

ECONOMIC COMMENTARY

How Well Did PPP Loans Reach Low- and Moderate-Income Communities?

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We investigate the degree to which Paycheck Protection Program (PPP) loans reached small businesses in low- and moderate-income (LMI) communities. We use PPP loan data from the Small Business Administration that we geocode and link to census tracts. We assess the program's reach in a few ways and focus on the number of loans, rather than the amount of funds, that went to different areas in order to capture the program's impact on businesses with fewer than 50 employees—the vast majority of small businesses. We find evidence that the program did have a broad reach within LMI communities, but that it reached higher-income communities to a greater extent and areas with Black, Hispanic, and American Indian or Alaska Native majorities to a lesser extent.

To address the decline in small-business revenues experienced during the COVID-19 pandemic, Congress and the US Department of the Treasury allocated up to \$659 billion of Paycheck Protection Program (PPP) loans for small businesses in the Coronavirus Aid, Relief, and Economic Security (CARES) Act and subsequent extensions.¹ Congress has been clear that its intent with this PPP funding was to prioritize smaller businesses in underserved markets.

Yet the initial round of PPP loans favored larger, more established small businesses, according to a report of the Office of the Inspector General of the Small Business

Administration (SBA): “SBA guidance was not sufficient to ensure PPP lenders prioritized underserved markets during the initial round of funding.”² When Congress extended funding for PPP loans, it was careful to emphasize that businesses in low- and moderate-income (LMI) communities should be prioritized. Specifically, the Paycheck Protection Program and Health Care Enhancement Act, signed on April 24, 2020, set aside \$60 billion (out of \$321 billion of additional PPP funding) for lending by community financial institutions and by banks and credit unions with consolidated assets of less than \$10 billion to better reach underserved communities.³

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It is clear from SBA program data that the PPP program was attractive and accessible enough for program funding to reach many businesses in LMI areas. The SBA announced in October 2020 that “27 percent of the PPP loan dollars were made in low-and moderate-income communities which is in proportion to the percentage of population in these areas.”⁴

However, considering the distribution of loans in terms of the percentage of program dollars is just one way to think about the reach of the program in LMI communities. This *Commentary* examines the extent to which PPP loans reached small businesses in LMI communities, and, unlike the SBA, we assess reach by focusing on loan counts instead of loan dollars. We estimate the share of PPP loans that went to areas with different income levels and compare them first in terms of population and then in terms of the percent of businesses in those areas. Overall, we find that the program did have quite a broad reach across the country, but it did not reach LMI communities to the same extent that it reached higher-income communities. Nonetheless, the PPP loan program was still more prevalent in LMI areas than traditional loans to small businesses. Finally, we examine the counts of PPP loans provided in areas where a Black, Hispanic, Asian, or American Indian or Alaska Native population comprises the majority. In this comparison, we find considerable unevenness in the reach of the PPP loan program.

Data

Our PPP loan data come from the SBA. The data cover the original PPP loan program and its extensions with loans starting on April 3, 2020, and ending on August 9, 2020, when the program ran out of funds. The key data items we focus on are the amount of the loan; the name, legal structure, and address of the firm receiving the loan; and information (which is incomplete) on the characteristics of the business owner. Because we need more information about the area in which the loans were made, we assign each PPP loan to a specific census tract by geocoding the firms that received PPP loans. Census tracts are one of the smallest geographic areas for which data are available, and they often represent recognizable neighborhoods.⁵ Of the 5,155,987 PPP loans in the data, we were able to assign more than 99 percent to a tract (table 1).

Table 1. Data Excluded from the Analysis

	Number of loans	Average loan amount (\$)
Total loans	5,155,987	101,419
Unable to geocode	11,760	81,628
Not in FFIEC dataset	40,996	201,163
Loans in analysis	5,103,231	100,663

Sources: Small Business Administration, Federal Financial Institutions Examination Council (FFIEC).

We next categorize each census tract by income level (low, moderate, middle, high) as designated by the bank regulators on the Federal Financial Institutions Examination Council (FFIEC).⁶ This approach compares the median income in a census tract to the median income of the surrounding region. For metropolitan tracts the region is the surrounding metropolitan area; for rural and micropolitan tracts it is the nonmetropolitan areas of the state. A low-income tract is one for which the median is less than half of the reference median. A moderate-income tract has a median of at least 50 percent and less than 80 percent of the reference median; a middle-income tract has a median of at least 80 percent and less than 120 percent of the reference median; and an upper-income tract has a median of at least 120 percent of the reference median.⁷

Finally, we augment our data set with additional data we will need to calculate our different measures of reach. We add the population of each census tract and the race or ethnicity of the majority of residents in the tract, information which we obtain from the 2015–2019 American Community Survey (ACS). The PPP loan data include an owner’s race variable, but the vast majority of PPP loan applications are missing the information on the race or ethnicity of the owner, making that data source uninformative. Our ACS information on the race or ethnicity profile of the tract is an imperfect indicator for the race or ethnicity of the owner, but it should be accurate in terms of fiscal support for businesses located in these communities.

Measuring PPP Reach in LMI Areas

As a check on our dataset, we first calculate the reach of the PPP in the same way the SBA did in its report: We calculate the percentage of PPP loan funds that went to LMI areas. We estimate that roughly 26 percent of PPP funds were lent to businesses in LMI census tracts. This is similar to the SBA’s reported rate of 27 percent and, as the SBA noted, similar to the percentage of the US population living in LMI neighborhoods.⁸

While this is an encouraging statistic, it ignores an important factor that might distort the assessment of reach. PPP loan sizes generally grow proportionally with the payroll size, so firms with more employees received larger loans. But the distribution of small businesses is skewed toward companies with fewer employees: While small businesses are defined as companies with anywhere from 1 to 500 employees, more than half of US small businesses have only 1 to 4 employees, according to Census data. The vast chunk of remaining small businesses has between 5 and 49 employees, and only a tiny fraction—5 percent—has between 50 and 499 employees.⁹ Basing shares on loan amounts places the focus sharply on relatively less common small businesses with more than 50 employees.

We need to ensure our assessment of PPP reach accurately reflects small businesses with smaller payrolls. These firms represent the majority of small businesses, and there is

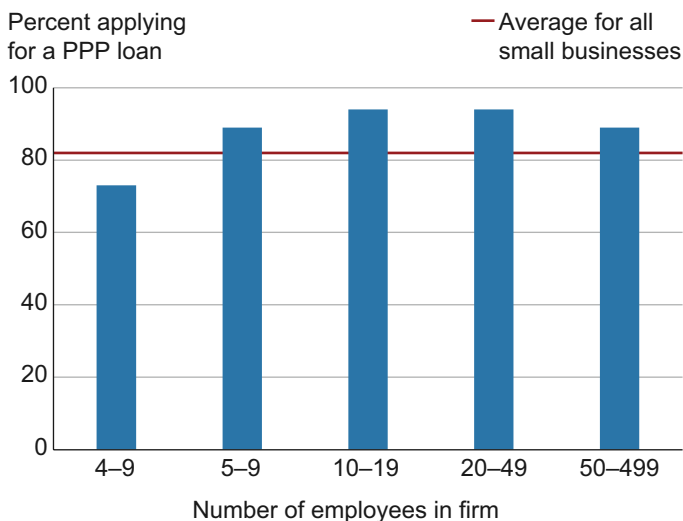
evidence they have not been able to access the credit they needed during the pandemic. According to a Federal Reserve Small Business Credit Survey, just 73 percent of respondents with 1 to 4 employees applied for a PPP loan (figure 1), a number which compares to an average rate of 82 percent for all small businesses (SBCS, 2021a, reporting on data collected in 2020). Businesses with 1 to 4 employees also received a smaller percentage of the amount of funds they applied for compared to firms with more employees: Of the firms that applied for funding during the pandemic (from the PPP or other sources), 28 percent of firms with 1 to 4 employees received all the financing they sought, a figure that is much lower than for firms with 5 to 49 employees (44 percent) or 50 to 499 employees (59 percent). To address this issue, we focus instead on the number of loans approved in LMI areas rather than the amount of funding. In table 2 we break down the number of PPP loans by each income designation.

Next, to assess reach, we compare the number of PPP loans that went to census tracts of different income designations to the distribution of the population in those census tracts (as the SBA did with loan amounts). To account for varying populations across census tracts, we compare the numbers of loans made per 1,000 residents of a census tract.

About 91 million Americans, or about 28 percent of the US population, live in LMI census tracts based on the 2015–2019 ACS. If we assume for the moment that the number of small businesses in census tracts is proportional to the population of the tract and is not affected by residents’ income level, we would expect about 28 percent of loans to have been approved in these census tracts.

Figure 2 shows the average number of PPP loans per 1,000 residents by the income level of the census tract. The low-

Figure 1. PPP Application Rates by Number of Employees in the Firm



Source: SBCS, 2021a, data appendix; data are from 2020.

Table 2. PPP Loans by Tract Income Level

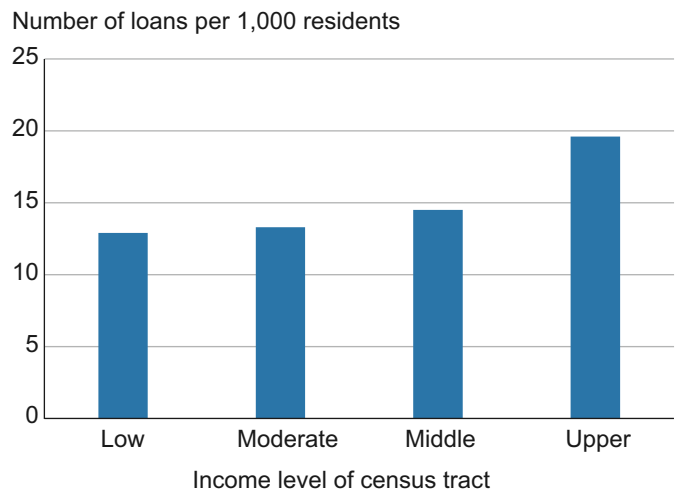
Census tract income level	Number of loans	Percentage of total	Percentage of identified loans
Low	274,776	5.3	5.4
Moderate	933,077	18.1	18.3
Middle	2,041,373	39.6	40.0
Upper	1,854,005	36.0	36.3
Missing	52,756	1.0	
Total	5,155,987	100.0	100.0

Source: Small Business Administration.

income tracts received 12.9 PPP loans per 1,000 people. That is considerably lower than the 19.6 rate of loans per 1,000 people seen in the upper-income census tracts. Assessed in this way, the results cannot be considered proportional to the population in these tracts. Even the difference between the middle- and moderate-income tracts could be meaningful. Given that the average tract has about 4,500 people, a 1.2 difference in loan frequency per 1,000 people would be associated with 5 fewer businesses receiving a PPP loan in a small neighborhood on average.

However, businesses are not distributed proportionally to the population. Some areas such as central business districts have proportionally more businesses than people, while other areas are relatively residential and have fewer. Figures provided by the FFIEC indicate that proportionally more small businesses operate in upper-income census tracts than in lower-income census tracts. Given that fact, we would not expect to find that loans were exactly proportional to population.

Figure 2. Reach of PPP Loans by Income Level of the Census Tract



Source: Authors’ calculations based on Small Business Administration loan-level data released 11/24/2020.

Table 3. Comparing Shares across Census Tract Income Levels

Census tract income level	Share of population (percent)	Share of small businesses (percent)	Share of PPP loans (percent)	Share of small loans to businesses with revenue of less than \$1 million (percent)
Low	6.5	6.0	5.4	4.6
Moderate	21.4	20.3	18.3	17.2
Middle	43.0	41.7	40.0	37.7
Upper	29.0	32.0	36.3	40.5

Source: Small Business Administration.

To take the distribution of businesses by income level into account when considering PPP reach, we compare the share of total PPP loans made in the tracts of each income-level category to the share of total small businesses operating in each of those categories (table 3). We see there are proportionally fewer businesses in LMI tracts, but the shares of PPP loans going to those tracts were smaller than the shares of businesses in those tracts. This comparison suggests that PPP loans were not provided in proportion to the number of businesses operating in LMI communities.

Finally, we consider data on conventional lending to small businesses (table 3, column 5). We don't have a perfect measure of lending to businesses that might have qualified for PPP loans, but the FFIEC reports on the number of small loans to businesses with revenues of less than \$1 million. This is a commonly cited measure of financing for small businesses, but it certainly is not the equivalent to having fewer than 500 employees or otherwise qualifying for a PPP loan. Still, these data indicate that conventional lending to small businesses (using a revenue metric) is typically even more skewed to businesses that are operating in upper-income census tracts. This means that while PPP loans were not proportionally received in LMI communities, the share of conventional small-business loans that businesses in LMI communities received was even smaller.

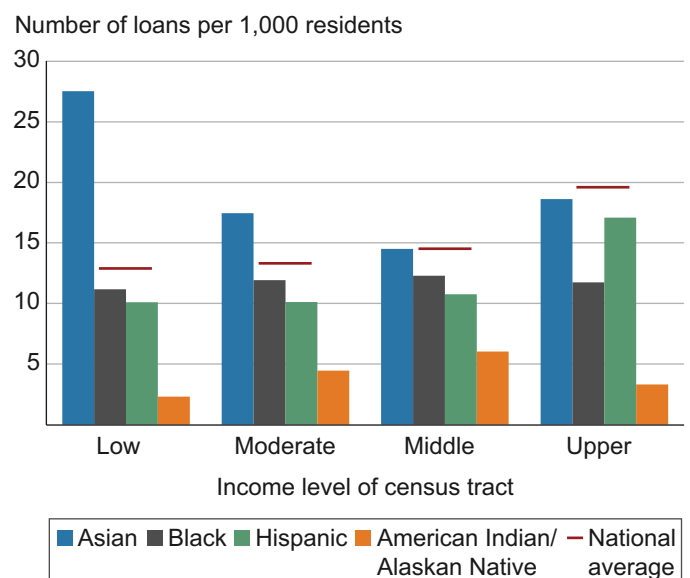
Underserved Communities and the Reach of PPP loans

Another question of PPP reach is how the program performed in terms of the race or ethnicity of loan recipients. Black, Hispanic, American Indian, and Alaska Native business owners may have been disadvantaged in their access to the PPP loan program. The 2021 Small Business Credit Survey on firms owned by people of color shows that Black- and Hispanic-owned firms applied for PPP funding less frequently than white- and Asian-owned firms (SBCS, 2021b, page 12; note that the survey reports on 2020 data). One reason for this outcome might be if these firms have weak connections to the banking system that was central to the PPP loan application process. Early reports on PPP loan access pointed to the fact that businesses with larger or more established connections to banks had loans processed more quickly (Liu and Volker, 2020).

Again focusing on PPP loan counts by census tracts, we find substantial differences for certain census tracts (figure 3). Businesses in majority Asian areas, particularly those in LMI census tracts, received more PPP loans per 1,000 people than other racial or ethnic groups. Majority Black and majority Hispanic areas generally had lower-than-average rates of PPP loans per 1,000 people. This reflects higher rates of PPP lending in the census tracts not shown—census tracts that either are majority white or are more demographically diverse and without a racial or ethnic majority. In all income categories, census tracts with American Indian or Alaska Native majorities had significantly fewer loans per 1,000 people, indicating that the PPP loan program is likely to have had a lower impact in these communities.

Splitting the census tracts by income level across these groups highlights that the upper-income tracts have distinct patterns. Majority Hispanic areas show a similar trend to the national average, as upper-income majority Hispanic areas received more PPP loans per 1,000 people than

Figure 3. Reach of PPP Loans across Income: Racial Differences



Source: Authors' calculations based on Small Business Administration loan-level data released 11/24/2020.

majority Hispanic tracts from each of the other income categories. This finding contrasts with findings for all other minority census tracts. For example, upper-income majority Black census tracts received fewer loans per 1,000 people than middle-income, majority Black tracts.

Conclusion

The Paycheck Protection Program was a key part of the fiscal response to the pandemic and the ensuing recession. The amount of money involved was enough to make significant differences for communities. Unfortunately, it is difficult to assess the reach of the program because PPP loan data do not contain needed statistics including the size of the firm or the owner's financial status, race, or ethnicity. This makes comparisons across income groups or by the race or ethnicity of the business owners difficult. That this situation occurred is not surprising because the SBA was trying to get the money out to businesses as soon as possible with a very short application process.

In order to examine access by different communities in the United States, we used the addresses of businesses that applied for PPP loans to connect these loans to census tract-level data from the American Community Survey. We find that PPP loans reached businesses across the United States in communities of all income levels, but they were not evenly distributed. Upper-income areas received substantially more loans. This is the case even accounting for the number of businesses in communities at different income levels. While PPP loans were unevenly provided by income level, we find that PPP loans had higher coverage rates in LMI communities than did conventional loans to small businesses. Finally, when looking at areas with Black, Hispanic, Asian, and American Indian or Alaska Native majorities, we found more unevenness in the coverage of PPP lending. Census tracts with Black, Hispanic, or American Indian or Alaska Native majorities received fewer PPP loans on average. The unevenness of coverage of this key program points to the need for other avenues of support in these communities to support equity in federal aid to entrepreneurs during and following the pandemic.

Footnotes

1. For more general information on the program, see Schweitzer and Borawski, 2021.
2. SBA Inspector General, 2021, page 2.
3. For a summary of the provisions in the Paycheck Protection Program and Health Care Enhancement Act (H.R. 266), see: "Paycheck Protection Program and Health Care Enhancement Act." Wikipedia, accessed 5/18/2021.
4. SBA, 2020.
5. The average number of people in a census tract in our sample is 4,461.
6. We specifically used the 2020 FFIEC flat file available at <https://www.ffiec.gov/censusapp.htm>. The FFIEC uses these neighborhood income levels in examinations of banks'

Community Reinvestment Act compliance. In the FFIEC file, there are 72,381 census tracts that have at least one PPP loan and an income designation provided by the FFIEC. In addition, there are 316 census tracts that have a nonzero population or a nonmissing population figure according to the 2015–2019 ACS and an income designation provided by the FFIEC, but they have no PPP loans. Together, these total 72,697 census tracts, and we include all of these in our analysis.

7. Definitions of LMI groups can be found on the Federal Reserve Board of Governor's [page about the Community Reinvestment Act](#).

8. This difference between our estimate and the SBA's is not meaningful and could be a result of missing income or other information for some tracts or an address's being geocoded to an incorrect census tract.

9. SBCS, 2021a, p 34.

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