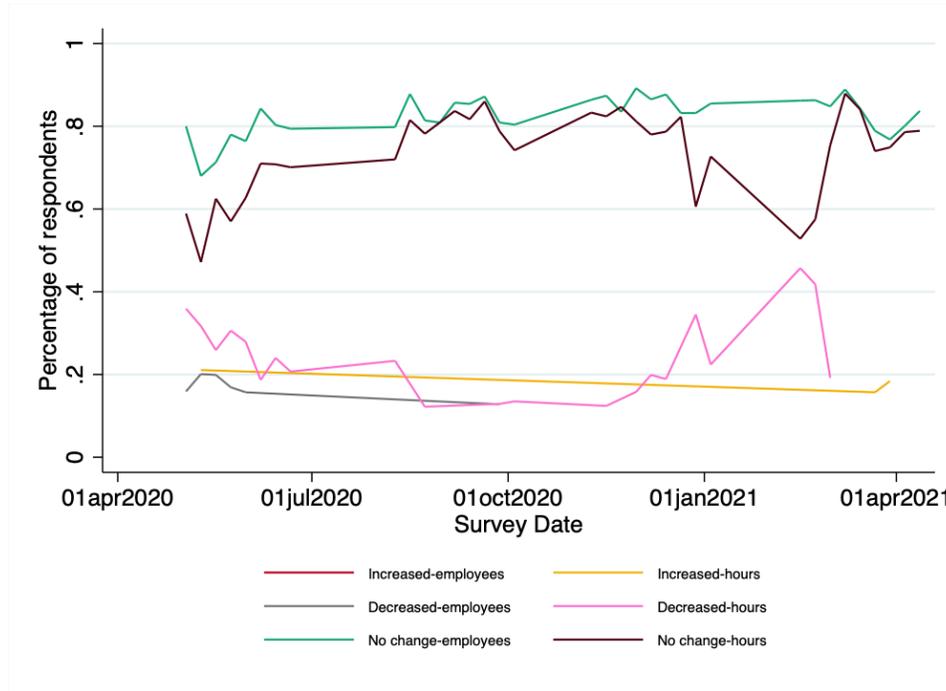
Census’s Small Business Pulse Survey began collecting data about business conditions during COVID-19 in late April 2020. The survey covers businesses that have between 1 and 499 employees in the 50 largest metropolitan statistical areas (MSAs) in the US, which includes the Austin-Round Rock-Georgetown MSA (Austin area). Since the beginning of the pandemic, business conditions in the Austin-Round Rock-Georgetown MSA largely mirrored those nationally. Businesses that were negatively impacted by the COVID-19 pandemic sought financial assistance from federal programs, and believed it would take months to return to normal business operations.

At the beginning of the pandemic in the spring of 2020, 100% of small businesses in the Austin-Round Rock-Georgetown MSA reported that their business had suffered a large or moderate negative effect, compared to 90% of small businesses nation-wide. By July 2021, over a year into the pandemic, appraisals of the pandemic’s impact were less pessimistic relative to initial assessments in late April and early May 2020 which saw 68.4% of small businesses in the Austin-Round Rock-Georgetown MSA - compared to 67.6% nationally - reporting an overall negative impact.

As shown in 2.1, employment in many sectors largely recovered following their lows in March and April of 2020. Figure 2.2 shows employment trends as reported by small businesses in the Census’s Pulse Survey. About 20% of small businesses, as of May 2020, responded that they had decreased the number of paid employees in the last week; however, the proportion of businesses reporting a decrease in paid employees steadily declined thereafter. Instead, we see that the vast majority of businesses reported no change in the number of employees beginning in late spring 2020, a trend also shown in Figure 2.1. Still, no small businesses in the survey reported an increase in the

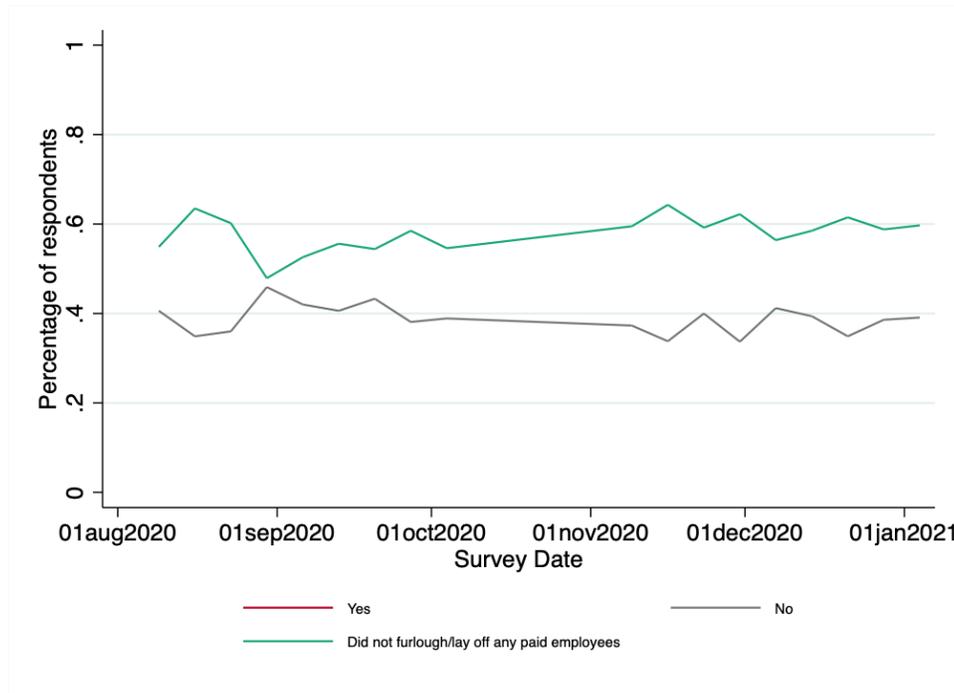
number of paid employees over the previous week.

Figure 2.2: Change in number of employees and hours worked



Source: Census Small Business Pulse Survey (2021)

Figure 2.3: Rehiring furloughed or laid off employees



Source: Census Small Business Pulse Survey (2021)

Figure 2.2 also shows that there was more variability in the total number of hours worked by paid employees. Although the majority of small businesses surveyed said there was no change in the hours worked by paid employees, we see that proportion reporting no change dipped in May 2020 and again in the late winter/early spring of 2021. As those reporting no change decreased in the winter/spring of 2021, the proportion of businesses saying hours decreased was on the rise. Around March, this proportion began to decrease again and we see a reciprocal rise in the proportion of businesses reporting no change. The percentage of businesses reporting an increase in the hours worked hovered around 20% for much of the survey period, though it slightly declined in the winter and spring of 2021.

As for whether small businesses were hiring back employees that had previously been furloughed or laid off, around 40% of responding businesses had not hired back these employees (Figure 2.3). No business reported hiring back employees that had been laid off or furloughed. More positively, however, Figure 2.3 shows that the majority of small businesses surveyed did not lay off or furlough employees after March 13, 2020.

At the end of April 2020, 30.5% of small businesses in the Austin-Round Rock MSA and 27.7% of small businesses nationally said that it would be 4-6 months before their business returned to their usual level of operations. As of July 2021, 26.8% of small businesses in the Austin-Round Rock-Georgetown MSA said they had returned to their normal level of operations compared to 22.6% nationally. Fewer than a quarter of small businesses in the Austin-Round Rock-Georgetown

MSA (22.5%) said it would take them more than 6 months before operations returned to normal, 10 points lower than the national average (32.5%).

Concerning applications for financial assistance, more than three-quarters of small businesses in the Austin-Round Rock-Georgetown MSA (77.3%) had requested financial assistance from the PPP as of May 2020. Around a quarter of businesses (24.2%) said they had applied for an Economic Injury Disaster Loan (EIDL). About two months later, 72.9% reported receiving financial assistance from PPP and 19.7% from EIDL.

About a year later in April 2021, 77.7% of small businesses in the area had requested assistance from the PPP, 21.5% of whom were first time applicants. Around two months later, 31.2% reported receiving assistance from the PPP; another 27.7% said they had received financial assistance through PPP's loan forgiveness program.

2.3 Previous findings

Between June 11-25, 2020, the Hobby School of Public Affairs conducted a survey of business owners in the Austin area regarding how they were impacted, as well as the measures businesses had implemented in response to the COVID-19 pandemic.² Overall, we found that live music, restaurants and bars, and hospitality services industries were the most disadvantaged as a consequence of the COVID-19 pandemic. Sixty-four percent of Austin area business owners applied or intended to apply for loans from the SBA Paycheck Protection Program (PPP) during the time the survey was fielded. Of those who applied for the PPP loan, 87% had been approved to receive the loan and received funding. The largest proportion of industry businesses who applied for a PPP loan were among those in the restaurant and/or bar industry (80%), live music (73%), education (71%), hospitality services (69%), and retail (68%) industries.³

Furthermore, we looked at PPP loan applications and business size, and found a curvilinear relationship with PPP loan applications. The smallest percentage of business owners applying were found at the extremes of businesses with sole proprietorship (34%) and those with more than 500 employees (8%). The largest percentage of business owners who applied for PPP loans were those who employed 11 to 24 employees (82%) and 25 to 49 employees (79%).⁴ On the other hand, we found no notable differences among business ownership types (minority-owned, woman-owned, and all others) and PPP loan application rates. Only slight differences were found in PPP application approvals among these groups with the highest approvals being business owners who were not a racial or ethnic minority or women (92%), followed by businesses owned by women and minority business owners (86% each).⁵

²Ibid fn. 1

³Ibid fn. 1

⁴Ibid fn. 1, p.35

⁵Ibid fn. 1.

At the time the previous survey was fielded, business owners indicated that weekly unemployment insurance claims in Travis County alone spiked to nearly 15,000 during the third week of March and slowly declined to about 2,600 in the second week of June.⁶ The unemployment rate in the Austin area was over 12% in April 2020. Consumer spending had declined in all sectors to 30% below the levels reported in January 2020.⁷ As of mid-June 2020, overall spending made a comeback close to the pre-COVID-19 levels. However, Austin area business owners also reported that spending remained below average in those sectors most impacted by the COVID-19 pandemic and the stay-home and social distancing policies. During this time, Austin area businesses faced important financial constraints. Businesses experienced steep declines in their revenue and access to capital needed to cover their expenditures and costs including other financial liabilities.⁸

⁶See The COVID-19 Pandemic in Austin: Impact, Reaction & Survival (Background): https://uh.edu/hobby/austinsurveys/austinsurveyreports/city_of_austin_census_report.pdf.

⁷Ibid fn. 6, p. 6

⁸Ibid fn. 6.

Demographics and economic conditions in the Austin MSA pre-COVID-19

In this section, we briefly describe Austin’s pre-pandemic characteristics in terms of demographics and business composition in the different neighborhoods and industries. We divide Austin-Round Rock neighborhoods (by ZIP codes) into majority-minority or majority-white as well as into income quartiles. This allows us to understand the spatial concentration of businesses and jobs in relation to socioeconomic demographic characteristics which, in turn, allows us to identify how businesses and jobs are distributed among different industries and socioeconomic demographics.

Previous research has shown that neighborhood characteristics are key in determining differences in businesses turnover.^{1 2} Specifically, the racial composition and income of the neighborhood matters for understanding turnover rates among small businesses. Businesses serving majority-minority neighborhoods are associated with more firm closures and lower profitability as well as higher loan application rejection rates.^{3 4} Similarly, minority- and immigrant-owned firms are concentrated in majority-minority neighborhoods that also tend to have lower average household income, while neighborhoods with a higher share of white population tend to have greater business stability.

¹Ong, P., S. R. Gonzalez, C. Pech, K. Hernandez, and R. Domínguez-Villegas. 2020. “Disparities in the Distribution of Paycheck Protection Program Funds Between Majority-White Neighborhoods and Neighborhoods of Color in California.” <https://escholarship.org/content/qt9pz896kh/qt9pz896kh.pdf>

²Meltzer, R. and S. Capperis. 2017. “Neighbourhood differences in retail turnover: Evidence from New York City.” *Urban Studies*, 54(13): 3022-3057.

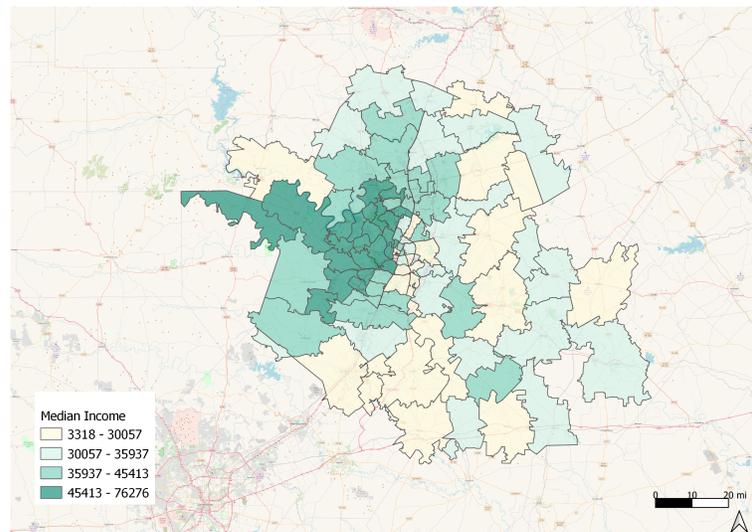
³Bates, T. and A. Robb. 2016. “Impacts of owner race and geographic context on access to small-business financing.” *Economic Development Quarterly*, 30(2): 159-170.

⁴Bates, T. and A. Robb. 2014. “Small-business viability in America’s urban minority communities.” *Urban Studies*, 51(13): 2844-2862.

3.1 Demographics

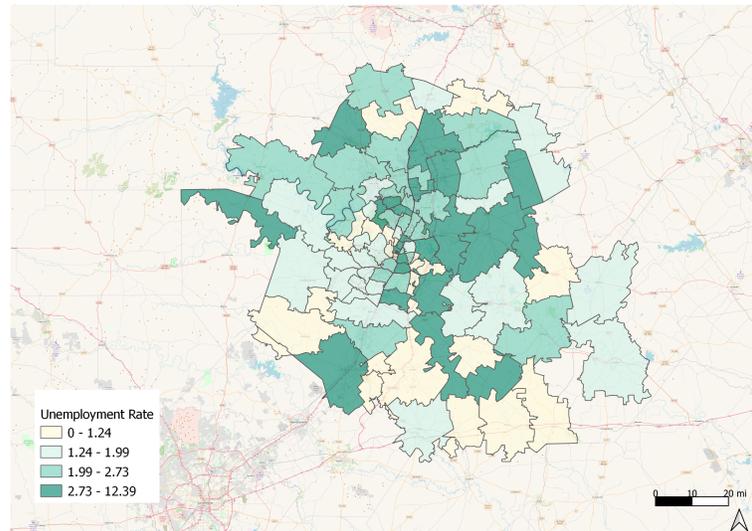
In the Austin-Round Rock-Georgetown MSA, the average income is \$38,449 (compared to \$30,596 in Texas and \$31,133 in the US).⁵ Figure 3.1, shows median income by ZIP code in the Austin-Round Rock-Georgetown MSA. In the map and throughout the report, median income is divided into quartiles: 1 (from \$3,318 to \$30,057), 2 (from \$30,057 to \$35,937), 3 (from \$35,937 to \$45,413), and 4 (from \$45,413 to \$76,276). Higher income neighborhoods appear to be clustered in areas with low unemployment rates and higher business concentration (West Downtown Austin) (Figures 3.1 and 3.2).

Figure 3.1: Austin-Round Rock-Georgetown MSA neighborhood median income (quartiles)



Source: American Community Survey 5-Year Data (2009-2019)

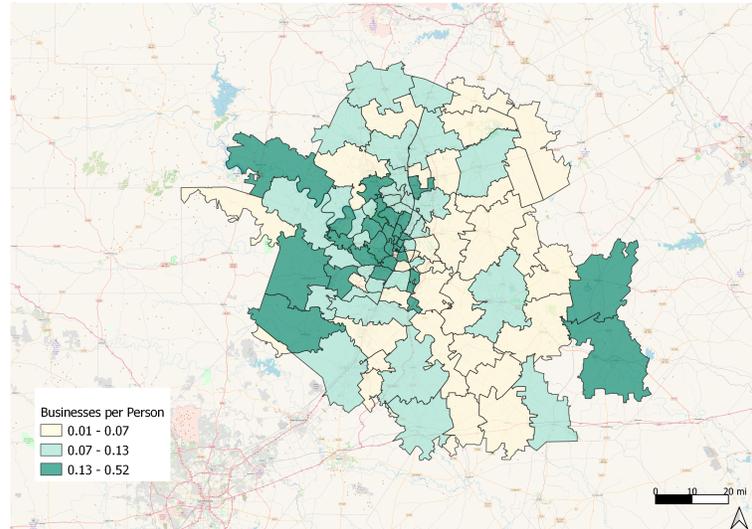
⁵See the Census Bureau's [American Community Survey 5-Year Data \(2009-2019\)](#).

Figure 3.2: Austin-Round Rock-Georgetown MSA unemployment rate (quartiles)

Source: American Community Survey 5-Year Data (2009-2019)

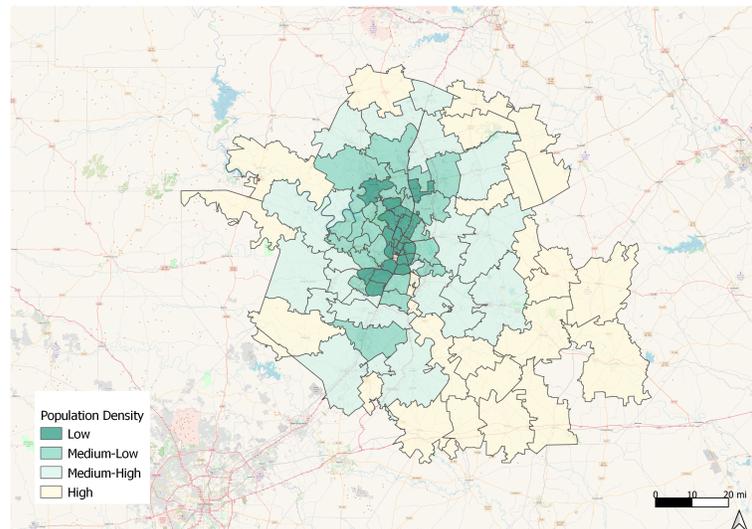
In Figure 3.3 we estimate the number of businesses per person by dividing the total number of businesses in each ZIP code by the total population, and then group them into quartiles. The average number of businesses per person in the Austin-Round Rock-Georgetown MSA is 0.118. In other words, there are almost 12 businesses for every 100 persons in the region. The area in and around Downtown Austin is of interest as it has a high amount of businesses per person and the most densely populated (3.4). Businesses in this area cater to a larger share of the population.

Figure 3.3: Austin-Round Rock-Georgetown MSA businesses per person by neighborhood



Source: American Community Survey 5-Year Data (2009-2019)

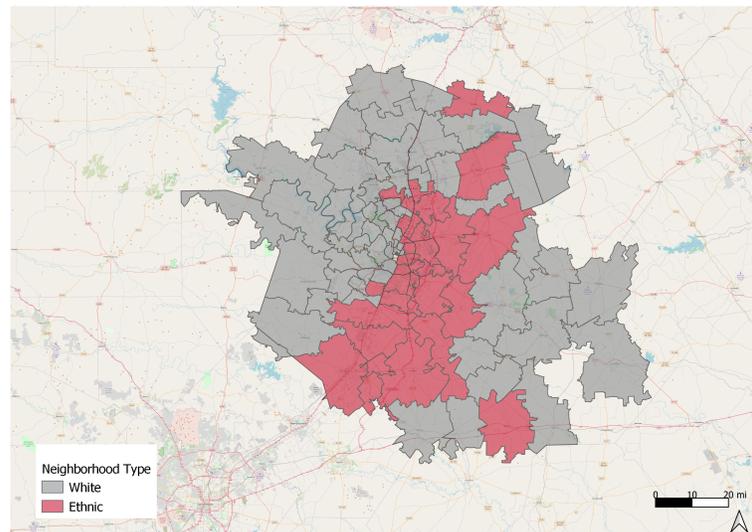
Figure 3.4: Austin-Round Rock-Georgetown MSA population density (quartiles)



Source: American Community Survey 5-Year Data (2009-2019)

Of the 97 neighborhoods analyzed in the larger Austin-Round Rock-Georgetown MSA, Figure 3.5 shows 63% (62 ZIP codes) are classified as non-Hispanic white, and 37% (36 ZIP codes) as ethnic with 50% or more of the population belonging to an ethnic or racial group other than non-Hispanic white. From these, the majority of white neighborhoods (57% of the ZIP codes) are in the upper income quartile while the majority of ethnic neighborhoods (61% of the ZIP codes) are classified as low income.

Figure 3.5: Austin and Round Rock white and ethnic neighborhoods)



Source: American Community Survey 5-Year Data (2009-2019)

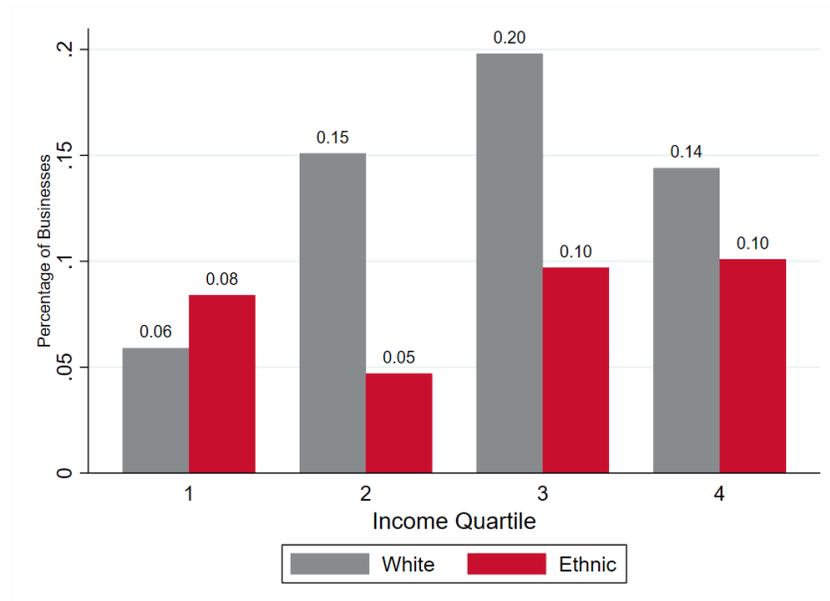
3.2 Businesses and jobs

Figure 3.6 shows the concentration of businesses and jobs by neighborhood type in terms of ethnicity/race and income group before the COVID-19 pandemic (2018-2019). Jobs per person is defined as the total population divided by the total employment in a ZIP code. Likewise, businesses per person is defined as the total population divided by the total businesses in a given neighborhood.

Ethnic-majority neighborhoods are performing worse than the neighborhoods with a majority of non-Hispanic white residents in terms of businesses and jobs concentration. Neighborhoods with a majority of non-Hispanic whites in the upper income quartiles own the majority of businesses (around 35%), while ethnic-majority neighborhoods in the lowest income quartiles own a smaller amount of the total businesses (around 12%). In general, businesses are concentrated in non-Hispanic white neighborhoods. However, in ethnic neighborhoods the percentage of businesses

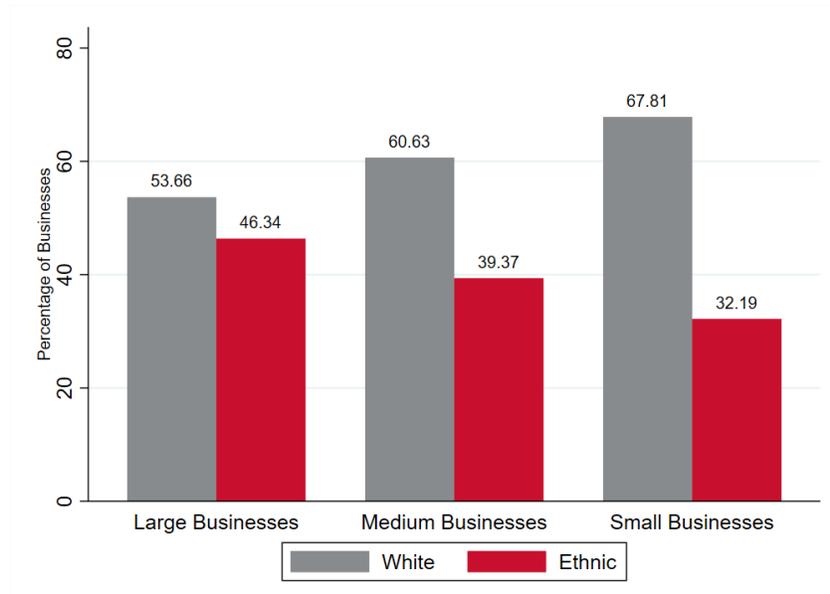
increases as business size increase. On the other hand, most small businesses are found in non-Hispanic white neighborhoods.

Figure 3.6: Businesses per person in white and ethnic neighborhoods by income quartile



Source: American Community Survey 5-Year Data (2009-2019) and Census County Business Patterns (2019)

Figure 3.7: Percentage of businesses by size in white and ethnic neighborhoods



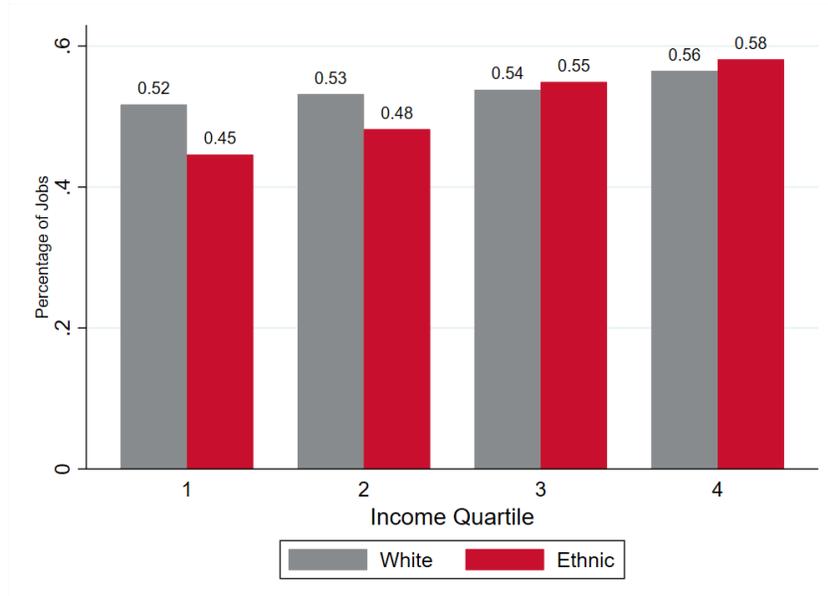
Source: American Community Survey 5-Year Data (2009-2019) and Census County Business Patterns (2019)

Table 3.1: Percentage of businesses by size in white and ethnic neighborhoods

	Small Businesses		Medium Businesses		Large Businesses	
	N	%	N	%	N	%
White	155189	67.8%	4623	60.6%	44	53.7%
Ethnic	73663	32.2%	3002	39.4%	38	46.3%
Grand Total	228852		7625		82	

Similarly, as neighborhood median income increases, the job concentration also goes up for ethnic-majority neighborhoods (Figure 3.8). In white-majority neighborhoods, the concentration of jobs does not vary significantly among income groups. However, the lowest income neighborhoods have around 4% less jobs than highest income neighborhoods.

Figure 3.8: Jobs per person in white and ethnic neighborhoods by income quartile



Source: American Community Survey 5-Year Data (2009-2019) and Census County Business Patterns (2019)

Impact of PPP loans in Austin

The distribution of Paycheck Protection Program (PPP) loans in the US varied depending on the geographic location, industry, and business type. States in the Northeast and Midwest were the ones that received more PPP loans relative to other regions. Similarly, PPP loans were primarily distributed to construction, manufacturing, and professional, scientific, and technological services companies.¹ In Texas, specifically the Austin-Round Rock-Georgetown Metropolitan Statistical Area (MSA), the largest share of PPP loans were given to professional, scientific, and technological services, health care and social assistance, and other services (except public administration).²

For the case of Texas, a total of 964,153 PPP loans were approved from January 2020 through May 31, 2021 for a total of \$63.2 billions (nearly 8% of the national total). The average PPP loan amount in Texas was \$65,595 and \$74,078 in the Austin-Round Rock-Georgetown MSA; the national average was \$67,647. From the total Austin-Round Rock-Georgetown MSA loans, 67% were for Austin business owners alone with an average loan of \$86,361.³

PPP loans were distributed through two waves: one from April to August 2020 and the other from January to May 2021. The program allows certain businesses that received the PPP loans in 2020 to apply for the second draw of loans from January to May 2021. During the first draw of PPP loans, only businesses with up to 500 employees were eligible to apply for a maximum loan amount of \$10 million, compared to companies with up to 300 employees in the second draw, for a maximum loan amount of \$2 million.

Figure 4.1 shows the number of PPP loan approvals during the first and second waves of the PPP loan distribution. In the Austin-Round Rock-Georgetown MSA, the first wave of PPP saw 37,000 loans approved for a total of \$3.6 billion (with an average loan amount of \$97,491). During the second wave, the PPP approved 34,376 loans for a total of \$1.6 billion (\$48,871 average loan),⁴ nearly half of the first wave total amount. Between April and May 2020 there was a spike in approvals that

¹Della Rocca, B. and N. Loewentheil. 2020. "Analysis of the Distribution of Phase 1 of the Federal Paycheck Protection Program." [ISPS Working Paper] *Yale Institution for Social and Policy Studies*. https://isps.yale.edu/sites/default/files/publication/2020/05/analysis_of_federal_ppp_program_workingpaper_isps20-08_0.pdf

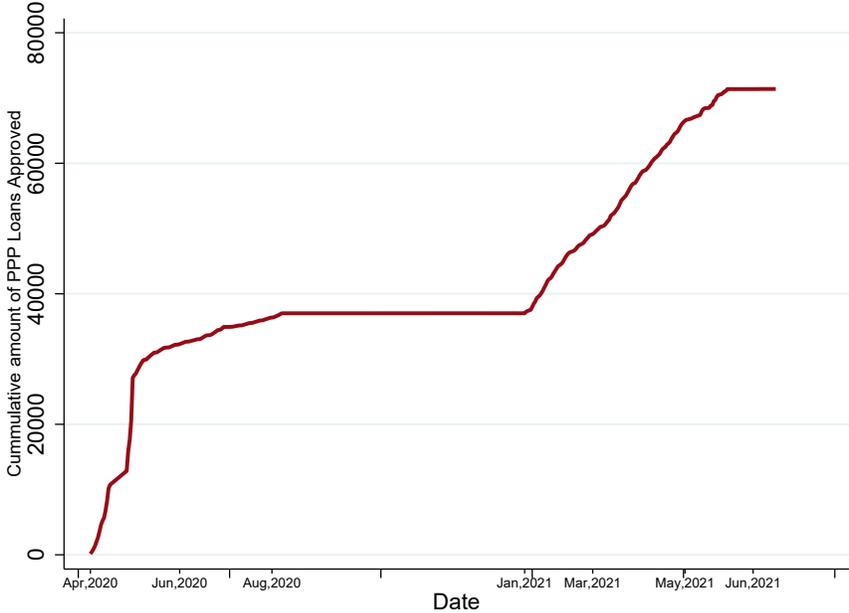
²See Small Business Administration(SBA), Paycheck Protection Program (2020)

³See Appendix B

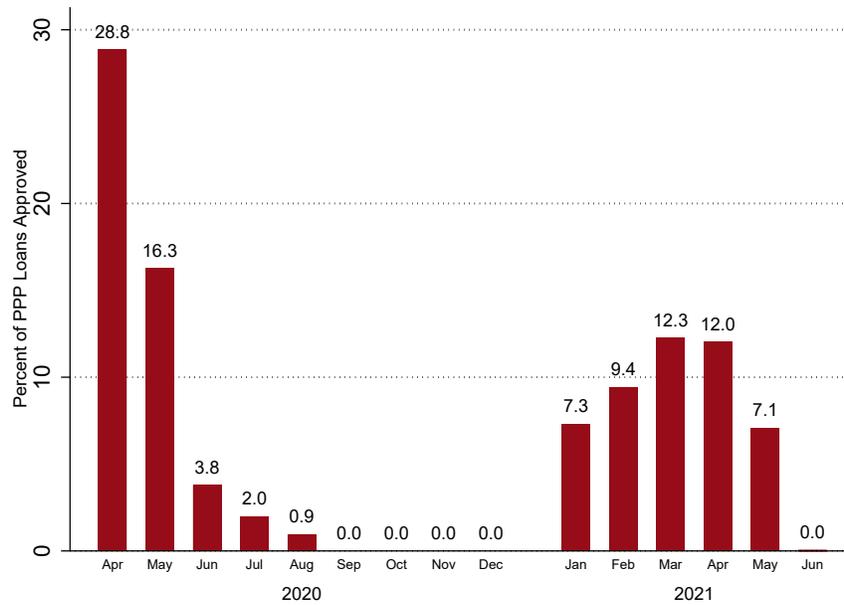
⁴Ibid fn. 4

started to decrease until the end of the first wave in August 2020. In contrast, during the second wave of PPP loan approvals, there was a steady increase until the last month of the program (May 2021). As shown in Figure 4.2, the overall highest amount of loans approved (28.8%) was at the beginning of the program in April 2020. This amount decreased by about 12% the following month. The highest amount of loans approved during the second wave was in March 2021 (12.3%) (Figure 4.2).

Figure 4.1: Cumulative number of PPP loans approved in 2020 and 2021



Source: Quarterly Census of Employment and Wages (2020)

Figure 4.2: Percentage of PPP loans approved in 2020 and 2021

Source: Quarterly Census of Employment and Wages (2020)

The PPP also allowed loan recipients to apply for loan forgiveness. In total, as of May 31, 2021, there were 30,107 firms in the Austin-Round Rock-Georgetown MSA that had applied for a loan forgiveness of 99% of their loan on average. However, there were 250 firms whose loan forgiveness was less than 60% of the loan amount, 1,254 firms whose loan forgiveness was between 30% and 60% of their loan amount, and 28,594 firms whose loan forgiveness was greater than 90% of their loan amount.

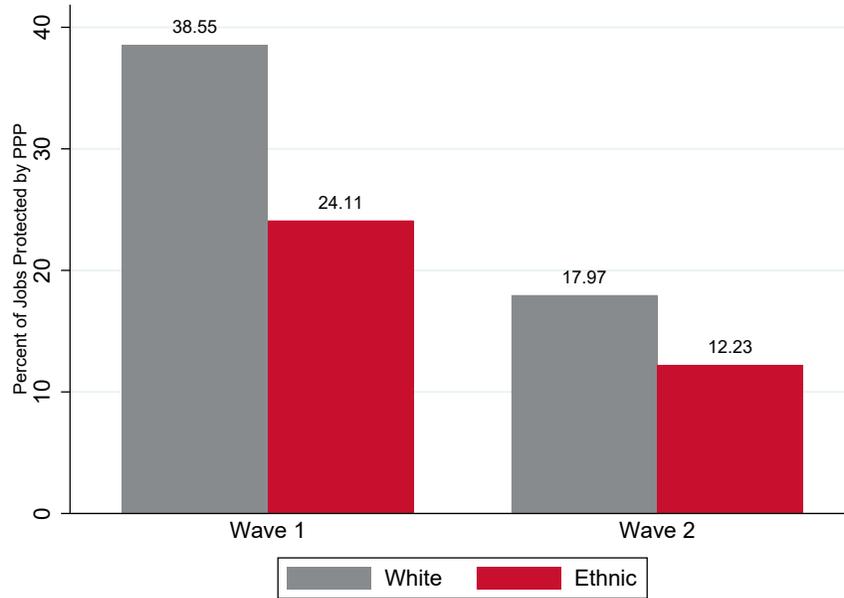
4.1 PPP impact on jobs and payroll

To understand how PPP loans affected jobs and businesses in the area, data from the CBP, ACS, and PPP were merged. The data were merged at the neighborhood level (by ZIP code). We use the data to calculate, the average number of individuals able to keep their job thanks to PPP funds. We define these jobs protected by the PPP as those pre-pandemic jobs whose payroll was covered by funds from PPP loans. The data show that the first wave of PPP loans in 2020 protected more than twice as many pre-pandemic jobs (38.2%) than the second wave in 2021 (15.4%). When we looked at the PPP jobs protected by neighborhood type, the first wave of PPP loans protected around 39% of jobs in white neighborhoods and 24.1% of jobs in ethnic neighborhoods. Similarly, PPP loans protected 48% of jobs in the highest income neighborhoods versus only 25% in lowest income neighborhoods (Figure 4.3).

4.1. PPP impact on jobs and payroll

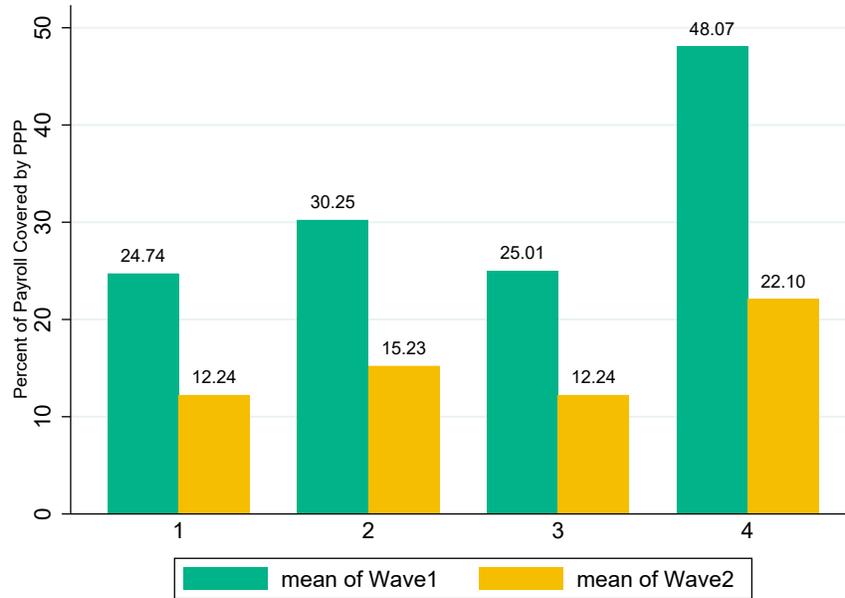
As shown in Figure 4.3 the second wave of PPP loans in 2021 also protected more jobs in white neighborhoods (18%) than in ethnic (12%). However, the gap of jobs protected by PPP loans between white and ethnic neighborhoods narrowed from around 14.4% in the first wave to around 5.8% percent in the second wave of PPP.

Figure 4.3: Jobs protected by PPP in white and ethnic neighborhoods



Source: American Community Survey 5-Year Data (2009-2019) and SBA - PPP Data (2021)

Figure 4.4: Jobs protected by the PPP

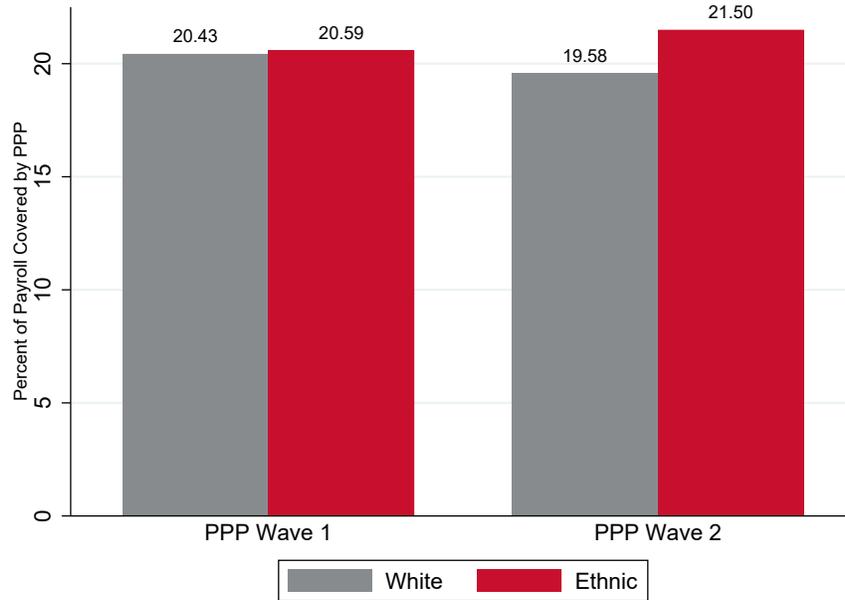


Source: American Community Survey 5-Year Data (2009-2019) and SBA - PPP Data (2021)

Additionally, 2020 PPP loans in the Austin-Round Rock-Georgetown MSA covered \$9,391 (\$9,772 in 2021) of the average payroll per worker, which represents around 20% (21% in 2021) of the pre-pandemic average payroll per person (\$46,682). On average, PPP loans in 2020 covered \$514 more dollars of the per person payroll in white neighborhoods than in ethnic neighborhoods and \$300 in 2021 during the second wave of the program.

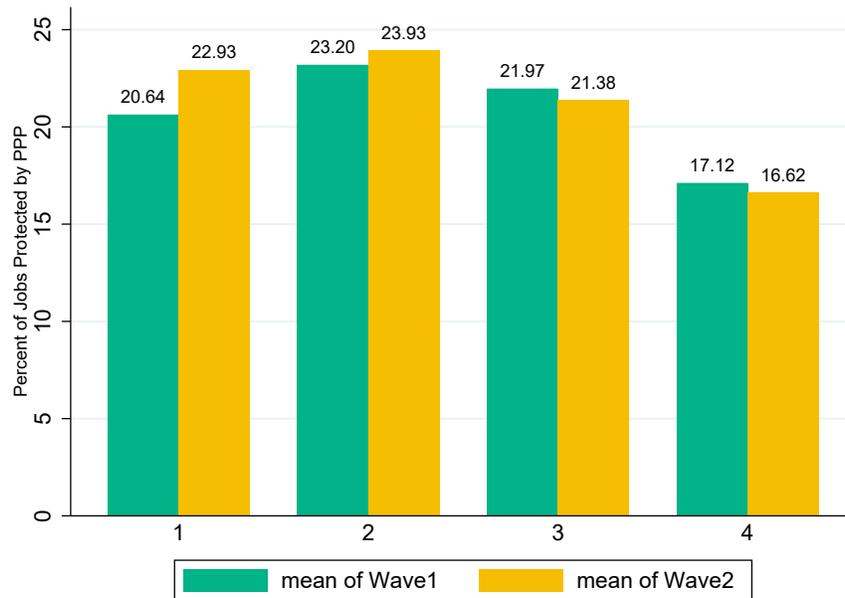
In terms of neighborhood income, the difference in payroll covered does not appear to be significant for the first or second wave. Nevertheless, 2020 PPP loans covered a slightly higher amount of the payroll in income quartiles one and two (20.6% and 23.2%, respectively) than in the third (20.6%) and fourth (17.1%) income quartiles. This trend is also observed in 2021 PPP loans.

Figure 4.5: Payroll covered by PPP in white and ethnic neighborhoods



Source: American Community Survey 5-Year Data (2009-2019) and SBA - PPP Data (2021)

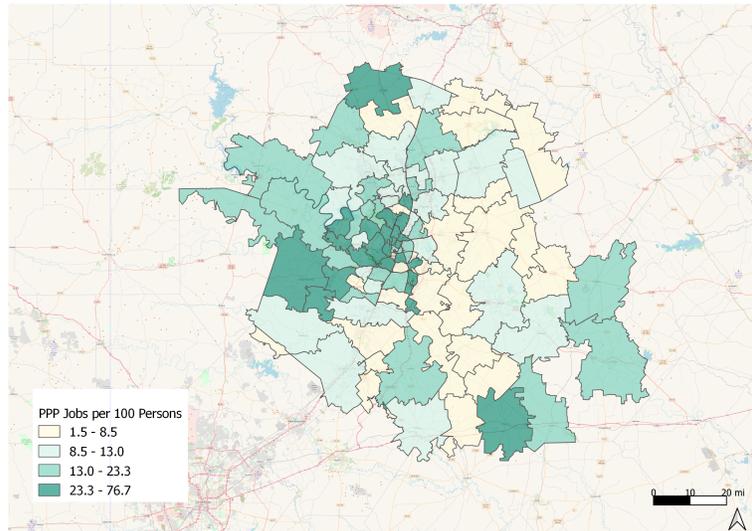
Figure 4.6: Payroll covered by PPP in neighborhoods by income quartile



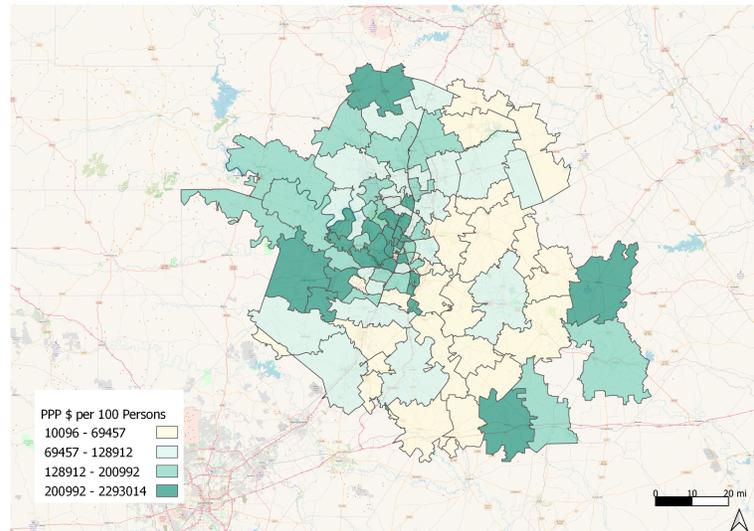
Source: American Community Survey 5-Year Data (2009-2019) and SBA - PPP Data (2021)

Figure 4.7 and Figure 4.8 show the impact of PPP loan distribution in different neighborhoods. PPP money and jobs protected per 100 residents appear to be higher in neighborhoods west of Downtown Austin.

Figure 4.7: Jobs protected per 100 persons



Source: Census Business Patterns 2019 and SBA PPP 2021

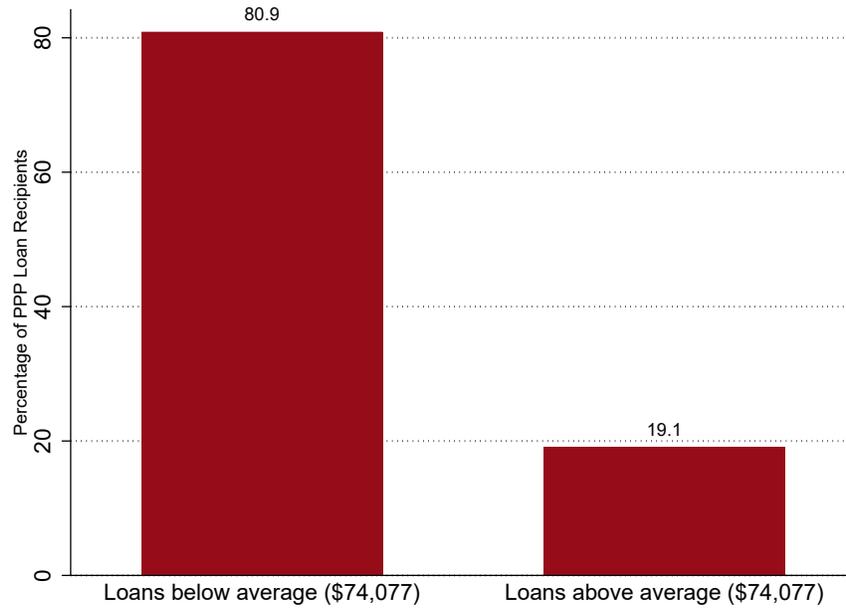
Figure 4.8: PPP money per 100 persons

Source: Census Business Patterns (2019) and SBA - PPP (2021)

4.2 PPP loan distribution

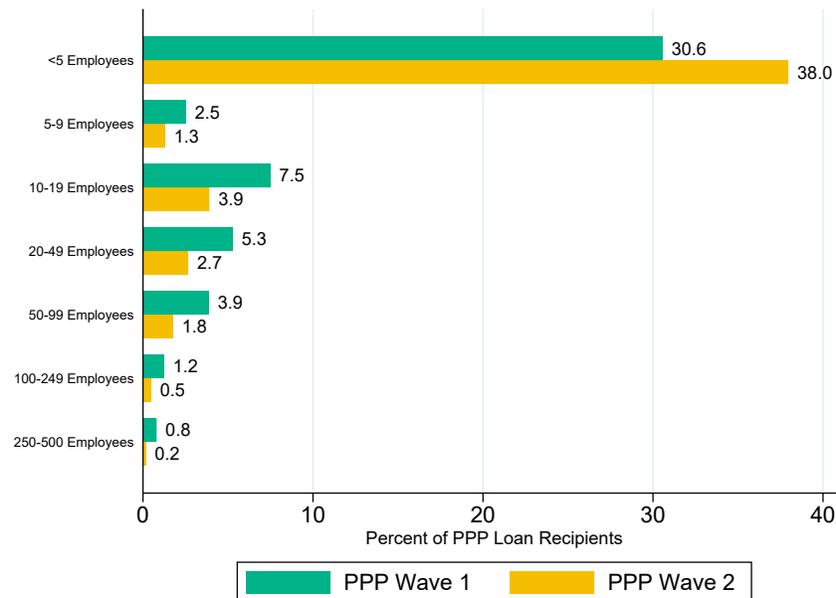
According to the SBA data on PPP loan distribution in the Austin-Round Rock-Georgetown MSA, there were 71,385 businesses that received PPP loans for an average of \$74,077. Around 81% of these businesses received PPP loans below the MSA average whereas 19% received above the MSA average. This is likely because most firms (95.6%) are small businesses with less than 50 employees (Figure 4.10). Furthermore, as shown in Figure 4.10, of the small businesses that received PPP loans, there were more businesses with fewer than 5 employees during the second wave than during the first wave of the program (38% in 2021 and 31% in 2020).

Figure 4.9: Percentage of PPP loans compared to the total average



Source: SBA - PPP (2021)

Figure 4.10: Percentage of PPP loans by number of employees in 2020 and 2021

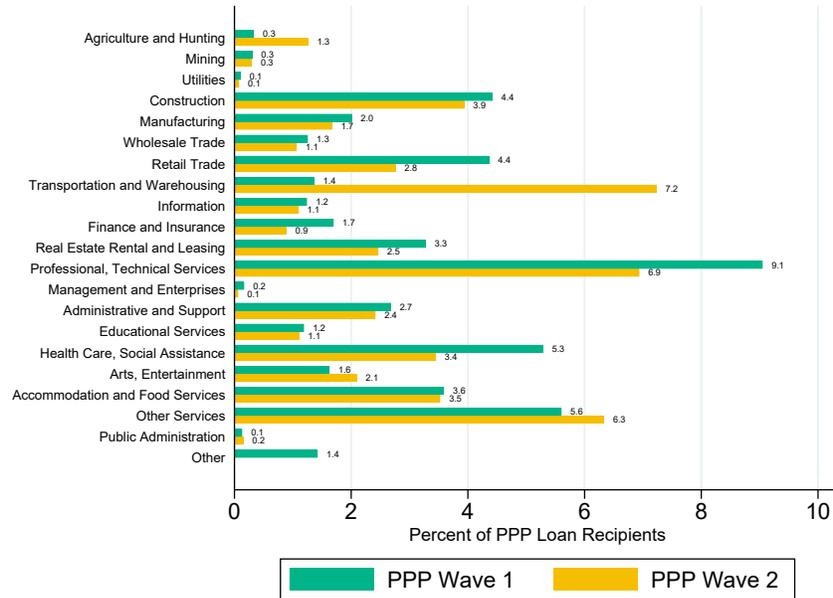


Source: SBA - PPP (2021)

4.2. PPP loan distribution

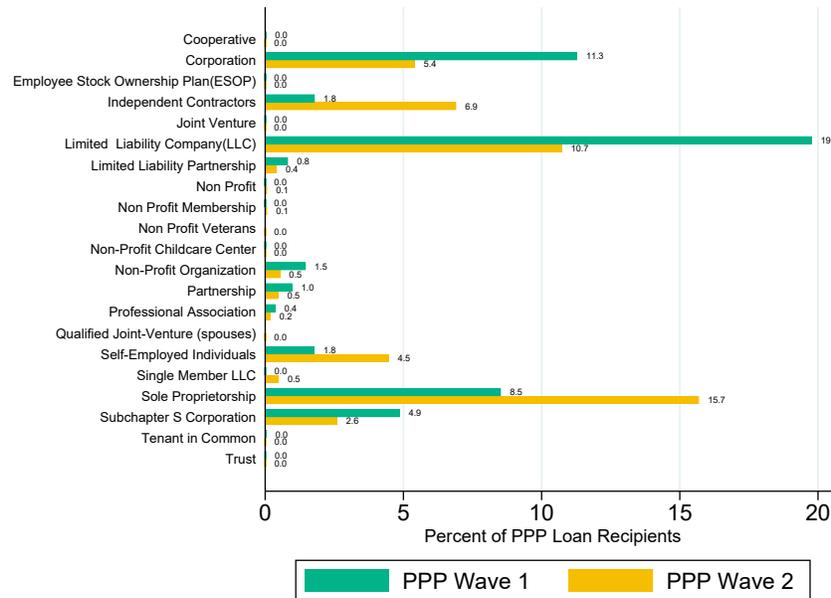
Data from the SBA on PPP loan distribution also show that 21.3% of the businesses that received PPP loans belong to the professional, scientific, and technical services industry, followed by 10.5% from health care and social assistance, and 10.4% from other services. In addition, around 39% of PPP recipients were Limited Liability Companies (LLC), 21.7% corporations, and 15.3% sole proprietorships.

Figure 4.11: Percentage of PPP loans by industry in 2020 and 2021



Source: SBA - PPP (2021)

Figure 4.12: Percentage of PPP loans by business type in 2020 and 2021



Source: SBA - PPP (2021)

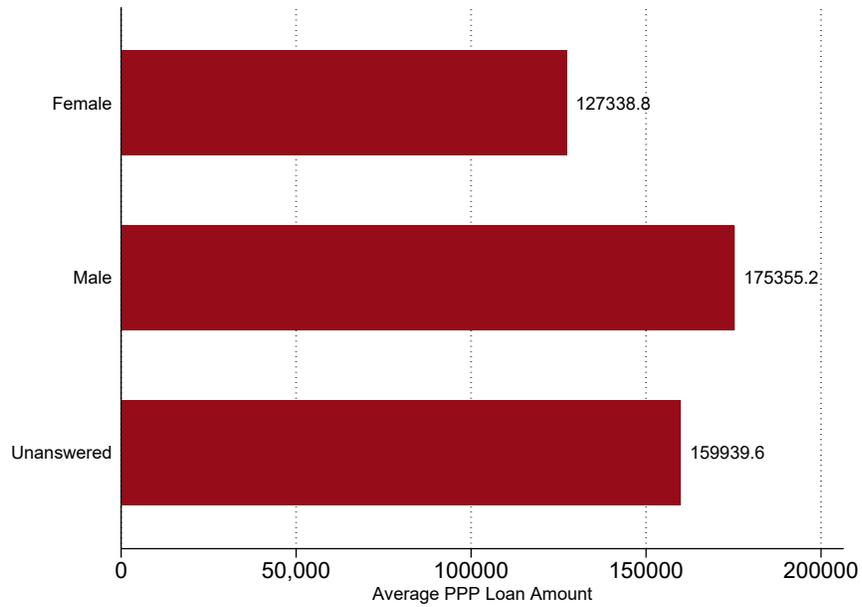
4.3 PPP recipients

To understand the firm characteristics of PPP recipients, we match data from ReferenceUSA (73,323 companies) with data from the SBA-PPP for the Austin-Round Rock-Georgetown MSA (23,999 companies). The merged data (Data 2) contain 4,491 firms that received PPP loans whose detailed information is listed in the ReferenceUSA dataset. In this section, we describe the characteristics of these businesses in terms of gender and ethnicity of the owner or representative of the firm, number of employees, type of industry, type of business, and credit score.

Nearly 64% of the companies reported the gender of the owner or representative. Of those who reported the owner’s gender, 22% were females who received an average loan of around \$127,338. The remaining 42% were males who received an average PPP loan of \$175,355.

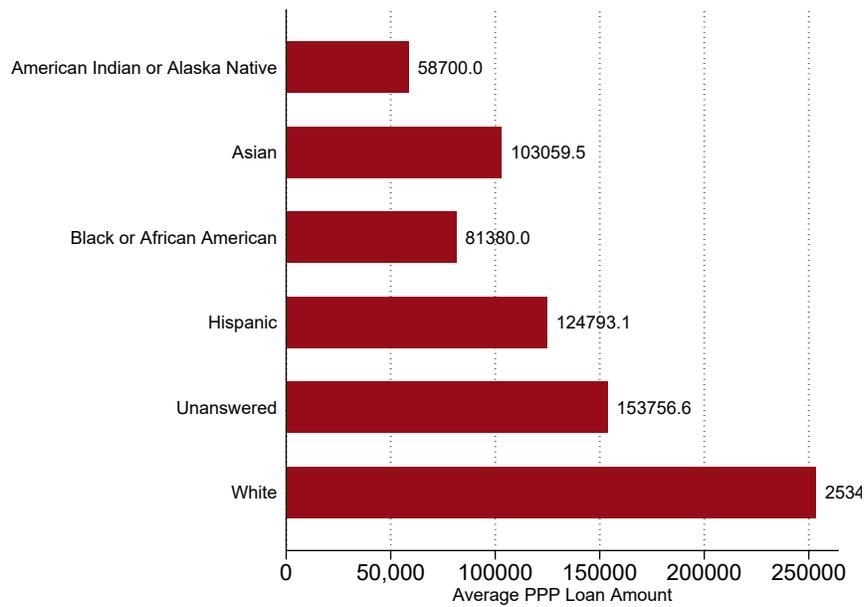
Ten percent (426 businesses) of the total sample reported the ethnicity or gender of their owner or representative. From these, white owners (6.7%) had the highest average PPP loan, followed by Hispanics (1.5%), Asians (1.2%), Black or African Americans (0.1%), and American Indian or Alaska natives (0.02%).

Figure 4.13: PPP loan average by business owner/representative gender

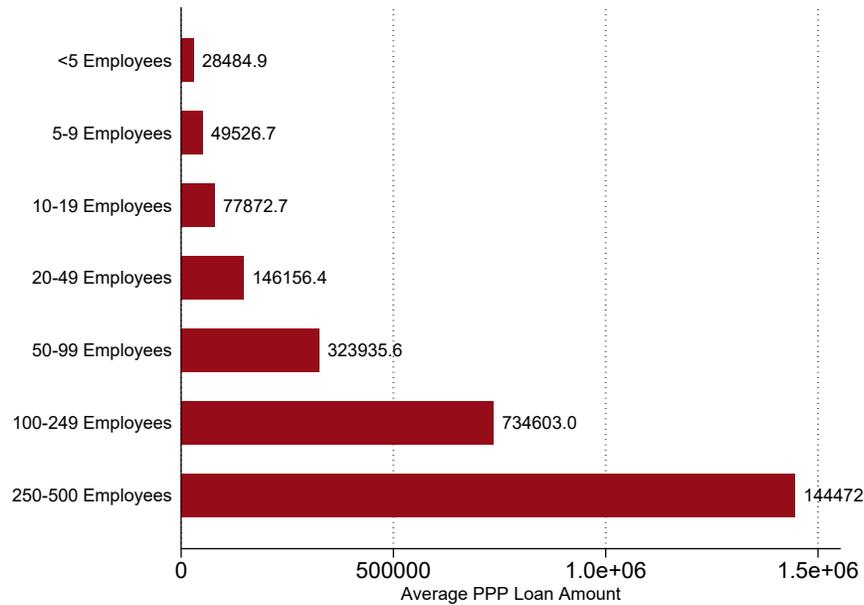


Source: Reference USA and SBA - PPP (2021)

Figure 4.14: PPP loan average by business owner/representative race



Source: Reference USA and SBA - PPP (2021)

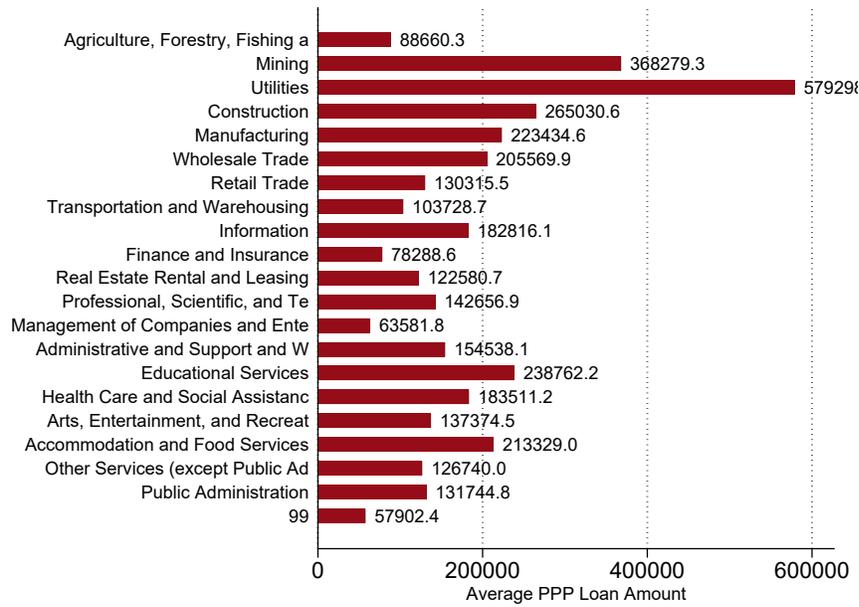
Figure 4.15: PPP loan average by number of employees

Source: Reference USA and SBA - PPP (2021)

As shown in Figures 4.16 and 4.17, most of the companies that received PPP loans were from the following industries: professional, scientific and technical, other services, retail, healthcare and social assistance, and accommodation and food services. However, the highest average PPP loan amounts were given to utilities, mining, construction, manufacturing, and educational services. Similarly, owners in cooperatives, joint ventures, and partnerships received the highest average loan amounts.

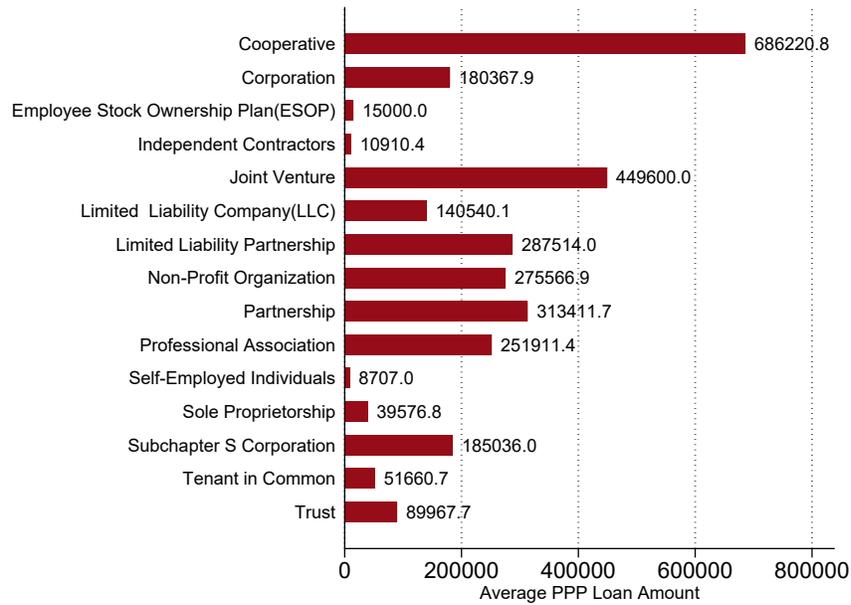
Figure 4.18 also shows that firms with the highest credit scores (A+ and A) received the highest average loan amounts, while those with the lowest scores received the lowest PPP loan amounts. Nonetheless, 38.6% of the PPP loan recipients had credit scores of B or B+, 21.6% had scores of C or C+, and 13.7% had scores of A or A+. The remaining percentage was unclassified or did not have credit score information.

Figure 4.16: PPP loan average by industry



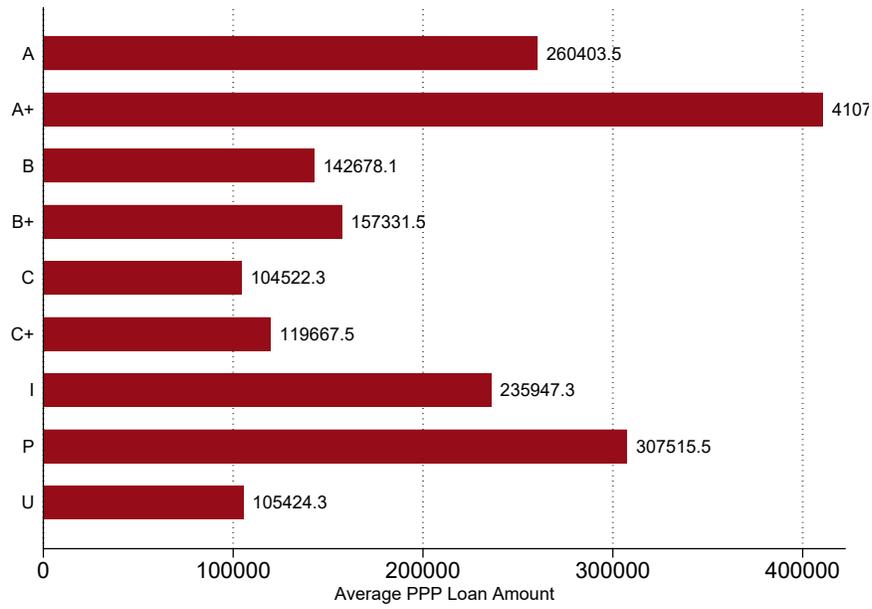
Source: Reference USA and SBA - PPP (2021)

Figure 4.17: PPP loan average by business type



Source: Reference USA and SBA - PPP (2021)

Figure 4.18: PPP loan average by business credit score



Source: Reference USA and SBA - PPP (2021)

Conclusion

As reflected in responses of the 2020 Hobby School-Austin Chamber of Commerce survey, businesses in the Austin area were mostly concerned about generating cash flow.¹ In this sense, public funds distributed through the PPP provided relief by helping some firms stay in business. The current report documents stark differences in access and distribution of loans under both waves of PPP funding. These differences can be attributed to changes in the requirements for applying to the PPP or to the fact that firms that had access to the PPP in 2020 may have either stop needing funds or ceased to exist in 2021.

The data presented in this report show that many service and hospitality industries have not been able to recover to pre-pandemic levels when it comes to employment loss. Businesses located in areas with a majority-minority population were found to receive fewer PPP funds than those in neighborhoods that are predominately white, on average. The lack of funds has significantly contributed to the average employment losses for these businesses.

There were notable differences between the first and second waves of PPP funds, specifically that the first wave of PPP loans protected more than twice as many jobs of those in the workforce prior to the COVID-19 pandemic than in the second wave. Also, during the second wave there were fewer disparities in terms of jobs protected by PPP between ethnic- and white-majority neighborhoods. Access to PPP loans by small and minority businesses in the second wave reflects efforts by the Austin Chamber of Commerce and other chambers in the Austin area, the City of Austin, state and federal agencies, including the SBA, to disseminate information and simplify the application process to rescue programs. Yet, the differential patterns also suggest that lack of access to financial resources at the early stages of the pandemic might have pushed many small, minority-owned, and women-owned firms out of business.

Businesses in neighborhoods with higher average income levels were better protected with funding from PPP loans than those in lower income areas. On the other hand, the second wave of PPP loans were able to provide more assistance to those owners of small businesses than in the first wave of PPP funds.

Our findings highlight the limitations of focusing on aggregate patterns. During times of economic hardship sound policy responses need to identify and respond to the particular needs of firms with

¹Ibid fn. 1

different ownership, activity, and geographic location. It is important to provide information about access to public relief to small and medium-sized firms, particularly women- and minority-owned, that are often in worse positions to endure large scale economic shocks. These considerations should take center stage in the design and implementation of public policies and programs aimed at mitigating the economic impacts of public health crises, such as the COVID-19 pandemic. The corollary is that providing sound responses to fundamental problems facing our communities demands careful attention to the roll out and implementation of the policy responses.

References

Bates, T. and A. Robb. 2014. "Small-Business Viability in America's Urban Minority Communities." *Urban Studies*, 51(13): 2844-2862.

_____. 2016. "Impacts of Owner Race and Geographic Context on Access to Small-Business Financing." *Economic Development Quarterly*, 30(2): 159-170.

Bureau of Labor Statistics, U.S. Department of Labor. 2020. "Quarterly Census of Employment and Wages." Retrieved from <https://www.bls.gov/cew/data.htm>.

Coronavirus Aid, Relief, and Economic Security (CARES) Act, Pub. L. No. 116-136, 134 Stat. 231 (2020).

Data Axl-ReferenceUSA. 2021. "U.S. Business Database." Available at <https://www.data-axle.com/what-we-do/reference-solutions/> or <http://www.referenceusa.com.ezproxy.lib.uh.edu/Home/Home>.

Dell Rocca, B. and N. Loewentheil. 2020. "Analysis of the Distribution of Phase 1 of the Federal Paycheck Protection Program." [ISPS Working Paper May 1, 2020] *Yale Institution for Social and Policy Studies*. Available at https://isps.yale.edu/sites/default/files/publication/2020/05/analysis_of_federal_ppp_program_workingpaper_isps20-08_0.pdf.

Hobby School of Public Affairs. 2020. "The COVID-19 Pandemic in Austin: Impact, Reaction & Survival." [Background]. Available at https://uh.edu/hobby/austinsurveys/austin-survey-reports/city_of_austin_census_report.pdf.

_____. 2020. "The COVID-19 Pandemic in Austin: Impact, Reaction & Survival." [Business Survey]. Available at <https://uh.edu/hobby/austinsurveys/austin-survey-reports/austinreporthobbyschool.pdf>.

Meltzer, R. and S. Capperis. 2017. "Neighbourhood Differences in Retail Turnover: Evidence from New York City." *Urban Studies*, 54(13): 3022-3057.

Ong, P., S. R. Gonzalez, C. Pech, K. Hernandez, and R. Domínguez-Villegas. 2020. "Disparities in the Distribution of Paycheck Protection Program Funds Between Majority-White Neighborhoods

and Neighborhoods of Color in California.” *UCLA Latino Policy & Politics Initiative* and *UCLA Center for Neighborhood Knowledge*. Available at <https://escholarship.org/content/qt9pz896kh/qt9pz896kh.pdf>.

Small Business Administration, Paycheck Protection Program (PPP). 2020. “PPP Data.” Available at <https://www.sba.gov/funding-programs/loans/covid-19-relief-options/paycheck-protection-program/ppp-data>.

U.S. Census Bureau. 2021. *American Community Survey 5-Year Data (2009-2019)*. Retrieved from <https://www.census.gov/data/developers/data-sets/acs-5year.html>.

_____. 2021. *County Business Patterns: 2019*. “Complete Zip Code Totals File.” [Datasets]. Retrieved from <https://www.census.gov/data/datasets/2019/econ/cbp/2019-cbp.html>.

_____. 2021. *Small Business Pulse Survey*. Retrieved from <https://portal.census.gov/pulse/data/>.

Appendix A: Summary Tables

Figure A1: PPP Loans for Wave 1 (April, 2020-August, 2020) and Wave 2 (January, 2021-May, 2021)

	YEAR	LOANS APPROVED	TOTAL NET DOLLARS	AVERAGE LOAN
US	2020	5,141,665	\$522,132,758,441	\$101,549
US	2021	6,681,929	\$277,700,108,079	\$41,560
US TOTAL		11,823,594	\$799,832,866,520	\$67,647
TX	2020	410,051	\$41,056,408,468	\$100,125
TX	2021	554,102	\$22,187,433,542	\$40,042
TX TOTAL		964,153	\$63,243,842,010	\$65,595
AUSTIN	2020	26,244	\$2,877,729,275	\$109,653
AUSTIN	2021	21,923	\$1,282,018,753	\$58,478
AUSTIN TOTAL		48,167	\$4,159,748,028	\$86,361
AUSTIN MSA	2020	37,009	\$3,608,048,986	\$97,491
AUSTIN MSA	2021	34,376	\$1,679,989,684	\$48,871
AUSTIN MSA TOTAL		71,385	\$5,288,038,670	\$74,078

Appendix B: Data Collection

We use 5-digit zip code tabulation areas (5-ZCTA) as the unit of analysis in this report and as a neighborhood approximation. The study uses 97 zip codes in the Austin-Round Rock MSA to analyze neighborhoods composition and PPP recipients.

Racial/ethnic majority neighborhoods are defined as those where 60% or more of the total population in a given zip code belongs to a racial/ethnic group other than white.

The Small Business Association (SBA) defines small businesses as those with less than 500 employees. In our report, we classify small businesses as those reporting less than 50 employees, medium businesses as those that employ between 50 and 500 employees, and large businesses as those with more than 500 employees.

Four main data sources are used to construct two different datasets. The first dataset uses demographic census data from the American Community Survey, 5-year estimates (2019), approved PPP loans from the SBA (SBA-PPP), and US Census County and ZIP Code Business Patterns (census-CBP and Census-ZBP). This first dataset is mainly used in **Chapter 4 and Chapter 5** to analyze neighborhood level characterizes in terms of demographics and business composition in the area studied.

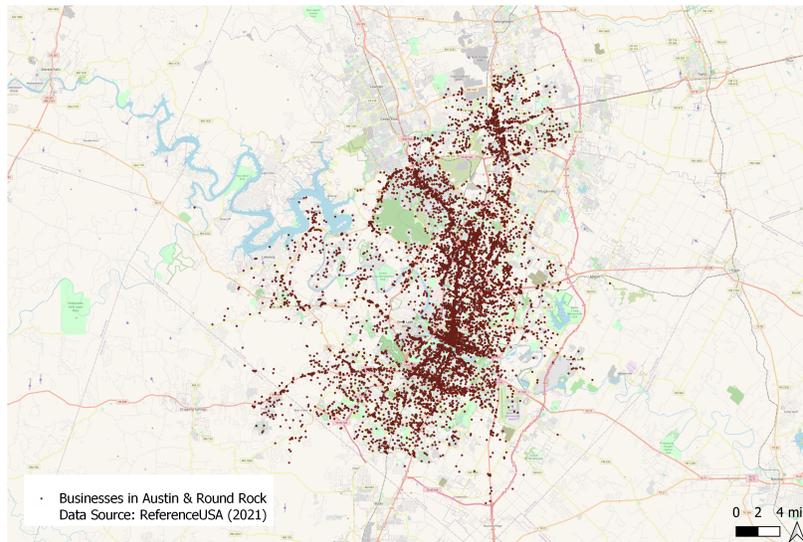
The second dataset merges data from the SBA-PPP with a sample of businesses from the [ReferenceUSA](#) dataset. ReferenceUSA data allow us to assign a higher level of detail to some of the firms that received PPP loans in the Austin-Round Rock MSA. While ReferenceUSA dataset does not include the whole population of businesses, we use it as an approximation. For the zip code selection of this study, the Census-ZBP (2019) data estimates a total number of 279,815 establishments. From this number, 73,323 are part of ReferenceUSA data and 23,999 received PPP loans. Results from this second data set are found in the last section of **Chapter 5**

In addition to these datasets, data from the Census Pulse Survey and the Quarterly Census of Employment and Wages are also analyzed in **Chapter 3**.

Figure B1: Data sets used for the Analysis

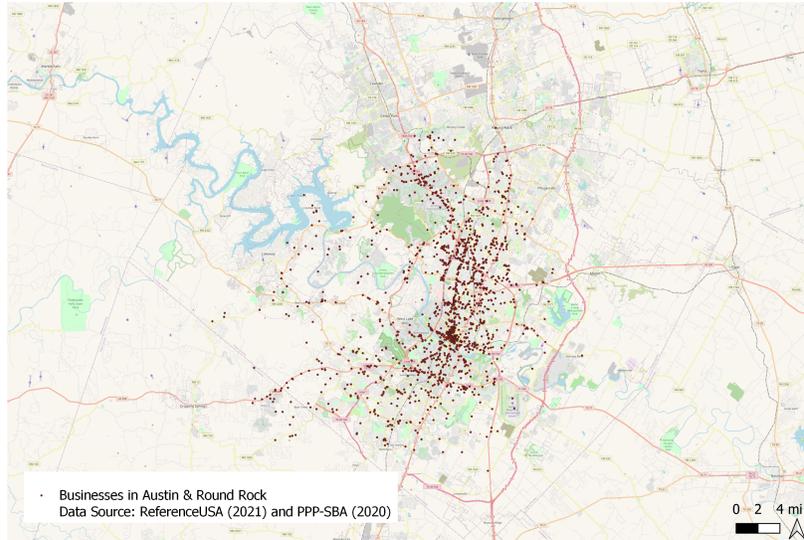
	Data set 1	Data set 2
Data merged	ACS (2019) CBP PPP- SBA	PPP- SBA Reference USA
Unit of analysis	Zip code/neighborhood	Unique business
Number of observations	97 neighborhoods	4,491 businesses
Variables of interest	Pre pandemic – baseline demographic and business characteristics	Post COVID – PPP recipients

Figure B2: Businesses in the Austin-Round Rock-Georgetown MSA



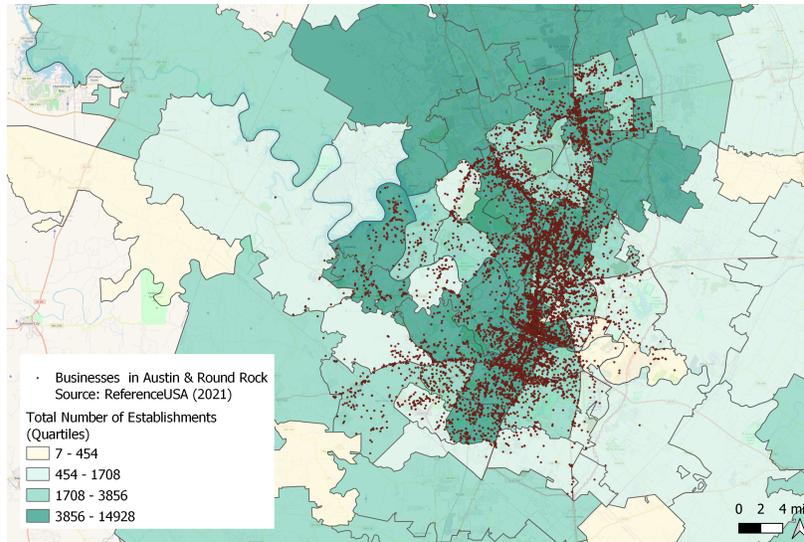
Source: Data from ReferenceUSA Business (2021)

Figure B3: Businesses - Data Set 2



Source: Merged Data from ReferenceUSA Business (2021) and SBA-PPP (2021)

Figure B4: Business Concentration - Census County Business Patterns and ReferenceUSA Data



Source: Merged Data from ReferenceUSA Business (2021) and Census County Business Patterns (2019)