At-Risk Workers of Covid-19
by Neighborhood in the
San Francisco Bay Area

Don Mar, PhD and Johnathan Ong
Ong and Associates
May 12, 2020
Executive Summary

The San Francisco Bay Area faces unprecedented social and economic disruptions due to the spread of COVID-19. As of April 30, 2020, 8,028 cases of the coronavirus have been confirmed in the Bay Area, resulting in 284 deaths. To abate the rate of infection, public officials have taken dramatic actions to limit person to person interactions by ordering “shelter in place.” The San Francisco Bay Area was one of the first to implement “shelter in place.” However, the economic costs of “shelter in place,” are significant. An earlier economic modeling of the effects of an influenza pandemic with a 4-week school closure would decrease national GDP by up to 4%. The impact in the SF Bay Area is likely to be even greater as the current shutdown of society is more widespread and of longer duration. The severe economic decline has already led to widespread layoff and furloughs by firms, putting workers who cannot work remotely acutely at risk of unemployment with its financial and social consequences. In addition, workers who work in essential retail services risk direct exposure to the virus.

This brief examines the location, racial-ethnic composition, immigrant composition, and socioeconomic circumstances of workers in two sectors highly impacted by COVID-19 related closures: service workers in the hospitality industry and sales workers in the retail industries. Workers in these sectors are more likely to earn low-wages, live in poverty, or identify as people of color – particularly Latinos/Latinas who are the ethnic majority group in the service and hospitality sectors. 51% of predominantly Latino neighborhoods are characterized as “highest at-risk” with another 32% of Latino neighborhoods characterized as “high risk.” In addition, 48% of the poorest neighborhoods in the Bay Area have the “highest-at-risk” share of workers. Past studies of influenza epidemics have shown that ethnic minority and low-income populations were impacted more heavily during the 1918 influenza pandemic.

With the historic levels of unemployment claims being filed in the California, now is the time to consider near- and long-term policies that strengthen and support the economic basis of vulnerable communities. This brief offers a series of recommendations that fill the gap between proposed legislation at the federal level and the needs of vulnerable communities who are the most susceptible to the economic consequences of COVID-19. Understanding these workers’ social and economic realities leads to better targeted policy responses that protect vulnerable communities, including undocumented workers who are not eligible for most federal COVID-19 relief programs. Policymakers and elected officials have the opportunity to safeguard California’s status as the world’s 5th largest economy by providing tailored relief to vulnerable Californians and closing the gaps in care that exist under current federal stimulus programs.
# Table of Contents

1. Executive Summary

3. Introduction & Methodology

5. Low Wages, High Risk: A Profile of the San Francisco Bay Area’s Vulnerable Workers

9. The San Francisco Bay Area’s COVID-19 Economically Vulnerable Neighborhoods by County

18. Conclusion

19. Policy Recommendations

20. Table Appendix

23. Map Appendix
Introduction

This policy brief examines two employment sectors of the San Francisco Bay Area economy that have been heavily impacted the COVID-19 shut down. These two employment sectors are service workers in hospitality industry and sales workers in the retailing industry. These two sectors account for 1 in 8 workers of the SF Bay Area work force. As both sectors rely on face-to-face provision of services, both sectors have been largely shut down since shelter in place began on March 17, 2020. These workers clearly experience severe furlough, layoff, and unemployment. Employees in the retailing sector who continue to work in essential businesses also face potential exposure to the corona virus given the face-to-face nature of their work place through interactions with both customers and co-workers.

This brief consists of two parts. The first part analyzes the socioeconomic characteristics of the workers in the two employment sectors compared to workers in other occupations and industries. Employees in the “Other” occupations and industries are expected to be less at risk to job loss and coronavirus exposure. This analysis is carried out at the level of the entire San Francisco Bay Area level. The second part examines the neighborhoods in the San Francisco Bay Area by identifying census tracts with the highest concentration of at-risk workers in the two employment sectors.

Methodology

The descriptive and spatial analyses in this brief is based on data from: (1) the 2018 American Community Survey (ACS) Public Use Microdata Sample (PUMS) and (2) the 2014-2018 ACS 5-year summary files for US Census tract-level data. Together, they provide the latest available data on the socioeconomic characteristics of the workers from the at-risk sectors and the neighborhoods they live.

For the purposes of this analysis, “at-risk workers” are defined as service workers in hospitality and sales workers in retailing. Hospitality service workers are individuals who provide a service for a person or company (e.g. backroom preparation, customer interaction, cleaning). In the San Francisco Bay Area, food service workers are the largest component in this sector, accounting for almost half of all jobs in this sector. Retail sales workers generally work at the front of the store to assist customers find and make purchases. Although, some types of retailers remain open (e.g. grocery stores, gas stations, and pharmacies), many retail stores have also closed or partially closed as “non-essential” businesses or due to declining demand.

For the spatial analysis, each San Francisco Bay Area county census tract is assigned into a five-group category determined by the proportion of at-risk workers in both the hospitality and retail sectors in that census tract. The rankings range from neighborhoods with lowest proportion
(bottom quintile) of hospitality and retail workers to neighborhoods with the highest proportion (top quintile) of at-risk workers. At-risk neighborhoods are further analyzed by demographic characteristics: ethnic composition, poverty level, and proportion foreign-born. The spatial analysis is conducted for the all the 9 SF Bay Area counties using the aggregate rankings for the at-risk neighborhoods for the entire region. The distribution of neighborhoods by the proportion of at-risk workers are assessed against the distribution along the three neighborhood demographic characteristics.
A Profile of the San Francisco Bay Area’s Vulnerable Workers

The workers in the sales and hospitality sectors are predominantly low-wage workers. (See Figure 1.) The average (mean) annual wage earning for retail/sales workers is 42% of workers in the “Other” category, and service workers earn only 26% of “Other” workers. The typical (median) annual wage earnings sales workers in retailing is only $23,000 while a typical hospitality service worker earns only $20,000. A typical worker in the “Other” category earns $62,000.

The earnings pattern displayed for the entire SF Bay Area is also replicated for the individual counties as well. (See Table 1.) “Other” workers earn considerably more than workers in the sales/retail and service/hospitality sectors in all counties. In the more affluent counties - Marin, San Francisco, San Mateo, and Santa Clara counties - the differences in median incomes between “Other” workers and at-risk workers are even greater.
Table 1. Mean and Median Annual Wage Earnings by Sector and County, San Francisco Bay Area. Source: 2018 ACS PUMS Data.

<table>
<thead>
<tr>
<th>County</th>
<th>Other Mean</th>
<th>Other Median</th>
<th>Sales/Retailing Mean</th>
<th>Sales/Retailing Median</th>
<th>Service/Hospitality Mean</th>
<th>Service/Hospitality Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda</td>
<td>$81,000</td>
<td>$60,000</td>
<td>$36,000</td>
<td>$25,000</td>
<td>$24,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>$84,000</td>
<td>$58,000</td>
<td>$37,000</td>
<td>$21,000</td>
<td>$22,000</td>
<td>$18,000</td>
</tr>
<tr>
<td>Marin</td>
<td>$112,000</td>
<td>$76,000</td>
<td>$44,000</td>
<td>$25,000</td>
<td>$25,000</td>
<td>$18,000</td>
</tr>
<tr>
<td>Napa</td>
<td>$58,000</td>
<td>$45,000</td>
<td>$34,000</td>
<td>$23,000</td>
<td>$23,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$105,000</td>
<td>$79,000</td>
<td>$45,000</td>
<td>$25,000</td>
<td>$29,000</td>
<td>$25,000</td>
</tr>
<tr>
<td>San Mateo</td>
<td>$100,000</td>
<td>$69,000</td>
<td>$46,000</td>
<td>$30,000</td>
<td>$22,000</td>
<td>$19,000</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>$99,000</td>
<td>$70,000</td>
<td>$36,000</td>
<td>$20,000</td>
<td>$21,000</td>
<td>$19,000</td>
</tr>
<tr>
<td>Solano</td>
<td>$59,000</td>
<td>$48,000</td>
<td>$32,000</td>
<td>$20,000</td>
<td>$19,000</td>
<td>$18,000</td>
</tr>
<tr>
<td>Sonoma</td>
<td>$61,000</td>
<td>$44,000</td>
<td>$26,000</td>
<td>$20,000</td>
<td>$17,000</td>
<td>$14,000</td>
</tr>
</tbody>
</table>
Workers in Sales/Retailing and Service/Hospitality are members of the working poor. These workers are most often part of a family unit: 77 percent of sales workers and 76 percent of hospitality workers live in a family household. Women are also over represented in the sales and retailing sector. 56% of workers in the retail sales category are women compared to only 47% in the “Other” category. Women and men are equally represented with 50% each in the service hospitality sector. At-risk workers are members of households living in poverty. Families living at or just above the Federal Poverty Line (FPL) are considered to be working poor. Figure 2 show that 20% of sales workers are within 200% of the FPL and 28% of Service/Hospitality workers are within 200% of the FPL. This compares with 11% for “Other” workers. Expanding the definition of poor to 300% of the FPL adds an even greater proportion of at-risk workers living in poverty.

Figure 2 - Share of Vulnerable Workers at or Near the Federal Poverty Line in the San Francisco Bay Area by Sector
The workers in the two at-risk sectors are disproportionately Latino for the entire San Francisco Bay Area, particularly in the Service/Hospitality sector. Comparing column 1 with column 3 (See Figure 3) Latinos comprise a large proportion Service/Hospitality compared to the “Other” sector. Latinos are 38% of the workers in the Service/Hospitality sector as opposed to 21% in the “Other” sector. (See Table 3)
The San Francisco Bay Area’s COVID-19 Economically Vulnerable Neighborhoods

This section examines the neighborhood variations in the share of workers “at-risk” of job loss and unemployment. We examine the spatial distribution of these workers along key neighborhood demographic characteristics: racial-ethnic composition, poverty level, and nativity. We find that neighborhoods with a high percentage of Latinos, as well as low-income and immigrant neighborhoods are proportionately more at-risk. However, non-Hispanic white neighborhoods at-risk are numerically greater given the higher percentage of non-Hispanic whites in the Bay Area population.

Map 1 displays the proportion of the labor force in the two combined sectors (retail workers and hospitality service workers) at the neighborhood level defined by census tracts. The neighborhoods with the highest average share (quintile or top fifth of neighborhoods) has almost four times the share of “at-risk” workers compared to neighborhoods with the lowest average share (an average of 19% of the labor force is employed in these 2 sectors for the top quintile compared to an average of 5% of the labor force in the bottom quintile tracts). Map 1 shows a wide dispersion of at-risk neighborhoods across the San Francisco Bay Area. The appendix contains individual county maps which provide greater detail. We now turn to discussing specific demographic characteristics of the neighborhoods.
Map 1 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality Across the San Francisco Bay Area

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and service workers in hospitality. Data source: 2014-18 ACS 5-year estimates.
Vulnerable Ethnic-Racial Neighborhoods

Figure 4 shows the distribution of at-risk retail and hospitality neighborhoods across the San Francisco Bay Area by ethnic-majority neighborhoods. We define an ethnic-majority neighborhood as a census tract where more than 50% of the census tract is populated by a single ethnic-racial group. For example, a neighborhood that is defined as Latino is a census tract where 51% or more of the tract is composed of Latinos/Latinas. Neighborhoods of color have a greater proportion defined as high-risk than non-Hispanic white majority neighborhoods, signifying an unequal distribution of economic burdens related to COVID-19’s impact on the regions workforce.

An astonishing 53% of predominantly Latino neighborhoods are categorized as highest at-risk. This is highly significant result as Latino majority neighborhoods account for 11% of all census tracts in the San Francisco Bay Area. Some caution should be used to interpret these results for Blacks as the number of Black majority neighborhoods is small due to recent outmigration of Blacks and gentrification in the SF Bay Area. Both Black and Asian Pacific Islander majority neighborhoods have a higher percentage of neighborhoods characterized as highest at-risk compared to non-Hispanic white neighborhoods at 38%, 17%, and 11% respectively. It is
important to note that geography matters in the analysis of who is at-risk. The general San Francisco Bay Area analysis in part 1 of this brief shows Latino workers overall being adversely affected by COVID-19, but not Black and Asian workers. However, Black and Asian ethnic-majority neighborhoods are at high risk.

Combining the highest-risk and high-risk category percentages (highest and next highest quintiles) and comparing them with the combined lowest and low percentages (lowest and next lowest quintiles) illustrates the inequality even more. 84% of Latino-majority neighborhoods are categorized as at high or highest risk compared to only 5% in low or lowest risk categories. (See Table 2)

<table>
<thead>
<tr>
<th>Ethnic-Majority Neighborhood</th>
<th>Combined Percent of Workers in High and Highest Risk Categories</th>
<th>Combined Percent of Workers in Low and Lowest Risk Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian-Majority</td>
<td>34</td>
<td>49</td>
</tr>
<tr>
<td>Black-Majority</td>
<td>76</td>
<td>12</td>
</tr>
<tr>
<td>Latino-Majority</td>
<td>84</td>
<td>5</td>
</tr>
<tr>
<td>Non-Hispanic White-Majority</td>
<td>25</td>
<td>56</td>
</tr>
</tbody>
</table>
The locations of highest at-risk neighborhoods by ethnic-majority neighborhoods are shown in Map 2. Latino-majority neighborhoods are dispersed around the San Francisco Bay Area. However, there are a concentrations of Latino-majority census tracts in Oakland (Alameda county); the cities of Richmond and Vallejo in Contra Costa county; the areas around East Palo Alto in San Mateo and Santa Clara counties; downtown San Jose and Gilroy in Santa Clara county; Fairfield in Solano county.

Asian Pacific Islander-majority neighborhoods at risk are concentrated in Chinatown, and the Southern neighborhoods of San Francisco (Excelsior and Crocker-Amazon districts) and Daly City in San Mateo county. There is also a significant concentration of impacted Asian Pacific Islander neighborhoods impacted west of Hayward and Union City.

There are also a significant number of non-Hispanic white neighborhoods at-risk. Many of these are in areas of Napa and Sonoma counties whose hospitality and tourist industries have been heavily impacted by the shut-down. The communities south of Half Moon Bay are also highly at-risk.

Map2 – Greatest Share of Highest-Risk Retail and Service Workers by Ethnic-Majority Neighborhoods in the San Francisco Bay Area

Poor and Struggling Neighborhoods

Figure 5 show the distribution of neighborhoods ranked by the share of individuals with income below 200% of the Federal Poverty Level (FPL) in 2018.15 We define these families to be poor or struggling. Three neighborhood categories are created based on the proportion of the population within a census tract: less than 20 percent poor or struggling, 20 to 40 percent, and over 40 percent. Not surprisingly, neighborhoods with the highest share of at-risk workers are poor and struggling. 48% of the neighborhoods with the highest percentage of poor or struggling residents have the highest at-risk share of workers. Conversely, only 6% of more affluent neighborhoods have a highest at-risk share of workers.

![Figure 5 - COVID-19 at Risk NEIGHBORHOOD Categories BY Proportion poor or struggling, San Francisco Bay Area](image_url)
Map 3 shows the neighborhoods with the highest share of workers that are at-risk based on the neighborhood proportion of poor and struggling residents. These include parts of Southeast Oakland around the Eastmont and Elmhurst neighborhoods, the lower Fruitvale district, and West Oakland in Alameda county. In Contra Costa county the North Richmond, West San Pablo, and Iron Triangle neighborhoods are also at-risk. In the city of San Francisco, the Chinatown, Tenderloin, Treasure Island, and Hunter’s Point neighborhoods are also at-risk. In Santa Clara county, areas of downtown San Jose and Gilroy are at-risk. Neighborhoods in the cities of Sonoma and Napa are at-risk. Finally, parts of Vallejo and central Fairfield in Solano county are also found to be at-risk.

Map 3 – Share of Highest-Risk Retail and Service Workers by Poor and Struggling Neighborhoods in the San Francisco Bay Area

Under 20% represents neighborhoods with less than 20% of residents earning under 200% of the Federal Poverty Line. 20 to 40% denotes neighborhoods with 20% to 40% of residents earning under 200% of FPL. Over 40% represents neighborhoods with over 40% of residents earning under 200% of FPL. Data source: 2014-18 ACS 5-year estimates.
Immigrant Neighborhoods

Finally, we classified neighborhoods by their percentage of foreign-born population by dividing neighborhoods into equal thirds, the lowest third of neighborhoods with foreign-born residents had an average of 15% foreign-born, the middle third had 28% foreign-born, and the highest third had 47% foreign-born. Figure 6 shows that neighborhoods with highest third of immigrants are also neighborhoods with the highest share of at-risk workers (27 percent).
Map 4 shows the neighborhoods with greatest proportion of at-risk workers with respect to the neighborhoods proportion of foreign-born residents. As expected, there is considerable overlap between the neighborhoods previously mentioned in the analyses for at-risk workers by ethnicity-race and income.

Map 3 – Share of Highest-Risk Retail and Service Workers by Proportion Foreign-Born in the San Francisco Bay Area

Highest third represents neighborhoods with highest third proportion of immigrants. The highest third of census tracts had an average of 47% born outside the US. The lowest third of neighborhoods with foreign-born residents had an average of 15% foreign-born and the middle third had 28% foreign-born in residence. Data source: 2014-18 ACS 5-year estimates.
Conclusions

This study examines the neighborhood-level vulnerabilities that exist across the San Francisco Bay Area for at-risk workers (retail and hospitality). Our findings show that there are systematic variations by income and race. Low-income and non-white worker and their neighborhoods are likely to be disproportionately bear the brunt of job losses in these two hard-hit sectors. Workers regardless of race and ethnicity in the two employment sectors are much more concentrated in poor neighborhoods. The average percentage share of at-risk workers in the census tracts with the lowest income is nearly twice as high as the average percentage share for the census tracts with the highest average income (9 percent of workers and 16 percent of workers respectively). Finally, the share of at-risk workers in the Latino-majority neighborhoods are much higher compared to other communities.

The economic crisis resulting from the COVID-19 pandemic place an enormous strain on families and communities that are already in a precarious financial situation and greatly weakens the economic base in many neighborhoods that historically suffer from under investment. These households and places have the least resources to weather the impending economic recession or potentially the coming depression. Workers in these two sectors make only a third to half the wages of other occupations. One of the most pressing policy issues is whether or not these workers will be able to benefit from any federal COVI-19 economic stimulus packages given the low levels of unemployment insurance enrollment and the high number of immigrant workers who may not possess a social security number. It is very likely that a disproportionate number of at-risk workers are excluded as previous research finds that Latinos and low-wage workers are less likely to be covered by unemployment insurance (UI) and include a large proportion of immigrant workers. Policymakers must therefore prioritize the needs of these low-wage, “high-risk” workers when formulating state and local responses to augment federal programs. These workers and their respective communities are on the fringes of the social safety-net and represent a large proportion of the state’s and region’s population.
Policy Recommendations

Our findings show that service workers in hospitality and sales workers in retail face immense challenges that extend beyond the precarious nature of their employment. This brief also show that the concentration of at-risk service and retail workers disproportionately falls on neighborhoods that are poor, have large proportions of foreign-born, and largely non-white. Addressing the needs of at-risk workers requires policy reforms that will be effective in meeting the demographic realities of the state’s most vulnerable communities. These policies include:

1. Tailor state and municipal policy responses to fill current gaps in the federal COVID-19 stimulus package.
   a. Consider using Individual Taxpayer Identification Numbers (ITIN) instead of social security numbers for state-funded relief programs. The federal package bars individuals who filed taxes with ITINs from receiving stimulus checks, which primarily excludes undocumented workers.19
   b. States that still require an excuse to request an absentee ballot should immediately pass legislation to allow any voter, without regard to age or need, to sign-up to receive a mail ballot for any election.
   c. Allow voters to sign up as permanent absentee voters so that they can remained signed up for future elections. Voters who are designated as permanent absentee status should automatically receive a ballot in the mail prior to every election.

2. Expand the Unemployment Insurance program at the state and local levels to ensure workers most at-risk during the COVID-19 pandemic are covered.
   a. It is not known how many retail and service workers are enrolled in the state program. Resources and metrics must be implemented to reach these workers and supply them with necessary economic relief that is expediated given the pandemic.

3. Target job relief programs and resources to the state’s most vulnerable communities.
   a. Narrowing the distribution of unemployment benefits to areas most in need improves the administrative feasibility of delivering economic aid that best supports the state’s current and future workforce as well as providing the necessary buffer for the state’s poorest neighborhoods.

4. Promote and support culturally and linguistically-tailored approaches.
   a. Conduct extensive outreach efforts in the vulnerable communities identified in this study to be most at-risk to inform workers of the benefits they can access and how to apply for these benefits.

5. Direct resources to support working families and residents in vulnerable communities, when investment becomes feasible.
   a. Investments in child care programs, school resources, job training programs, health access, and small business development strengthen households against similar economic shocks in the future.
### Table A.1: Neighborhoods Ranked by Proportion of At-Risk Workers by Ethnic Neighborhood (50% or more of a group living in the census tract)

<table>
<thead>
<tr>
<th>At-Risk Workers</th>
<th>White</th>
<th>Black</th>
<th>Latino</th>
<th>Asian</th>
<th>No Majority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Quintile</td>
<td>29%</td>
<td>12%</td>
<td>2%</td>
<td>29%</td>
<td>13%</td>
</tr>
<tr>
<td>Low</td>
<td>26%</td>
<td>0%</td>
<td>3%</td>
<td>20%</td>
<td>18%</td>
</tr>
<tr>
<td>Moderate</td>
<td>19%</td>
<td>12%</td>
<td>11%</td>
<td>17%</td>
<td>24%</td>
</tr>
<tr>
<td>High</td>
<td>14%</td>
<td>38%</td>
<td>31%</td>
<td>17%</td>
<td>28%</td>
</tr>
<tr>
<td>Highest Quintile</td>
<td>11%</td>
<td>38%</td>
<td>53%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>Number of tracts</td>
<td>614</td>
<td>8</td>
<td>141</td>
<td>205</td>
<td>629</td>
</tr>
</tbody>
</table>

Rounding may yield percentages not equal to 100%.

### Table A.2: Neighborhoods Ranked by Proportion of At-Risk Workers and Share of Residents with Incomes Below 200% of FPL

<table>
<thead>
<tr>
<th>At-Risk Workers</th>
<th>Less than 20%</th>
<th>20-40%</th>
<th>40% or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Quintile</td>
<td>31%</td>
<td>6%</td>
<td>3%</td>
</tr>
<tr>
<td>Low</td>
<td>27%</td>
<td>12%</td>
<td>7%</td>
</tr>
<tr>
<td>Moderate</td>
<td>22%</td>
<td>19%</td>
<td>15%</td>
</tr>
<tr>
<td>High</td>
<td>14%</td>
<td>29%</td>
<td>28%</td>
</tr>
<tr>
<td>Highest Quintile</td>
<td>6%</td>
<td>34%</td>
<td>48%</td>
</tr>
<tr>
<td>Number of tracts</td>
<td>892</td>
<td>490</td>
<td>191</td>
</tr>
</tbody>
</table>
Table A.3: Neighborhoods Ranked by Proportion of At-Risk Workers and Share of Foreign-born Residents

<table>
<thead>
<tr>
<th>At-Risk Workers</th>
<th>Lowest Third of tracts (less than 21% foreign-born)</th>
<th>Middle Third of Tracts (21% - 36% foreign-born)</th>
<th>Highest Third of Tracts (37% - 78%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Quintile</td>
<td>22%</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>Low</td>
<td>24%</td>
<td>21%</td>
<td>15%</td>
</tr>
<tr>
<td>Moderate</td>
<td>22%</td>
<td>21%</td>
<td>17%</td>
</tr>
<tr>
<td>High</td>
<td>19%</td>
<td>20%</td>
<td>21%</td>
</tr>
<tr>
<td>Highest Quintile</td>
<td>14%</td>
<td>19%</td>
<td>27%</td>
</tr>
<tr>
<td>Number of tracts</td>
<td>524</td>
<td>523</td>
<td>526</td>
</tr>
</tbody>
</table>

Rounding may yield percentages not equal to 100%.

Table A.4: Breakdown of COVID-19 Lowest & Highest Risk Categories of Retail and Service Workers by Foreign-born Neighborhoods

<table>
<thead>
<tr>
<th>Proportion Foreign-born Population</th>
<th>Combined Percent of High &amp; Highest-Risk Workers</th>
<th>Combined Percent of Low &amp; Lowest-Risk Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Third of Tracts</td>
<td>33</td>
<td>46</td>
</tr>
<tr>
<td>Middle Third of Tracts</td>
<td>39</td>
<td>40</td>
</tr>
<tr>
<td>Highest Third of Tracts</td>
<td>48</td>
<td>34</td>
</tr>
</tbody>
</table>
Table A.5: Breakdown of COVID-19 Lowest & Highest Risk Categories of Retail and Service Workers by Share of Residents with Incomes Below 200% of FPL

<table>
<thead>
<tr>
<th>Individuals Below 200% of FPL</th>
<th>Combined Percent of High &amp; Highest-Risk Workers</th>
<th>Combined Percent of Low &amp; Lowest-Risk Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 20%</td>
<td>20</td>
<td>58</td>
</tr>
<tr>
<td>20 – 40%</td>
<td>63</td>
<td>18</td>
</tr>
<tr>
<td>40% or more</td>
<td>76</td>
<td>10</td>
</tr>
</tbody>
</table>
Map Appendix

Map A1 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for Alameda County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Map A2 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for Contra Costa County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Map A3 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for **Marin** County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Map A4 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for Napa County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Map A5 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for San Francisco County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Map A6 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for San Mateo County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Map A7 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for Santa Clara County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Map A8 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for Solano County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Map A9 – Geographic Distribution of Sales Workers in Retail and Service Workers in Hospitality for Sonoma County.

Highest represents the quintile census tracts with the most sales/clerical workers in retailing and hospitality. Data source: 2014-18 ACS 5-year estimates. Note: some geographic features such as parks, lakes, and the bay may not be rendered exactly.
Endnotes

1 This brief is a part of a series of analyses started by Ong and Associates (a public-interest consulting group) and UCLA’s Center for Neighborhood Knowledge. The series focuses on the economic and other impacts generated the COVID-19 crisis. Additional briefs can be found at https://knowledge.luskin.ucla.edu/news/.

2 Don Mar is emeritus professor of economics at San Francisco State University and Jonathan Ong is a San Francisco State research intern.

3 This study is modeled after two similar studies for Los Angeles: Paul Ong, Jonathan Ong and Elena Ong, March 29, 2020, “Economic Impacts of the COVID-19 Crisis in Los Angeles Workers in Two Highly-Impacted Employment Clusters,” Ong and Associates.; and Paul Ong, Chhandsra Pech, Silvia Gonzales, and Carla Vasquez-Noreiga, April 1, 2020, "Implications of Covid 19 on At-Risk Workers by Neighborhood in Los Angeles,” UCLA Latino Policy and Politics Institute. This study used and/or adapted with permission from the lead author some text from those two reports and from Paul Ong, Elena Ong and Jonathan Ong, April 12, 2020 "Economic Impacts of the COVID-19 Crisis in Los Angeles, Unemployment-Insurance Coverage and Disadvantaged Neighborhoods,” Ong and Associates.


8 The first sector is defined by the US Census American Community Survey (ACS) of service workers in the Arts, Entertainment, Recreation, Accommodations, and Food Service Industry. The second sector is defined by the ACS sales workers in Retail Industry.

9 There is no claim that workers termed as “Other” do not face unemployment and exposure to the virus. Due to data limitations, it is not possible to disaggregate the analysis to finer industries and occupations.

10 The San Francisco Bay Area is defined in this analysis as the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

11 The ACS PUMS data was made available by IPUMS USA, University of Minnesota, www.ipums.org. The 2014-18 ACS data came directly from the US Census at data.census.gov.

12 This brief does not cover customer-oriented stores in the service sector, such as nail salons, beauty salons, auto repair. Many workers in these establishments are likely to be just as adversely affected.

13 For this brief, we define the “highest risk” neighborhoods as tracts in the first quintile; “high risk” in the second quintile; “moderate risk” in the third quintile; “low risk” in the fourth quintile; and “lowest risk” in the fifth quintile. The average percentages of at-risk workers in census tract for each quintile are respectively: 19%, 14%,11%, 8% and 5%,

In 2018, the FPL for a family of 4 is an annual income of $25,100. 200% of FPL would be $50,200 for a family of 4.


The legislation includes a provision to augment unemployment-insurance (UI) payments and extend coverage by 13 weeks. While the UI benefits could help replace lost earnings for the typical worker in the two sectors, these payments depend on enrollment in the state’s program.
