

Faith and Finance: The Role of Religiosity in Shaping Financial Development in US Counties

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ABSTRACT

In this paper, we evaluated the determinants of the degree of financial development in US counties. We proxied financial development as the number of new banks and as aggregate banking assets in a US county. Our main research variable was religiosity; our hypothesis was that increases in religiosity adherents in a US county would attract increased financial development. We also used a county's level of social capital index, degree of education attainment, income per capita, population, population growth rate, and GDP per capita as control variables. Since education attainment was available starting in 2000 and the social capital index was available up to 2014, we limited our sample period to 2000 through 2014. The regression results showed that religiosity, social capital index, education attainment, income per capita, population, and GDP per capita were positive and statistically significant determinants of the number of new banks opened in a US county. At the same time, social capital index, education attainment, income per capita, population growth rate, and GDP per capita were positive and statistically significant determinants of the aggregate banking assets in a US county.

KEYWORDS: *Religiosity, social capital, financial development.*

JEL CLASSIFICATION: *G21, Z12.*

1. INTRODUCTION

The influence of religious practices has been shown to positively influence economic growth by encouraging individual behaviours such as wealth accumulation, thrift, honesty, and work ethic (Barro & McCleary, 2003). Religion not only shapes personal values, but also influences community norms, contributing to broader social and economic outcomes. However, despite the well-documented link between religion and financial behaviour, limited research has explored how religiosity impacts financial institutions and development. For instance, Hilary and Hui (2009) demonstrated that a firm's business decisions are significantly influenced by the religiosity of its stakeholders. Their study found that firms headquartered in more religious counties exhibit lower risk exposure and investors responded more favourably to these firms' investment decisions.

Previous research also indicates that banks in more religious areas tend to adopt more conservative risk strategies both at the corporate level (Adhikari & Agrawal, 2016) and within local communities (Chircop et al., 2017). Chircop et al. (2017) found that financial institutions in more religious areas take less risk, reflecting the risk-averse nature of religious individuals and communities. These findings suggest that religiosity influences not only personal behaviour, but also corporate decision-making and risk management.

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Additionally, religious practices may also affect business development differently across regions, depending on the social communities and risk tolerance. Higher levels of religiosity may create environments that support the success of financial institutions through increased social trust and community engagement, potentially encouraging more conservative financial practices and influencing the types of financial products and services offered. However, the specific impact of religion on local financial institutions remains limited in the finance literature.

Religious communities often emphasise values such as trust, social responsibility, and conservative financial behaviour, which can have both direct and indirect effects on the banking sector's growth in these areas. Despite the growing body of literature examining the relationship between religiosity and corporate behaviour, further research is needed to understand how religiosity influences financial institutions' decisions to expand geographically and establish new financial institutions and branches.

This study addresses this gap by investigating the relationship between religiosity and financial development at the county level in the United States. Specifically, it seeks to answer the following question: Does religiosity influence corporate decisions in establishing new financial institutions within U.S. counties? This study ventures into a new and timely area of business research and builds on existing theories of social norms and economic growth by incorporating religiosity as a key factor in local financial development. It examines how religiosity, along with factors such as income, population, education, and social capital, shapes business decisions at the county level and influences the financial development in a US County. To measure financial outcomes, this study uses two key indicators: the number of new banks per capita and total bank assets per capita in each county.

2. LITERATURE REVIEW

Past research has recognised the impact of cultural values, religiosity, and social networks on corporate behaviour and economic development. These factors influence risk-taking, financial decision-making, and banking service offerings, particularly in underserved or religious communities.

2.1. Religiosity and Corporate Risk-taking Behaviour

Religiosity has increasingly been recognised for its influence on corporate behaviour and decision-making processes. Scholars argue that cultural factors, such as religiosity, shape managerial attitudes toward risk and impact broader corporate strategies. For instance, Li et al. (2013) demonstrate that cultural values can lead to more aggressive risk-taking when managers operate with greater autonomy. This suggests that religiosity significantly affects managerial decision-making and can influence corporate risk-taking behaviours across various regions and industries.

Based on this, Adhikari and Agrawal (2016) examined the role of religiosity in the banking sector, showing that banks in highly religious areas tend to adopt more conservative risk strategies. Similarly, Chircop et al. (2017) provided additional evidence that local religiosity influences bank risk-taking behaviours. Their findings suggest that financial institutions in more religious areas are less likely to engage in high-risk financial activities.

Religiosity may also serve as a risk-mitigation factor for banks when considering new branch formations. Hilary and Hui (2009) highlighted that firms located in religious areas are

generally more risk-averse, while investors in these regions tend to prefer conservative investment strategies. Consequently, religiosity can create a stable and predictable environment for financial institutions. Religious communities, often emphasising ethical behavior and responsible financial practices, can create conditions that can attract banks to establish new branches. These institutions can then tailor their services to align with the moral and social expectations of the local population.

Additionally, Gul and Ng (2018) found that businesses in counties with a high degree of religiosity tend to pay lower audit fees compared to those in less religious areas. Pieper et al. (2020) extended this analysis, demonstrating that religiosity influences both short-term and long-term business decisions, with a greater effect on long-term strategic planning.

2.2. Social Capital Index and Financial Institutions Lending Behaviour

Social capital, defined as the networks of relationships among people in a society, plays a significant role in financial development, particularly in the context of bank lending. High levels of social capital foster trust and cooperation within communities, enabling more efficient financial transactions. Rehbein and Rother (2024) investigate the impact of social connectedness on bank lending patterns across U.S. counties using the Social Connectedness Index, which measures the strength of social ties based on Facebook data. Their findings reveal that socially connected regions benefit from higher loan allocations, better loan terms (e.g., lower interest rates, higher loan-to-value ratios), and improved loan performance (e.g., loan repayment rates).

These results highlight the importance of social networks in facilitating access to financial resources. Strong social ties allow banks to access soft information about borrowers, reducing information asymmetries that often hinder lending decisions. For banks looking to establish new branches or expand operations, social networks can serve as an important consideration, as regions with strong social capital may offer a more stable and predictable environment for financial activities.

The impact of social capital extends beyond financial transactions to regional economic growth. Research shows that social connectedness contributes to positive economic outcomes, such as higher GDP growth and employment rates in connected regions (Rehbein & Rother, 2024). These findings suggest that financial institutions operating in socially connected areas not only benefit from improved lending performance, but also contribute to the broader economic development of these regions. For financial institutions, expanding into areas with strong social ties can result in both regional growth and corporate benefits.

The literature highlights the importance of religiosity, social capital, and social networks in shaping corporate behaviour and economic development. In particular, establishing banks in areas with high levels of social connectedness and religious influence may be particularly effective in leveraging social capital to offer greater access to financial products and services. In religious areas, banks may favor local communities that offer high levels of social connectedness. As a result, these factors may foster an environment that is conducive to the formation and sustainability of new banks and branches. Financial institutions, especially those with high levels of religiosity, may be linked to increased new bank formation, improving access to financial products for the local community.

2.3. Per Capita Income

Per capita income is commonly recognised as a key determinant of financial development within a region, as higher income levels facilitate debt service and, therefore, may lead to greater demand for credit. Conversely, in counties with lower per capita income, while the demand for credit may exist, many individuals are likely to refrain from accessing debt due to a reduced ability to service it. However, even in such regions, increased credit activity can improve financial development, as higher levels of debt contribute to the profitability of financial institutions.

This argument is consistent with findings from the broader literature. For example, Batischeva et al. (2018) found a positive relationship between financial institutions' profitability, per capita income, and borrowing volumes across various regions. Their research emphasises how higher income levels create favourable conditions for financial growth, in which income plays a critical role in shaping the financial landscape. Similarly, Carpenter and Vellat (2009) found that global banks are drawn to regions with rising real per capita income, as these areas represent lower credit risk and offer more lucrative opportunities for expansion. Furthermore, Aliyu and Yusof (2017) found that a higher regional per capita income contributes significantly to the survival of Islamic banks. Hence, increased per capita income would increase financial development by driving credit demand, improving the profitability of financial institutions, and attracting financial institutions seeking growth opportunities. In regions such as U.S. counties, where income levels may vary widely, higher income not only may support the growth of existing financial institutions but also encourages the entry of new banks into the market.

2.4. Population Levels and Growth

Population plays an important role in shaping financial development. The demand for financial services tends to increase in areas with larger populations or growing populations. As a result, the banking industry is expected to respond by increasing investments in regions experiencing significant population growth. This argument is consistent with the literature. Hashemizadeh et al. (2023) identified a positive relationship between population growth and digital financial inclusion. Their research recommends the importance of setting policies aimed at expanding financial services to match population increases.

This argument also extends to mature population levels. Saganga (2024) argued that mature populations contribute to financial development, suggesting that regions with stable demographic profiles can still drive financial growth. In addition, increases in population would increase consumer expenditure, which, in turn, would increase the demand for financial development (Saganga, 2023).

2.5. Education Attainment

Financial institutions' ability to expand depends heavily on their ability to extend debt to various segments of the population. A key consideration for financial institutions is the ability of a population to service and repay its debt. Higher levels of education are strongly associated with higher income, employment stability, and an improved ability to service debt. Furthermore, increased educational attainment increases income security by reducing individuals' vulnerability to changes in the economic conditions of a region.

These arguments are consistent with those of the literature. Spilbergs et al. (2023) argued that higher education lowers the likelihood of unemployment, contributing to more stable employment and reducing the risk of debt default. Consequently, regions with higher levels of educational attainment are particularly attractive for banking investment. Liaqat et al. (2020)

similarly found that higher education attainment levels reduce the population's financial vulnerability. Additionally, Dargenytė-Kacilevičienė et al. (2024) showed that higher education attainment levels reduce an individual's vulnerability to unemployment during economic downturns. This reduced financial vulnerability reduces credit risk and, therefore, would increase demand for financial services.

Another outcome of increased educational attainment is its positive effect on entrepreneurship. Higher levels of entrepreneurship generate greater demand for credit and other financial services. For instance, Abegaz and Ngoboka (2024) found that education is positively related to the establishment of non-farming enterprises. Similarly, Bayar et al. (2022) showed that educational attainment had a causal effect on entrepreneurial activity.

In summary, educational attainment plays a multifaceted role in driving financial development. It not only increases the population's ability to service debt, but also reduces financial vulnerability and fosters entrepreneurial activities. As such, regions with higher educational attainment may represent greater opportunities for financial institutions, offering both reduced credit risks and increased demand for a variety of financial products and services.

2.6. Gross Domestic Product

Economic activity plays a critical role in shaping the financial landscape of geographic regions. Increased economic activity requires and attracts increased financial services in a geographic region. Businesses require credit to facilitate investments and transactions. As economic activity increases in a region, banking markets are likely to expand, since financial institutions rely on high levels of business activity to generate revenue. This paper posits that increases in the gross domestic product (GDP) of a U.S. County would make the area more attractive for banks to invest or increase their investment.

This argument is consistent with the existing literature. Batischeva et al. (2018) found that, in addition to the impact of per capita income, there is a positive correlation between gross regional product and lending institutions' profitability. The potential for increased profitability would make regions with higher GDP per capita more attractive for increased financial development. Similarly, Asabere et al. (2016) found a positive and significant correlation between gross national income per capita and the size of the mortgage market.

Increased GDP may also attract foreign banking investment to a region. For example, Fávero et al. (2018) found that population size, GDP per capita, and per capita income are positively correlated with foreign bank investment in local economies. These findings suggest that regions experiencing economic growth provide attractive opportunities for both domestic and international financial institutions to expand their operations.

3. METHODOLOGY AND SAMPLE

The empirical analyses for the degree of financial development were run as two regressions. These analyses studied the determinants of the number of newly created banks per capita and the total banking assets per capita by county in the U.S.

$$\begin{aligned}
 FIN_{DEV} = & \beta_1 INTERCEPT + \beta_2 INCOME + \beta_3 POPULATION \\
 & + \beta_4 POPGROWTH + \beta_5 RELIGIORITY + \beta_6 SOCIALCAPITAL \\
 & + \beta_7 BACHELORS + \beta_8 GDP + \varepsilon_t
 \end{aligned} \tag{1}$$

Where:

FIN_DEV is the degree of financial development by U.S. counties; it was proxied by two variables:

NEWBANKS is the number of new banks per capita by county

BANKASSET is the total bank assets per capita by county

The main research variable

RELIGIORITY is the number of religious adherents per capita in a U.S. County

Control variables

SOCIAL is the social capital index of a U.S. County

INCOME is the average per capita income of U.S. counties

POPULATION is the population by county

POPGROWTH is the population growth rate by county

BACHELORS is the percentage of the population 25 years or older with a bachelor's degree

GDP is the gross domestic product of a country

The sample period for this paper is limited to 2000 through 2014, as the Social Capital Index is only available up to 2014, and data on educational attainment are available starting from 2000.

The summary statistics for the variables used are in Tables 1 and 2. The calculations and the data sources are outlined as follows:

Table 1. Summary statistics for new banks

	Maximum	Minimum	Average	Median	Standard Deviation
<i>NEWBANKS</i>	1.885	0.019	0.429	0.299	0.385
<i>RELIGIOSITY</i>	7.506	0.274	1.506	0.601	1.963
<i>SOCIAL</i>	3.337	-3.066	-0.309	-0.164	0.726
<i>BACHELORS</i>	49.000	9.650	23.742	22.720	7.422
<i>INCOME</i>	122,920	19,876	38,791	35,621	12,155
<i>POPULATION</i>	5,360,562	57,361	696,078	433,474	827,682
<i>POPGROWTH</i>	0.096	-0.534	0.014	0.012	0.028
<i>GDP</i>	477,964,771	1,360,800	45,472,148	21,493,130	69,813,607

Source: The summary statistics were calculated from the datasets used in this paper. The number of observations was 589. The source of the datasets is in the methodology and sample section of the paper.

Table 2. Summary statistics for banking assets

	Maximum	Minimum	Average	Median	Standard deviation
<i>BANKASSET</i>	10,483,211	0.088	35.843	7.747	328.559
<i>RELIGIOSITY</i>	7.902	0.228	0.770	0.567	1.034
<i>SOCIAL</i>	3.337	-3.449	-0.256	-0.136	0.635
<i>BACHELORS</i>	57.480	4.000	19.539	18.230	7.163
<i>INCOME</i>	122,920	14,955	34,205	32,494	8,775
<i>POPULATION</i>	5,360,562	43,204	285,987	146,912	409,896
<i>POPGROWTH</i>	0.168	-0.534	0.011	0.008	0.016
<i>GDP</i>	500,382,602	686,230	15,093,255	5,812,682	31,257,470

Source: The summary statistics were calculated from the datasets used in this paper. The number of observations was 6,309. The source of the datasets is in the methodology and sample section of the paper.

3.1. The Dependent Variable

Degree of Financial Development. We model the degree of financial development using two key variables. The first measure of financial development is the number of new banks per capita in a U.S. County. We calculated the number of banks per capita in a U.S. County as the number of lending institutions in a county multiplied by 100,000 and divided by its population, since the number of new banks is in single digits, but the population per county could be in the hundreds of thousands.

The second measure is the aggregate banking assets in a U.S. County divided by its population. Data on the number of new banks and the banking assets per county were obtained from the United States FDIC website (www.FDIC.gov). Quarterly data has been available since 1992.

3.2. The Independent Variables

(a) *Religiosity*. We model religiosity as the number of religious adherents in a county divided by its population. The religiosity data was sourced from the Association of Religion Data Archive (ARDA), which provides data from 1890 to 2020, released every 10 years. To account for missing years, we followed Chehab and Xiao (2024), Hilary and Hui (2009), Kumar et al. (2011), and Jha and Chen (2015), among others, by linearly interpolating the data. The ARDA website, where the data can be accessed, is: <https://www.thearda.com/data-archive/browse-category?cid=B-A>.

(b) *Social Capital Index*. Rupasingha and Goetz (2006, with updates) show the calculation methodology for the Social Capital Index. We obtained the social capital index from the Northeast Regional Center for Rural Development (NERCRD) at the Pennsylvania State University. The Social Capital Index is available for the years 1990, 1997, 2005, 2009, and 2014. Similarly to the approach used for religiosity, we interpolated the variable for the missing years. The data can be accessed at: <https://nercrd.psu.edu/data-resources/county-level-measure-of-social-capital/>.

(c) *Education Attainment*. This paper follows the methodology of Chehab and Xiao (2024) and Jha and Chen (2015), using the percentage of the population 25 years or older with a bachelor's degree as the variable for educational attainment in a U.S. County. The data is available starting from 2000.

The data can be accessed at: www.census.gov/topics/education/educational-attainment.html.

(d) *Per Capita Income*. We obtained the per capita income for U.S. counties from the Department of Commerce's Bureau of Economic Analysis (BEA) under the Regional Economic Accounts. The per capita income data are available starting from 1969. The data can be accessed at: www.bea.gov/data/economic-accounts/regional

(e) *Population Level and Growth*. We calculated the population growth in U.S. counties using population data obtained from the Department of Commerce's Bureau of Economic Analysis (BEA) under Regional Economic Accounts. County-level population data are available starting from 1969. The data can be accessed at: www.bea.gov/data/economic-accounts/regional

(f) *GDP per Capita*. We calculated the GDP per capita by dividing the total GDP of a US county by its population. The GDP data for U.S. counties was obtained from the Department of Commerce's Bureau of Economic Analysis (BEA) under the Regional Economic

Accounts. The GDP level per county data are available starting in 2001. The data can be accessed at: www.bea.gov/data/economic-accounts/regional

4. EMPIRICAL RESULTS

Tables 3 and 4 show the regression analysis results for both regressions. As shown, the characteristics of a county did not have an identical impact on different forms of financial development. The following details the findings of the regression analysis.

(a) *Religiosity*. The coefficient for religiosity was positive and significant in determining the number of newly established banks in a U.S. County. The coefficient was 0.03216 and was significant at the 1% level. The results indicate that banks can consider the religiosity of a country as part of their investment decision. The results are consistent with the findings of Adhikari and Agrawal (2016) and Chircop et al. (2017). However, religiosity was not a significant determinant of a county's existing banking assets. Many of these assets may have existed for a long time, and investments by existing banks likely remain unchanged in response to variations in religiosity. The results of the two regressions combined indicate that while religiosity may influence decisions about establishing new banks, it does not appear to affect adjustments to existing banking assets. Once banking assets are established in a country, banks may not change them in response to changes in religiosity.

Table 3. Regression results for new banks.

Variable	Estimated Coefficient (P-value)
<i>INTERCEPT</i>	-13.4425 (0.214)
<i>RELIGIORITY</i>	0.03216*** (0.000)
<i>SOCIALCAPITAL</i>	0.0271** (0.028)
<i>BACHELORS</i>	0.0031** (0.031)
<i>INCOME</i>	0.0605*** (0.000)
<i>POPULATION</i>	0.0147*** (0.000)
<i>POPGROWTH</i>	-0.1646 (0.578)
<i>GDP</i>	-0.3937*** (0.000)

***, **, * indicates significance at the 1%, 5%, and 10% level respectively.

Source: The coefficients and the P-values were estimated using regression analysis on the dataset for a model with new banks as the dependent variable.

(b) *Social capital index*. The results indicate that new banks were more likely to open in counties with higher social capital, and existing banks increased their investment in counties in these areas. The coefficient of the Social Capital Index was positive for both new banks and existing banking assets, 0.0271 and 14.6496, respectively, with both coefficients statistically significant at the 5% level. Rehbein and Rother (2024) provided similar conclusions.

(c) *Educational attainment*. The results show that new banks were opened, and existing banks increased their investment in U.S. counties in response to an increased percentage of

educational attainment. The coefficient for new banks was positive, 0.0031, and significant at the 5% level, while the coefficient for existing banking assets was also positive, 1.4097, but significant at the 10% level. The results are consistent with the findings of the published literature, such as those of Liaqat et al. (2020), who showed reduced financial vulnerability with higher education levels.

(d) *Income*. The income per capita in a U.S. County was a positive and significant determinant of both the total banking assets and the number of newly established banks. For newly established banks, the coefficient for per capita income was 0.0605, which is significant at the 1% level, while for total banking assets, the coefficient was 0.0032, which is also significant at the 1% level. These results indicate that, in addition to opening new banks in counties with higher income levels, existing banks also increased their investments in these counties. The results are consistent with those of Aliyu and Yusof (2017).

Table 4. Regression results for banking assets.

Variable	Estimated Coefficient (P-value)
<i>INTERCEPT</i>	-245.5390** (0.020)
<i>RELIGIORITY</i>	1.2210 (0.840)
<i>SOCIALCAPITAL</i>	14.6496** (0.044)
<i>BACHELORS</i>	1.4097* (0.070)
<i>INCOME</i>	0.0032*** (0.000)
<i>POPULATION</i>	-1.7000 (0.421)
<i>POPGROWTH</i>	926.6886*** (0.001)
<i>GDP</i>	8.8715 (0.235)

Note: ***, **, * indicates significance at the 1%, 5%, and 10% level respectively.

Source: The coefficients and the P-values were estimated using regression analysis on the dataset for a model with banking assets as the dependent variable.

(e) *Population and population growth*. The coefficient for population was positive and significant at the 1% level for newly established banks. The positive coefficient, 0.0147, indicates that the number of new banks opened in U.S. counties increased as population grew. However, total banking assets was negative, implying a potential reduction in existing banking assets in response to the establishment of new banks. However, this coefficient was not statistically significant. Therefore, we cannot draw a definitive conclusion about the impact of population growth on existing banking assets. The results are consistent with Saganga (2024).

The coefficient for population growth behaved in the opposite manner to that of population levels in U.S. counties. The coefficient of population growth was positive, 926.6886, and significant at the 1% level. The results indicate that banks increased their investment in U.S. counties as the population grew. However, new banks were not opened specifically in response to population increases. The results are consistent with Saganga (2023).

The results for population and population growth combined indicate that existing banks increased their investments in counties experiencing population growth. However, new banks were more likely to be established in areas with a larger population.

(f) *GDP*. The coefficient for GDP was negative, -0.3937, and significant at the 1% level for newly established banks. The results indicate that new banks were more likely to open in areas with smaller economies. In contrast, the coefficient for banking assets was positive, 8.8715, but not statistically significant, indicating no clear relationship between GDP and total banking assets. The results are consistent with Asabere et al. (2016) and Fávero et al. (2018).

5. CONCLUSIONS

This paper contributes to the literature by investigating and reporting on the impact of religiosity on the financial system development in US Counties. Although the impact of religiosity on business decisions is gaining interest in the literature, its impact on the financial system has been largely ignored. The literature mainly concentrated on the impact of religiosity on general business decisions and on personal lifestyles. Some studies showed that it is significant (Hilary and Huo, 2009; Kumar et al., 2011).

The degree of financial development was proxied by two variables, the number of new banks per capita and the aggregate financial assets in a county. To proxy religiosity, we divided the number of religious adherents in a US county by its population. We also used a county's level of social capital index, degree of education attainment, income per capita, population and population growth rate, and GDP per capita as control variables. Our study period the fifteen-year period 2000 through 2014 inclusive. Our selection for the study was dictated by data availability; education attainment data was available starting in 2000 and the social capital index was available through 2014.

The findings of this study reveal several key insights into factors that influences financial development across U.S. counties. First, the study found that the coefficient of religiosity was significant and positive, suggesting that counties with higher levels of religiosity experienced a significant increase in the number of newly established banks. However, religiosity did not significantly influence total banking assets. These findings suggest that religiosity plays a role in new banking establishments, but does not affect the operations of existing banks. Second, social capital was a significant determinant for both new bank establishments and increased investment in existing banking assets. These results suggest the important role of trust, social networks, and community ties in fostering financial development. Third, the study found that new banks are more likely to be established in counties with larger populations, higher education levels, and higher per capita income. While existing banking investments are driven by factors such as income, social capital, and population growth, with less influence from religiosity or GDP.

In summary, this study examines the factors that influence the degree of financial development. Specifically, the establishment of new banks and the growth of total banking assets in U.S. Counties. By examining several socioeconomic and demographic variables, the study sheds additional insight for policymakers and financial institutions. The findings also have policy implications for community leaders of areas with higher degrees of religiosity and social capital indices. The leaders of such areas may wish to promote the characteristics of their communities if they wish to attract more financial services locally. A higher degree of

financial development in a community may lead to increased credit availability and, therefore, to improved economic development in a community.

5.1. Discussion of Model Limitations

Since data availability was limited to a fifteen-year period, we can only presume that the interaction between the variables will persist without statistical analysis. Furthermore, the difference in size between US counties may skew the regression results. For example, even if a new bank is seeking a county with particular characteristics, the investors may ignore some areas because of other variables, such as not having enough population to support a new bank.

5.2. Future Research Directions

To address a limitation with this study, future research may develop thresholds for including a US county in a study based on certain characteristics. Such an analysis would overcome some of the limitations imposed on the banking industry, such as the minimum population needed to support the opening of a new bank or increasing investment in a particular area.

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