

# Problem Set 3

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September 18, 2021

## 1 My research interests

One idea that is of interest to me is how local cultural characteristics have shaped the distribution and forgiveness of loans from the Paycheck Protection Program. For the purposes of this problem set, the local cultural characteristic that I look at is social capital. Social capital is a measure of community strength, and perhaps most importantly, trust. The Social Capital Index, which I use as a proxy for social capital, is composed of a number of indices from local crime rates, census response rates, voter turnout, and more. A higher score represents a higher level of community health and trust between individuals. A county high in social capital is one where the individuals look out for each other's well-being. A lower score represents a lower level of community health. In the case of the following maps and figures, I explore the hypothesis of whether counties with higher levels of trust and community health also have higher levels of loan forgiveness. The data on loans comes from the Small Business Association and the data on social capital comes from the Joint Economic Committee.

### 1.1 Figures

## Social Capital Across America: States

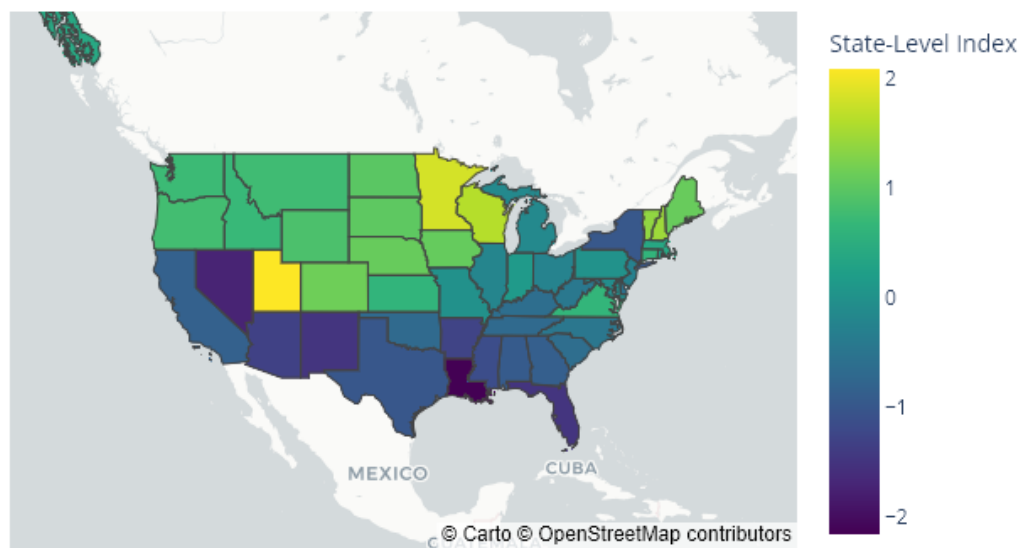


Figure 1: This shows the heterogeneity of social capital across states. Lighter colors represent high levels of social capital. In this case, Utah has the highest level of overall community health, while D.C. and Louisiana have the lowest community health.

## Social Capital Across America: Counties

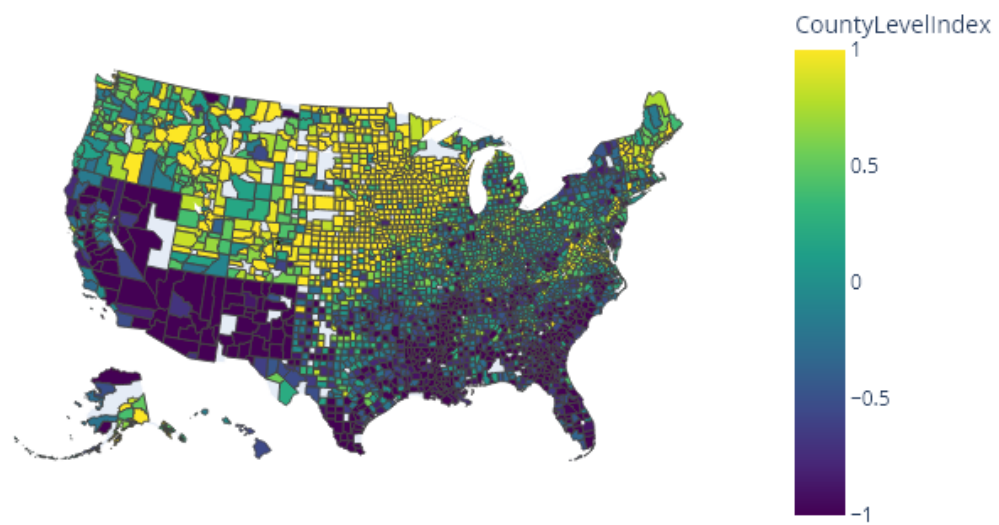


Figure 2: This shows the heterogeneity of social capital across counties. Lighter colors represent high levels of social capital. Overall, the rural upper Midwest typically has the highest levels of social capital.

Distribution of PPP Loan Forgiveness Rates

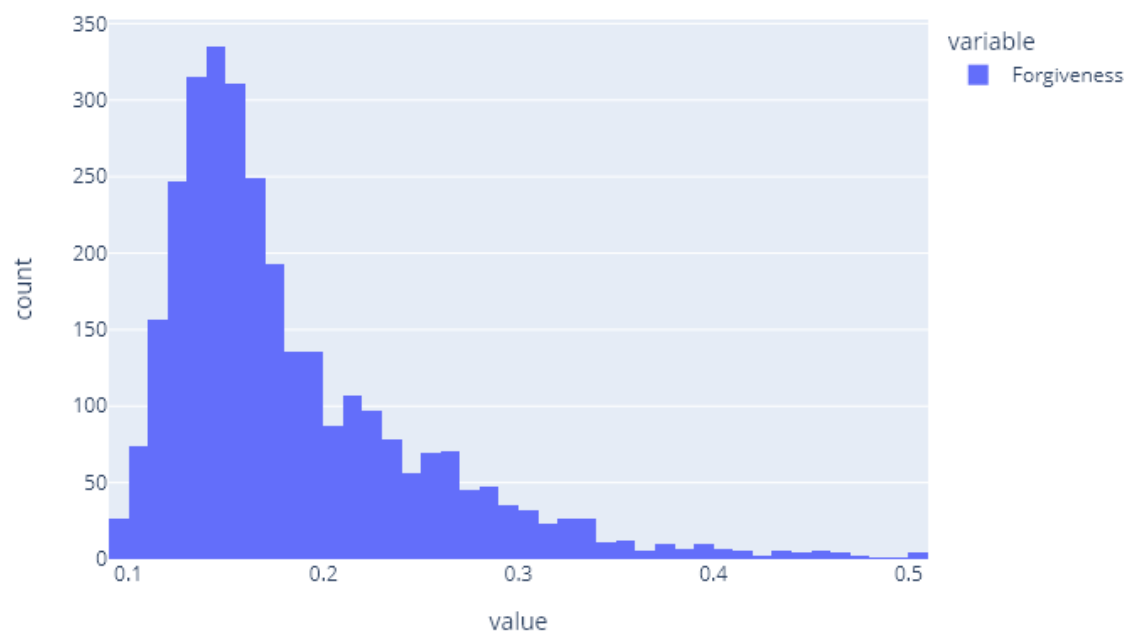


Figure 3: This figure shows the density of the rate of loan forgiveness. The level of loan forgiveness is measured by the proportion of the overall loans made to a county that are forgiven.

## Social Capital and Loan Forgiveness

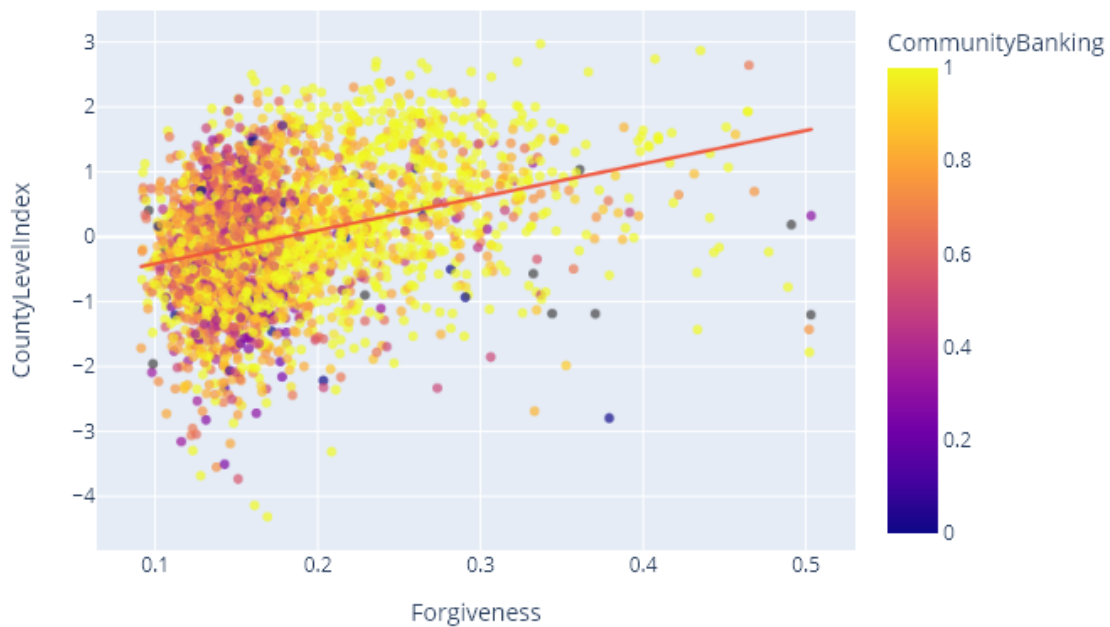


Figure 4: This figure is a scatter plot showing the relationship between social capital and loan forgiveness, including a line of best fit. There is a distinct positive relationship between social capital and loan forgiveness, suggesting that communities with higher levels of trust and health also have higher rates of loan forgiveness. Also included is a metric for the level of community banking, measuring the percentage of banks in a county that are defined as community banks. Community banks have higher levels of loan forgiveness, reflecting the trust and relationships that local communities have in their local small banks. In this sense, the relationship between community banks and their associated communities is mediated through the channel of local culture.

### HHI and Loan Forgiveness

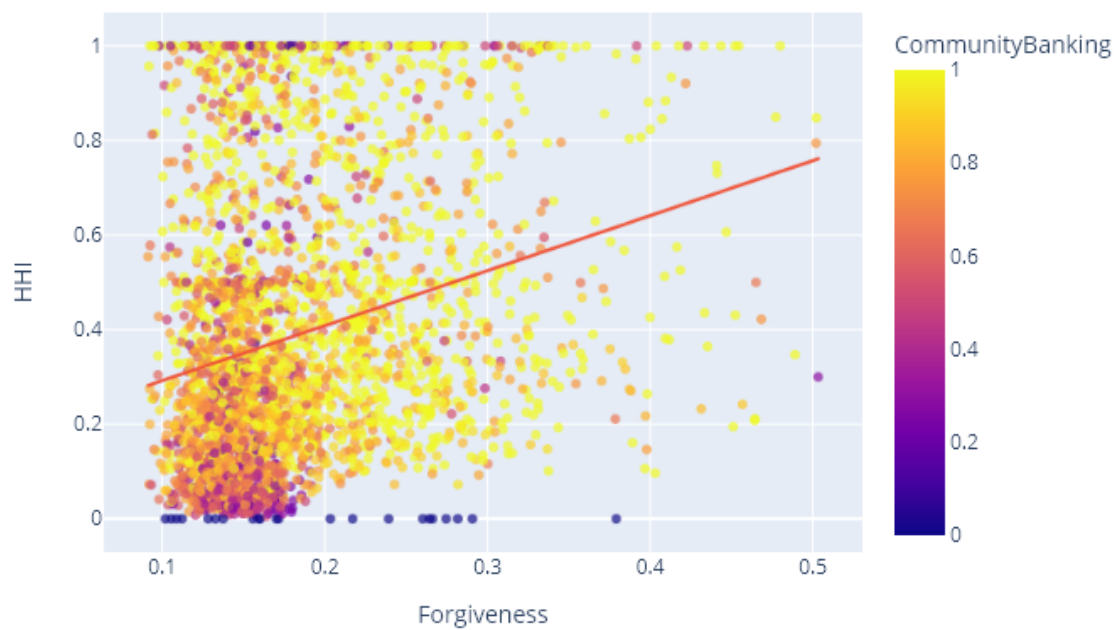


Figure 5: This figure shows the relationship between loan forgiveness and the Herfindahl-Hirschman Index (HHI) of the local banking market. HHI measures how competitive the local banking market is. This figure shows a positive relationship between forgiveness and HHI, suggesting that competition may drive local banks to forgive more loans.