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By:

Bradley A. Hansen &
Mary Eschelbach Hansen

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JEL classification: N22, N82, K29

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[a]Department of Economics, University of Mary Washington, Fredericksburg, VA, USA.

Corresponding author: bhansen@umw.edu.

[b]Department of Economics, American University, Washington, DC, USA.

Introduction

A businessman fell into financial difficulty, not through dishonesty or mismanagement, but because of the failure of a large manufacturer with whom he associated. When his insolvency was imminent he went to his church to pray. On the way he confided in a fellow member of his congregation. His story was passed on to another who ensured that the man did not fail. [1] Of course, the story was intended to illustrate the efficacy of prayer, but a modern reader might divine a different message: The businessman's church membership provided social capital that enabled him to avoid bankruptcy. Church members are connected to each other through their common beliefs and activities, and church membership is associated with both increased group coherence and increased group-to-group connections (Curry 2003). Connections to others through the church may therefore provide a social safety net that reduces the incidence of bankruptcy, which improves outcomes for the individual and reduces macroeconomic volatility for all. We consider whether this social capital interpretation of church membership is consistent with evidence on the incidence of bankruptcy among businessmen in the early twentieth century.

The term *social capital* is used in a number of disciplines, but there is no universally accepted definition. Most often social capital refers to assets that yield benefits that arise from membership in a group or connections to other people. Connections are a form of capital because, like physical or human capital, connections can be used to produce something of value. There are at least two distinct approaches to the identification and measurement of social capital (Portes 2000). One approach emphasizes social capital as an asset for groups. The other approach focuses on social capital's benefits for individuals.

Researchers who view social capital primarily as an asset of groups look for a positive relationship between trust or civic-mindedness and economic performance (Fukuyama 1996; Guiso, Sapienza and Zingales 2004; Knack and Keefer 1997; Knack and Zack 2001; Putnam 2000). Researchers who view social capital primarily as an asset of an individual look for the benefit that an individual obtains through membership in a group or network. For example, group membership increases opportunities for employment and promotion (Burt 1997; Granovetter 1973; Laird 2006) and the earnings of small businesses (Gomez and Santor 2001).

Assessing the value of social capital has proven to be difficult regardless of the view. Studies that focus on the benefits to groups use geographical cross-sections and proxy social capital by using measures of trust, cooperation, or civic participation (Knack and Keefer 1997; La Porta et al. 1997). However, the proxy measures are themselves only hypothesized to be associated with a stock of social capital. For example, trust is not social capital itself but is one of the presumed outcomes of investment in social capital. Studies that focus on the benefit to the individual are more likely to employ a case study approach to show, for example, how connections enable individuals to obtain employment and promotion (Granovetter 1973; Burt 1997). While case studies use direct observations of social capital stock, the weakness of the approach is the difficulty of generalization.

Business historian Pamela Walker Laird (2006) bridges the two views through narrative accounts of individuals and groups who benefited from their connections, whether deliberately formed or not. Our study of church membership and bankruptcy in the United States also bridges the two views of social capital and the two approaches to its quantitative measurement by including a direct measure of connections in a regression analysis that compares economic performance across space and time. We use panel regression to measure the influence of church

membership on the bankruptcy rate among merchants and manufacturers across U.S. states from 1921 to 1932, controlling for differences in economic conditions and legal rules between the states. Our measure of economic performance bridges the two approaches to social capital analysis because bankruptcy reflects an outcome both for an individual and for the economy. In general, the benefits of social capital do not accrue to everyone equally because insiders to a group may exclude others. From the perspective of the individual, this is true for bankruptcy as well. However, all members of a community benefit from lower instances of bankruptcy because lower bankruptcy rates enhance the functioning of credit markets, increase macroeconomic stability, and promote economic growth.

We find that states with higher rates of church membership and states with higher concentrations of church membership by religious denomination had lower rates of business bankruptcy. Connection to a church group conveys benefits; connection to a larger church group conveys additional benefits. The result holds regardless of whether the churches were Catholic or Protestant, suggesting that theological and organizational differences between the two were not important in this regard. The result also holds when we separate voluntary bankruptcy (cases initiated by the debtor) from involuntary bankruptcy (cases initiated by creditors), suggesting that church membership does not affect bankruptcy only through a commitment or values effect, but that church membership protects against financial failure through some other means. We credit a social capital mechanism.

Religion, economic activity, and bankruptcy

The literature on the relationship between religion and economic behavior contains three types of analyses: (1) those that examine the influence of specific beliefs on economic behavior,

(2) those that examine the influence of the level of religiosity on behavior and outcomes, and (3) those that credit social capital from church membership with improved outcomes for members.

The first of the three types is most familiar. In his 1905 classic *The Protestant Ethic and the Spirit of Capitalism* Max Weber (1958) argued that the Protestant Reformation caused a change in mentality that promoted the development of capitalism. Weber's thesis has been much criticized; for example, a prominent scholar of the economics of religion recently pointed out that "the most noteworthy feature of the Protestant Ethic thesis is absence of empirical support" (Iannacconne 1998, 1474). Nevertheless, the search for the influence of theology on economic performance continues. For example, economic historian Marc Egnal (1998) argues that Protestantism was more supportive of growth in North America because it was more consistent with public support for education than was Catholicism. Economist Timur Kuran (1997) is among many who argue that underdevelopment in Islamic societies is explained in part by religious beliefs. Others look for a relationship between expressed religiosity and economic behavior. Economist Jonathan Gruber (2005), for instance, finds that greater religious participation is associated with higher incomes, higher education, less welfare receipt, and less divorce.

Religious beliefs could influence bankruptcy through influencing choices regarding borrowing, lending, or the enforcement of debt contracts, but our empirical results are more consistent with the arguments of other applied microeconomists and others who suggest that church membership represents high "connectibility" (Laird 2006) of members and that networks built around churches have effective dynamics. These economists acknowledge that the decision to join a church is unlikely to be motivated primarily by anticipation of economic gain, but that membership provides benefits beyond the spiritual or psychic. They find that church going

reduces the demand for government-provided social insurance (Scheve and Stasavage 2006) and reduces the impact of decreases in income on happiness and consumption (Dehejia, Deleire, and Luttmer 2007). Sociologists have examined the group dynamics of churches to confirm that, while there are differences between congregations, church membership enhances both bonding (within group) and bridging (between groups) social capital (Curry 2003).

Individual membership in a church could provide a safety net that enables business people to get through times of economic distress without having to resort to the bankruptcy court. Creditors may be reluctant to pursue debt collection aggressively against debtors who are members of the same church. Further, larger church groups could confer greater benefits on their members. A larger church could provide more business contacts and reduce transactions costs among a wider membership. Note, however, that we do not have documentary evidence on the specific mechanisms through which church membership reduces bankruptcy. Also note that the impetus for our historical inquiry comes from modern studies of the social capital and church membership, not historical studies. Yet if a relationship between church membership and business bankruptcy exists, American business history should be a particularly fruitful place to look for it. Moreover, thinking of this relationship in terms of social capital offers historians a useful tool for that search. Relative to other developed countries, the United States exhibits high levels of church membership and participation. As Robert Putnam observes, "Churches and other religious organizations have a unique importance in American civil society" (Putnam 2000, 65).

Empirical analysis

Today bankruptcy filings are overwhelmingly voluntary personal, not business, bankruptcy cases. The situation was different in the 1920s and 1930s. In each year prior to 1934 business bankruptcy cases accounted for between 31 and 49 percent of all cases.[2] The majority of business bankrupts in the 1920s were merchants and manufacturers whose small businesses were organized as proprietorships.

The federal law on bankruptcy that was in effect during the 1920s and 1930s was, with some amendments, the Bankruptcy Act of 1898. As is the case with many federal statutes, states determined some details, such as what assets were exempt from liquidation in bankruptcy. These details varied considerably between states. Credit laws and economic conditions varied between states as well. A large literature seeks to explain the modern and historical effects of laws and economic conditions on personal bankruptcy rates across states, but there is no consensus view.[3] Social factors, including social capital, have been relatively neglected in the bankruptcy literature. An exception is work by sociologist Frank Buckley and lawyer Margaret Brinig (1998), who argue that the recent boom in bankruptcy may be the result of a "decline in social sanctions for promise-breaking and the loss of a sense of shame one feels when such values are internalized" (p. 189). They hypothesize that traditional values regarding commitment lower the bankruptcy rate by increasing the stigma of bankruptcy, and they find that an increase in the percentage of a population that is Catholic lowers the personal bankruptcy rate. They play down the role of the church in social capital formation. Ours is the first study to consider the connection between church membership and business bankruptcy.

To estimate the influence of church membership on business bankruptcy rates we use a panel of state-level data for the years 1921-1932. The number of bankruptcy cases filed, by occupation, is reported in the *Annual Reports of the Attorney General* (U.S. Dept. of Justice,

various years). Availability of data dictates the specific end points of our study. The 1933 amendments to the Bankruptcy Act changed the method of collecting and reporting data, with the result that cases were not reported by occupation at the state level from 1933 to 1939. Nonetheless, the period for which data are available is well-suited for the study because there were few substantive changes in the federal law, because the period contains both booms and busts, and because there was substantial variation in the business bankruptcy rates between states.

An average of 227 merchants and 16 manufacturers appeared in bankruptcy court in the average state-year (Table 1). Almost two-thirds of the merchants filed voluntary bankruptcy petitions; as debtors they petitioned the court to begin bankruptcy proceedings and order the cessation of collection efforts. Just over half of bankrupt manufacturers filed voluntary petitions. We define the bankruptcy rate for merchants as the number of merchant bankrupts relative to the number of business concerns (in thousands) reported in the annual Reference Book published by Dun and Bradstreet and reproduced in the *Statistical Abstracts of the United States* (U.S. Bureau of the Census, various years). We define the bankruptcy rate for manufacturers relative to the number of manufacturing firms in thousands enumerated in the U.S. Census (University of Virginia Geospatial and Statistical Data Center n.d.).

Figure 1 shows the national rates of business bankruptcy from 1921-1932. The bankruptcy rate among merchants was about two per 1,000 business concerns in 1921 and rose to 6.4 in 1924; the bankruptcy rate among manufacturers also began at two per 1,000 firms and rose to 5.3 in 1925. The rise in bankruptcy corresponded to an increase in new business formation during the post-war recovery. The rates for both types of businesses fluctuated within a relatively narrow band until the series was discontinued in 1932. Note that the business

bankruptcy rate did not fluctuate much during the early years of the Great Depression, even though the raw number of bankruptcies rose. In the average state-year the bankruptcy rate among merchants was 5.4 (Table 1), among manufacturers it averaged 4.5.

Table 2 shows the bankruptcy rate in the states where the rates were highest and where the rates were lowest on average across years. The rate among merchants was lowest in New Hampshire (2.0) and highest in Georgia (15.8). The rate among manufacturers was lowest in New Mexico (0.4) and highest in West Virginia (9.8). There is no geographic pattern in the rates, suggesting that more than regional economic trends determine bankruptcy. There is plenty of room for other factors, including church membership, to influence the state rates.

The original sources of our data on church membership are surveys of churches conducted at ten year intervals (U.S. Dept. of Commerce and Labor 1930, 1940). We interpolate the annual observations assuming a constant percentage rate of change. The highest rate of church membership was in Utah (73 percent) and the lowest in Nevada (24 percent). To anticipate the discussion of the statistical results: if we find that the coefficient on church membership is negative, we will take this to mean that church going builds social capital that, in turn, reduces bankruptcy in the state.

We compare results using the percent of the state population that is Roman Catholic to results using the percent of the state population that belongs to any religious body. If Buckley and Brinig (1998) are correct, Roman Catholic cultural values decrease bankruptcy. If, on the other hand, any church membership provides a source of insurance, then greater membership of the population of a state in any congregation reduces bankruptcy rates. Forty-three percent of the population of the average state was churchgoing. The population of the average state included about 15 percent Catholics (see Table 1). The variation, of course, is quite large. Only about

one-half of one percent of the populations of Georgia and South Carolina were Catholic, while Catholics comprised over 30 percent of the populations of Connecticut, Massachusetts, New Hampshire, New Mexico, and Rhode Island.

We suspect that greater religious concentration may decrease bankruptcy by providing the financially troubled churchgoer access to a relatively larger social network. In order to test this, we use the surveys of churches to compute a Herfindahl index of religious concentration in the churchgoing population.[4] The index measures the size of the membership of individual religious denominations relative to the size of the church-going population. Let the number of people in all congregations of a single denomination be called n_d. Then the share of that denomination in the churchgoing population is $\frac{n_d}{C}$. We compute the index for each state-year as the sum of the squares of the share of each denomination's membership in the churchgoing population of the state: $h = \sum_d \left(\frac{n_d}{C} \right)^2$. The index would equal one if all churchgoers in the state belong to the same denomination of church. A low value of the index would indicate that the population is equally spread across denominations. The average of all observations of the index was 0.25; the index had a standard deviation of 0.213 (Table 1). The index fell from 0.26 to 0.24 during the early twenties and remained steady thereafter. The state with the greatest degree of religious concentration, of course, was Utah. States in the South and Midwest had low degrees of religious concentration. For example, the average index across years for Arkansas was 0.14 and for Indiana it was 0.12. To once again anticipate the discussion of the results: We expect the coefficient on the index to be negative if membership in larger or more homogeneous groups increases the social capital value of church membership.

We also control for the size of the urban population in the states (U.S. Bureau of the Census 1944). We expect degree of urbanization to be positively correlated with the bankruptcy rate because credit may be more readily available in urban areas or because relatively anonymous urban debtors may feel less stigmatized from filing for bankruptcy. In the average state-year observed, almost 46 percent of the population was urban (Table 1). The other economic indicators included in the regressions are the level and growth in per capita state income (Flood 1998). We expect the level of per capita income in a state to be associated with a greater supply of credit, greater indebtedness, and therefore a higher bankruptcy rate. Annual income growth over the period averaged -6.8 percent (Table 1). We also include the ratio of bank loans to aggregate state income (Flood 1998), a balance sheet indicator. More outstanding debt increases the likelihood of bankruptcy, all other things equal. The ratio of loans to state income was, on average, 0.4 (Table 1).

Finally, we consider differences in state bankruptcy and credit laws. We include the level of homestead and personal exemptions (National Association of Credit Men, various years). Homestead exemptions varied from zero to $8,000. Personal exemptions ranged from zero to $2,000. The number of observations in the regressions is limited by the availability of the data on state law. Some states are lost to the study mainly because the way personal exemptions are described in state laws make them non-comparable. We find, however, no statistically significant difference between states included in the regression and those excluded.

State usury laws may affect the supply of credit, indebtedness, default, and bankruptcy. Most states defined separately the maximum interest rate that could be stated in a contract and the rate that a creditor was allowed to charge when the rate was not explicitly stated in a contract. We include both (Robinson and Nugent 1935; Ryan 1924). The maximum stated rate ranged

from 6 to 30 percent, while the maximum rate if no rate was stated ranged from five to eight percent. It is not clear to what extent the restrictions were actually binding (Ryan 1924), but to the extent that usury limits were binding, they inhibited the ability of lenders to respond to increased risk by increasing interest rates. Consequently, they were likely to reduce the supply of formal credit available and reduce the bankruptcy rate.

A regression framework with a set of state dummy variables would allow us to estimate the effect of church membership on the bankruptcy rate while reducing bias from excluding unmeasured variables correlated with location in a state. However, because state bankruptcy exemption and usury laws did not change much over time, the effects of the laws cannot be estimated in a basic framework. A variable for any state law would be correlated with the state-specific effect. We therefore use an augmented procedure recently developed in quantitative political economy (Pluemper and Troeger 2007).[5] The procedure allows us to control for state-specific effects while still capturing the effect of state laws by estimating the regression in three stages.

The first stage of the estimation procedure identifies the state-specific effect as the part of the mean of the state bankruptcy rate that cannot be explained by time-varying variables (such as state church membership and state income). The second stage estimates the effect of the unchanging laws on the state-specific effects themselves. In other words, the second stage answers the question: how much of the variation in the state averages is accounted for by state-to-state differences in law? In the third stage the results from the second stage are used to re-estimate the model using ordinary least squares regression. The procedure yields the desired estimates of the effects of the effects of church membership and state law while reducing omitted variable bias.[6]

Table 3 shows the results of the augmented regression procedure. The dependent variable in the first two columns of Table 3 is the merchant bankruptcy rate per 1,000 business concerns in the state-year. The dependent variable in the second two columns is the bankruptcy rate of manufacturers per 1,000 manufacturing firms in the state. The first specification for each type of business includes the percent of the population that claimed membership in the Catholic Church; the second specification includes instead the percent of the population that claimed membership in any church. The results show that the size of the Catholic population in a state did not have an effect on bankruptcy that is statistically different from zero, but the size of the churchgoing population had a negative and statistically significant effect on the bankruptcy rate for both merchants and manufacturers. In other words, an increase in church membership of ten percentage points was associated with about three fewer merchant bankruptcies per 1,000 concerns. The effect of church membership on bankruptcy among manufacturers was only about half as large, but it remained statistically different from zero.

Thus, the greater the proportion of the population that belonged to a religious group—regardless of the specific beliefs of the group—the lower was the business bankruptcy rate. This provides historical evidence in favor of the social safety net hypothesis discussed above. Church going provided valuable social capital to the individual by providing a place to turn in bad times, or by providing a network of connections that improved the chances of success, or both in varying degrees. All participants in the economy gained from churchmembers' mutual support because lower bankruptcy rates improved credit market functioning. Further research is needed to confirm the exact mechanism, but we suspect that a lower business bankruptcy rate in the state increased the supply of credit to businesses in the state, and thereby increased business investment and growth, making the state less vulnerable to economic downturn.[7]

Moreover, when the churchgoing population of a state was more concentrated into a few denominations, that concentration further reduced the bankruptcy rate. The coefficient on the natural logarithm of the index of religious concentration is statistically significant and large in each specification of Table 3. A one percent increase in the index is associated with 8.5 fewer merchant bankruptcies per 1,000 concerns and about 13.5 fewer manufacturer bankruptcies per 1,000 firms. Of course, a one percent increase in the index would represent tens of thousands of people switching from one church denomination to another. We do not observe a change this large for any state over this time period, and as a result, the large variation between states drives the results. Consider the differences between Arkansas, Texas, and Oklahoma which were in the bottom quartile of the index of religious concentration (indicating that their churchgoing populations belonged to the greatest diversity of churches), and Louisiana and Arizona, which were in the highest quartile of the index. The merchant bankruptcy rate was 7.8 in Arkansas but 5.1 in Louisiana; it was 6.2 in Texas and 7.0 in Oklahoma but 4.7 in Arizona. This reinforces the conclusion that churchgoing buildt social capital. In states where a larger proportion of the population belonged to one denomination, church membership offered more connections and a sturdier safety net.

The more urban states had higher bankruptcy rates among merchants but lower bankruptcy rates among manufacturers. That the signs differ by type of business indicates that, in the context of business bankruptcy, this variable contains no information about social capital. This contrasts with Buckley and Brinig's study of personal bankruptcy, in which residents of more urban states had more anonymity, felt less stigma, and were therefore more likely to file for bankruptcy. Our results indicate that for businesses, urban concentration reflects the differences in the economic characteristics of urban and rural environments. For example, there may be a

higher rate of merchant business formation in urban areas, leading to more bankruptcies among merchants, as discussed above. Alternatively, urban merchants may have more access to credit than rural merchants, so they may have higher debt loads, more default, and more bankruptcy.

Of the other economic variables included in the estimation, only real per capita income had a measurable impact on bankruptcy. Higher state income was negatively associated with the bankruptcy rate of merchants, but not manufacturers. The effect was small. An increase in income of $200 could be expected to reduce the bankruptcy rate by one per 1,000 business concerns.[8] The coefficient on income growth was positive but not statistically different from zero; the positive sign indicates that business bankruptcy may go up when the economy is expanding and go down when the economy is contracting, but we cannot be confident in this result. The ratio of bank loans to state income does not appear to have affected the bankruptcy rate in the state.

Usury laws, especially laws governing the maximum interest rate that can be charged if no rate is specified in the debt contract, had an effect on business bankruptcy. A higher maximum interest rate was associated with a lower bankruptcy rate. That the effect was statistically significant indicates that the laws were binding on the credit market: if the equilibrium interest rate was below the maximum, then the maximum rate would not have any measured effect. The negative sign of the coefficient indicates that higher interest rates reduced the quantity of business credit demanded, decreasing indebtedness and bankruptcy.

Some state laws that limited the assets that could be liquidated in bankruptcy proceedings also influenced the bankruptcy rate. Consider the homestead exemption, which is the part of the value of the home of the debtor that could not be liquidated. In states with a more generous homestead exemption there was a higher bankruptcy rate. This indicates that the increase in

demand for credit due to the exclusion of assets from liquidation in bankruptcy was greater than the accompanying decrease in supply of credit. A more generous personal exemption was associated with a higher rate of bankruptcy among merchants, but a lower rate of bankruptcy among manufacturers. Investigation of the difference is outside the scope of the current paper, but would contribute to the wider literature on the determinants of bankruptcy rates.

To further examine the likelihood that church membership has value as social capital, as opposed to simply representing values that prize commitment, we estimate the regressions separately for voluntary and involuntary bankrupts. Recall that involuntary petitions are brought to bankruptcy court by creditors seeking liquidation of assets. In contrast, a debtor may voluntarily petition the court to suspend collection efforts by creditors. In the context of business bankruptcy, if church membership represents mainly values, then we expect greater church membership to be associated with a lower voluntary bankruptcy rate but not necessarily with a lower involuntary bankruptcy rate. The results after disaggregating the bankruptcy rate into the voluntary rate and involuntary rate for each type of business are shown in Table 4. In each specification, the extent of church membership was negatively associated with business bankruptcy, and in four of the five specifications the coefficient is statistically significant. Note that the coefficient on church membership is statistically significantly larger for the voluntary rates than the involuntary rates. The results thus do not invalidate the idea that church members prize commitment. But it is also possible that there are other systematic differences between voluntary and involuntary petitioners, such as differences in balance sheets, that could have affected the results at the state level. For example, involuntary bankrupts may have had more out-of-state creditors and therefore may have derived less benefit from church-related social

capital, which would be more likely to have been local. Only archival research could reveal such differences.

That church membership provides access to a safety net is further confirmed by the effect of greater religious concentration. Greater religious concentration was associated with fewer bankruptcies in every case; the effect of the relative size of the denomination's membership on involuntary bankruptcy was larger than its effect on voluntary bankruptcy, though not statistically significantly so. Further research is needed to confirm this preliminary result.

Conclusion

Church going is unlikely to be driven by its value as an investment in social capital. However, in addition to the spiritual or psychic value of church membership, and regardless of the specific teachings of the church, church going provides tangible benefits to church members and their communities. In this paper we demonstrate that states with larger church-going populations had lower business bankruptcy rates, even after controlling for economic conditions and differences in state bankruptcy and credit laws.

The percent of a state's population that belonged to any church was negatively correlated with business bankruptcy at the state level. Further, church membership was negatively correlated with both voluntary and involuntary bankruptcy among businesses. In states with larger church-going populations, fewer creditors pursued liquidation of debtors' assets through the courts. It does not seem that specific church teachings regarding lending, borrowing, or honoring commitment can explain how church membership reduced business bankruptcy.

Instead, church going seems to have connected members to a network of other people and resources, giving members access to a safety net that reduced the likelihood that they needed to

seek the protection of the bankruptcy court. The effectiveness of the church-related safety net was enhanced in states where church membership was concentrated in a small number of religious denominations. This implies that the within-group connections fostered by the church were especially important, though church membership may also have provided a bridge to assistance outside the debtor's own denomination.

In addition to the substantive contribution of this studyto business history, we make a methodological contribution to the literature on social capital. By studying bankruptcy rates, we bridge approaches that emphasize social capital as a group asset, on the one hand, and as an individual asset, on the other. . The first approach has been pursued mainly through statistical analysis; the second approach mainly through case studies. We bridge the two approaches by considering a direct measure of connections (church membership) as the independent variable in a regression analysis that compares the bankruptcy rate across states and across time. The bankruptcy rate is particularly useful for this methodological purpose; it is a statistic that represents an aggregation of economic outcomes for individuals but also contains information about the broader economic well-being of communities.

In closing, we emphasize again that our study of bankruptcy confirms that the social capital accumulated through church membership has benefits that go beyond the individual businessman, the congregation, or even the population of church-goers. Connectedness reduces bankruptcy rates, which reduces the cost of credit, improves credit market functioning, increases macroeconomic stability, and promotes economic growth. Connectedness benefits all.

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Table 1. Descriptive statistics (all states)

	State-Years Observed	Mean	Standard Deviation
Business Bankruptcy			
Merchants			
Voluntary Petitions	608	158.1	193.9
Involuntary Petitions	608	68.7	121.3
Rate per 1,000 Concerns	585	5.39	3.53
Manufacturers			
Voluntary Petitions	582	13.8	21.3
Involuntary Petitions	607	12.5	29.7
Rate per 1,000 Firms	554	4.50	3.52
Church Membership			
Catholics (% of Pop.)	564	15.1	12.0
Church Members (% of Pop.)	576	43.3	10.7
Herfindahl Index of Religious Concentration	576	.25	.15
Economic Indicators			
Urban (% of Pop.)	588	45.7	21.3
Per Capita Income (1920$s)	576	461.6	185.7
Annual Income Growth (%)	576	-6.8	14.8
Ratio of Bank Loans to State Income	576	.40	.14
State Laws			

Homestead Exemption ($)	588	2420	2251
Personal Exemption ($)	409	654	544
Max. Stated Interest Rate	540	9.4	3.8
Max. Rate if Not Stated	612	6.3	0.8

Sources: See text.

Table 2. Highest and lowest business bankruptcy rates

	Merchant Bankruptcies per 1,000 Concerns		Manufacturing Bankruptcies per 1,000 Firms	
Ten Lowest Rates	NH	2.0	NM	0.4
	UT	2.8	WY	0.8
	WA	2.8	MT	0.9
	IN	2.8	AZ	1.2
	ID	2.9	ND	1.4
	RI	3.0	NV	1.5
	CO	3.0	MD	1.6
	KS	3.2	SD	1.8
	OR	3.2	ME	2.0
	WY	3.2	CO	2.2
Ten Highest Rates	VA	7.3	MS	6.2
	OK	7.5	GA	6.6
	MA	7.6	MO	6.7
	AR	7.8	IL	6.7
	FL	8.7	NY	6.8
	AL	9.9	OR	7.0
	SC	10.1	MA	8.0
	CT	10.4	DE	8.0
	MS	12.7	TN	8.1

GA	15.8	WV	9.8

Source: See text.

Table 3. Determinants of business bankruptcy.

	Merchants per 1,000 Concerns				Manufacturers per 1,000 Firms			
	(1)		(2)		(3)		(4)	
Percent Catholic	0.286				0.091			
	(0.242)				(0.244)			
Percent Church Members			-0.322	**			-0.147	**
			(0.034)				(0.028)	
ln(Rel. Concentration Index)	-9.161		-8.401	**	-13.521	**	-13.723	**
	(7.304)		(0.701)		(5.130)		(1.408)	
Percent Urban	0.234	*	0.036	*	-0.029		-0.101	**
	(0.140)		(0.013)		(0.151)		(0.026)	
Real Per Capita Income	-0.005	**	-0.005	**	-0.002		-0.002	
	(0.004)		(0.002)		(0.003)		(0.002)	
Income Growth	3.001		2.900		0.427		0.516	
	(2.570)		(1.965)		(2.847)		(2.300)	
Loan to Income Ratio	0.002		<0.001		0.001		0.001	
	(0.001)		(0.001)		(0.002)		(0.001)	
Max. Stated Interest Rate	3.806		0.386		-1.673		-2.058	**
	(3.146)		(0.193)		(2.128)		(0.309)	
Max. Rate if Not Stated	-0.897	**	-0.906	**	-0.209		-0.783	**
	(0.720)		(0.080)		(0.809)		(0.122)	
Homestead Exemption	<0.001	*	<0.001	*	<0.001		<0.001	
	(<0.001)		(<0.001)		(<0.001)		(<0.000)	
Personal Exemption	0.002	**	0.002	**	-0.002	**	-0.002	**
	(<0.001)		(<0.001)		(<0.001)		(<0.001)	
N	347		347		338		338	
R2	0.66		0.71		0.41		0.47	

Sources: See text.

Notes: Robust standard errors in parentheses. * indicates statistically significant at the ten percent level; ** indicates statistically significant at the five percent level. Year effects included in estimation but not reported.

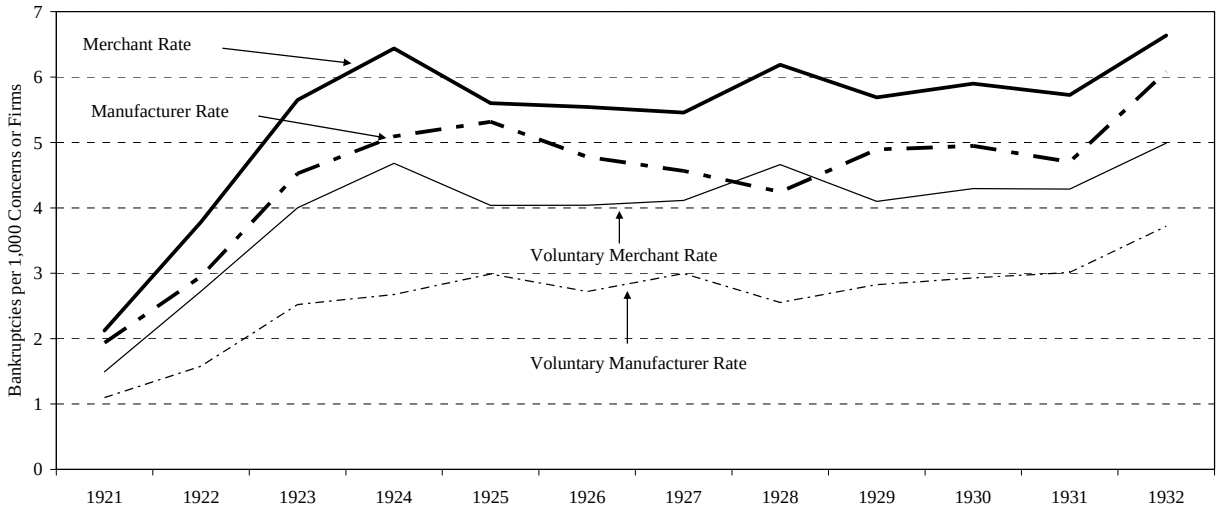
Table 4. Determinants of voluntary and involuntary bankrupty

	Merchants				Manufacturers			
	Voluntary		Involuntary		Voluntary		Involuntary	
	Rate		Rate		Rate		Rate	
Real Per Capita Income	-0.002	*	-0.003	**	0.001		0.003	**
	(0.001)		(0.001)		(0.001)		(0.001)	
Income Growth	1.573		1.327	*	-0.356		-0.976	
	(1.323)		(0.777)		(1.749)		(1.033)	
Loan to Income Ratio	0.001		<0.001		<0.001		<0.001	
	(0.001)		(<0.001)		(0.001)		(0.001)	
Percent Churchmembers	-0.292	**	-0.030	**	-0.143	**	-0.006	
	(0.029)		(0.007)		(0.023)		(0.015)	
ln(Rel. Concentration Index)	-3.636	**	-4.766	**	-3.964	**	-9.488	**
	(0.382)		(0.379)		(0.561)		(1.214)	
Percent Urban	-0.086	**	0.122	**	-0.253	**	-0.140	**
	(0.013)		(0.010)		(0.035)		(0.014)	
Max. Stated Interest Rate	-0.306	*	0.692	**	-2.278	**	0.126	
	(0.159)		(0.070)		(0.250)		(0.204)	
Max. Rate if Not Stated	-1.040	**	0.134	**	-1.043	**	-0.310	**
	(0.086)		(0.031)		(0.141)		(0.073)	
Homestead Exemption	<0.000		<0.001	**	<0.001	*	<0.001	*
	(<0.001)		(<0.001)		(<0.001)		(<0.001)	
Personal Exemption	<0.001	*	0.001	**	-0.003	**	-0.001	**
	(<0.001)		(<0.001)		(0.001)		(<0.001)	
N	347		347		339		339	
R2	0.71		0.66		0.45		0.45	

Sources: See text.

Notes: Robust standard errors in parentheses. * indicates statistically significant at the ten percent level; ** indicates statistically significant at the five percent level. Year effects included in estimation but not reported.

Figure 1. Business bankruptcy rates, 1921-1932



Source: See text.

ACKNOWLEDGEMENTS

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Endnotes

[1] *Christian Advocate and Journal,* May 24, 1855. Tolles (1948) discusses how Quakers dealt with the insolvency of their members.

[2] For a discussion of changes in the relative significance of business and wage earner (personal) bankruptcy, see Hansen and Hansen (2007).

[3] For a summary of the empirical literature on personal bankruptcy rates, see Hansen and Hansen (2007).

[4] The Herfindahl index (also called the Herfindahl-Hirshman index) was developed in the literature on anti-trust economics. There the index is used to measure the size of individual firms relative to the size of the industry, and it used as an indicator of the amount of competition among firms in an industry.

[5] Because the bankruptcy rate can be thought of as the number of filings out of the population of people who might file, we also considered a binomial regression specification. The binomial specification does not fit our data well.

[6] The full model is $r_{st} = \alpha + C_{st}\beta_1 + X_{st}\beta_2 + L_s\gamma + u_s + \varepsilon_{st}$, where r_{st} is the business bankruptcy rate in each state *s* and year *t.* The vector C_{st} includes our measures of church membership and β_1 is the estimate of primary interest. The vector X_{st} includes economic variables, and L_{st}

describes the laws of each state. Year effects are included. The augmented procedure requires that we assume that the state-specific effect u_s is correlated with at least one of the variables in C or X and one of the variables in L.

[7] See Bernanke (1983) and the counterargument in Field (2001).

[8] $200 is about equal to one standard deviation in our observations of state income, expressed in 1920 dollars. $200 in 1920 dollars is equivalent to about $2,000 in 2007, with adjustments for inflation made using the Consumer Price Index.