
A New Perspective on Rising Nonbusiness Bankruptcy Filing Rates: Analyzing the Regional Factors

By Kelly D. Edmiston

Nonbusiness bankruptcy filing rates have increased almost five-fold since 1980. This alarming growth was largely the impetus for the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005. The intent of the new law, which went into effect in October 2005, was to eliminate alleged abuses of the bankruptcy system and to reduce filing rates.

In deliberations on the new law, Congress expressed concern about the underlying causes of bankruptcy. The tools currently available for analysis leave serious gaps in understanding bankruptcy behavior. While many studies have sought to discover the causes of the rising filing rates, they have largely focused on aggregated data over time. This approach is logical—but ignores the considerable variation in filing rates across regions. Only by examining the regional differences in rates can we gain meaningful insight into their causes.

This article describes a new model of county bankruptcy filing rates. The model contributes to the current understanding by improving on some of the approaches already used in other studies and by including a number of determinants not previously considered.

Kelly Edmiston is a senior economist in the Community Affairs Department at the Federal Reserve Bank of Kansas City. This article is on the bank's website at www.KansasCityFed.org. The author would like to thank Kate Fisher for valuable assistance in the preparation of this article.

The first section of the article describes the findings of earlier studies that looked at rising nonbusiness bankruptcy filing rates. The second section uses the new model to reveal a number of regional variations in the underlying factors of the rising filing rates. The article concludes that homestead exemptions and wage garnishments can be effective policy levers in managing rising bankruptcy filing rates. It also finds that social issues—stigma, gambling, and health insurance, among others—are critical regional factors that may help explain the rising bankruptcy filing rates. Finally, the article shows that higher levels of self-employment, another regional characteristic, are associated with lower bankruptcy filing rates.

I. CURRENT UNDERSTANDING

Bankruptcy filing rates in the United States vary considerably by county (Figure 1). In 2000, nonbusiness bankruptcy filing rates in counties with over 50,000 people ranged from only 0.5 per 10,000 households to roughly 410 per 10,000 households. This section discusses the factors commonly believed to be responsible for such variation. Some of the factors are policy levers that can be directly employed by government to manage bankruptcy filing rates, while others are social issues that have often been underappreciated in the existing literature on bankruptcy. The section also examines the potential role of self-employment in explaining bankruptcy filing rates.

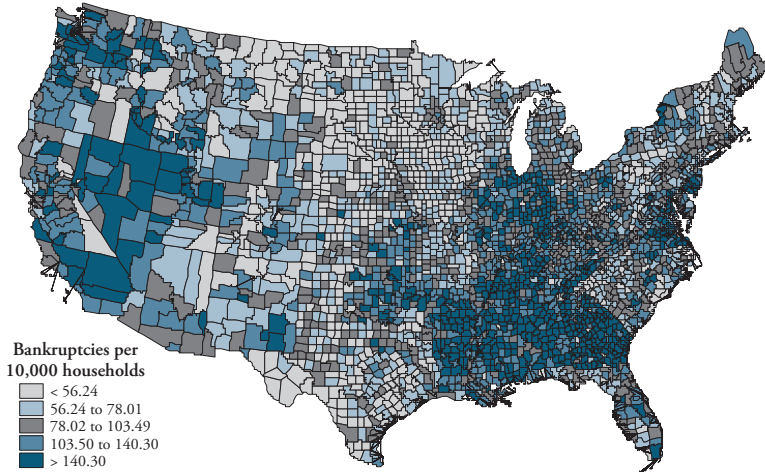
Policy levers

Two of the main factors influencing bankruptcy filing rates in the United States are homestead exemptions and wage garnishment regulation. Both factors might be used as policy levers to manage the rising filing rates.

Homestead exemptions. Each state has the power to establish a homestead exemption, which limits the amount of home equity that must be used to pay unsecured debt under bankruptcy.¹ Individuals in states without a homestead exemption are entitled to the Federal homestead exemption, currently \$15,000. In 2005, six states (Florida, Iowa, Kansas, North Dakota, South Dakota, and Texas) had exemptions that

Figure 1

BANKRUPTCY FILING RATES BY COUNTY, UNITED STATES, 2000



Data Sources: Administrative Office of the U.S. Courts, U.S. Census Bureau

were unlimited in value (but limited in acreage; for example, the exemption might be for 40 acres and improvements). For other states, the value of the homestead exemption in 2005 ranged from \$5,000 (Alabama, Kentucky, and Maryland) to \$500,000 (Massachusetts), with the mean exemption, excluding those with unlimited exemptions, at \$63,527.

Homestead exemptions allow bankruptcy filers to have higher post-bankruptcy consumption than would be the case in the absence of exemptions. Because nonexempt assets (such as deposit accounts) are easily converted to home equity (for example, by selling assets and paying off mortgage debt), high homestead exemptions offer protection for all kinds of wealth, not just actual homesteads. Empirical evidence suggests that some high-asset households move to high (homestead) exemption states to make such a conversion of assets.² But the 2005 bankruptcy law will likely prevent this kind of abuse of the system in the future.

Existing evidence on the relationship between homestead exemption levels and bankruptcy filing rates is somewhat limited and mixed in its conclusions. Homestead exemptions lower the cost of filing for bankruptcy. Therefore higher exemption levels would be expected to lead to higher filing rates, all else equal. Some studies find this result. Others find just the opposite—that higher exemption levels lead to *fewer* bankruptcies. Most studies find no significant relationship between homestead exemptions and bankruptcy filing rates.

One explanation for finding that higher exemptions lead to fewer bankruptcies is that the amount of credit issued to high-risk borrowers may be lower in states with high exemptions. That is, banks and other financial institutions likely find lending more risky if borrowers are offered greater protections in bankruptcy. Less borrowing is, in turn, expected to be associated with fewer bankruptcies.

Another possible explanation for a negative relationship between the level of homestead exemptions and bankruptcy filing rates is that states with relatively high bankruptcy filing rates may keep exemptions low to keep the incentives to file for bankruptcy low, and states with relatively low filing rates may be more inclined to be generous with exemptions. That is, bankruptcy filing rates may determine exemption levels. The potentially two-way causal effect can lead to bias in estimates of the relationship between homestead exemptions and bankruptcy filing rates—a problem existing studies have not resolved.

Wage garnishment. Bankruptcy laws also protect wages and salaries. When an individual or married couple files for bankruptcy protection, the laws protect future earnings from garnishment. The idea behind this exemption is to give bankruptcy filers a “fresh start” and to give proper work incentives to filers following discharge. Yet, because of this protection, wage garnishment often spurs bankruptcy filings.

Federal law sets a ceiling on monies collected by wage garnishment. An employer may not garnish any more than the lesser of two amounts: 1) 25 percent of an employee’s earnings, or 2) the amount by which an employee’s earnings exceed 30 times the federal minimum wage (\$5.15 per hour in 2000). Some states provide for even greater protection of an employee’s wages. Delaware, Illinois, New York, Pennsylvania, and West

Virginia protect 80 percent or more of an individual's disposable income from garnishment. Texas, North Carolina, and South Carolina protect all wages from garnishment.

Naturally, the more an individual's wages are protected from being legally garnished, the greater is their incentive to file for bankruptcy. Hence, bankruptcy filing rates, all else equal, are expected to be negatively related to the proportion of wages protected from garnishment.

Social factors

Social factors are also likely to play an important role in explaining patterns of bankruptcy filing rates across counties. Among these potentially important social factors are social stigma, gambling, marriage and divorce, health insurance coverage, and the shares of the population that are disabled and receiving public assistance.

Social stigma. Declining social stigma has often been suspected as a cause of the rising bankruptcy rates over the last several years. In testimony before Congress, then Federal Reserve Chairman Alan Greenspan argued that "personal bankruptcies are soaring because Americans have lost their sense of shame."³ The effects of social stigma are impossible to measure directly, but the effects can often be inferred from other empirical findings.

Bankruptcy filing rates are relatively higher in some areas of the country than others. These regional patterns, which cross political jurisdictions and therefore may reflect culture, indirectly support the idea that stigma plays a role in the determination of bankruptcy filing rates.

Age may also reflect stigma. A 1996 study by Visa argued that, in an era of declining social mores, younger cohorts may view bankruptcy as less stigmatizing than older groups. The study finds a significant positive relationship between bankruptcy filing rates and the share of the population aged 25-44. Other studies have confirmed these findings.⁴ Of course, age distribution might also influence bankruptcy filing in other ways—in income and consumption patterns, for example. While younger people have traditionally filed the bulk of bankruptcy petitions,

BANKRUPTCY FILING AND THE 2005 BANKRUPTCY LAW

Nonbusiness bankruptcies generally are filed under Chapters 7 (Liquidation) or 13 (Adjustment of Debts of an Individual with Regular Income) of the U.S. Bankruptcy Code. Chapter 7 filings accounted for about 76 percent of all nonbusiness bankruptcies in the United States in fiscal year 2005. In the same year, the proportion in the Tenth District was 86 percent.

Chapter 7 requires the liquidation of nonexempt assets, the proceeds of which are distributed to creditors according to a preference system (governed by §726 of the Bankruptcy Code). Exemptions can include personal property and homesteads and are determined by either state or federal statutes, depending on the state. Debts are then immediately discharged, unless they are nondischargeable debts such as court-ordered payments, student loans, and certain tax obligations. Almost all Chapter 7 filings are “no asset” cases where nothing is liquidated, and hence, holders of unsecured debt are offered no relief.

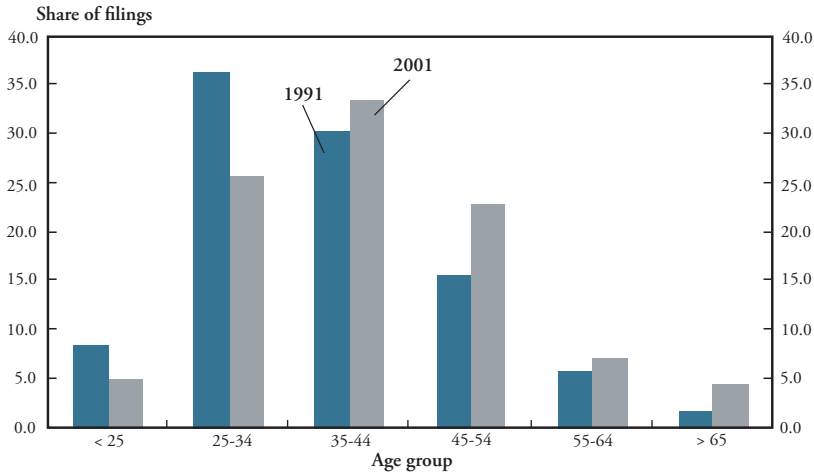
Chapter 13 allows debtors to keep their assets, as long as payments are made, while paying creditors—out of future earnings—a portion of what is owed according to a repayment plan developed and administered by a bankruptcy trustee (or bankruptcy court in Alabama and North Carolina). At the end of the repayment period, which lasts no more than five years, debtors who have fulfilled the requirements of their Chapter 13 reorganization plan will be discharged from the balance of their dischargeable debts.

Perhaps the most significant change in the new law reflects an effort to steer more bankruptcy petitioners away from Chapter 7 toward Chapter 13. Under the new law, a means test determines, in part, whether or not a petitioner is allowed to proceed under Chapter 7. Specifically, cases in which debtors have income exceeding the median in their

state of residence and, after covering necessary expenses and paying priority debt payments such as alimony, child support, and taxes, are able to contribute a minimal amount toward their debts (can make \$10,000 in payments over five years, or if not, have a capacity to pay off 25 percent or more of their unsecured debt with at least \$100 per month) will be converted to Chapter 13. Estimates of the share of cases that would be affected by means testing range from 3.6 percent to 15 percent. Less than 20 percent of Chapter 7 debtors exceeded the income thresholds in the new law prior to passage of the new law.

Other provisions included in the new legislation are aimed at curbing abuse. For example, the amount of dischargeable debt attributable to luxury items and cash advances acquired close to the time of filing is reduced as a means of preventing debtors from accumulating large amounts of unsecured debt with the intention of quickly discharging it. Many of the other abuse prevention provisions pertain to exemptions. The most prominent exemption in bankruptcy is the homestead exemption, which allows debtors to exempt either a portion of their home equity or their residence in its entirety, depending on the state. The new bankruptcy legislation limits the homestead exemption to \$125,000 if the homestead was purchased less than 40 months prior to filing (only 17 states have exemptions that exceed \$125,000). Further, the filer must have lived in the filing state for at least two years or else is subject to the exemption limitations of his previous state of domicile (where he resided for the majority of the 180 days prior to the two-year period preceeding the filing). Finally, the threshold for dismissal as a result of abuse of the system has been lowered from that of “substantial abuse” to “simple abuse,” and (debtor) attorneys are now allowed to be sanctioned for the abusive behavior of their clients. Some payment preferences and dischargeability rules also were changed with the new legislation.

Chart 1
**AGE DISTRIBUTION OF BANKRUPTCY FILINGS,
 1991 AND 2001**



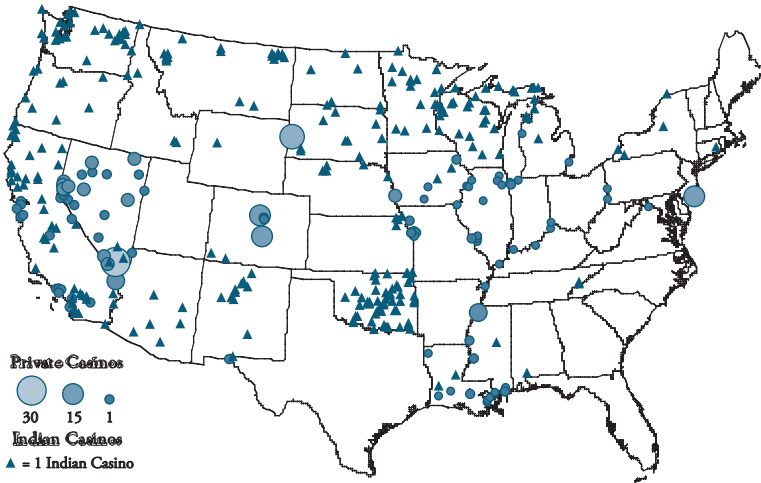
Source: Consumer Bankruptcy Project, as cited in Suein Hwang, "Mr. Hester Takes a Mall Job," *The Wall Street Journal*, August 6, 2004.

the pool is becoming increasingly older. Over the last couple of decades, the middle-aged have made up a significant part of the increase in filings (Chart 1).

Legal gambling. Another important social factor that may affect bankruptcy filing rates is legalized gambling. Gambling might increase the likelihood of filing for bankruptcy by raising debt levels relative to income.⁵

Legalized gambling has grown rapidly since the 1980s, spurred by the introduction of gaming on Indian reservations. Casino gaming in some form (Indian or commercial) is allowed in 33 states. In 1999, about \$769 billion was wagered in commercial gaming, leading to gambling losses to consumers (or revenues to the gaming establishments) of roughly \$59.4 billion. To put those losses into perspective, they equaled 0.64 percent of gross domestic product in 1999.⁶ By 2003, consumer gambling losses swelled to \$72.9 billion, or 0.66 percent of GDP.⁷

Figure 2
GAMBLING IN THE UNITED STATES, 2000



Sources: Casino City Press, National Indian Gaming Commission, various state gaming agencies, Internet searches, direct contact with casinos

Problem gambling increases with the availability of gambling opportunities. The National Opinion Research Center found that “problem and pathological gambling” within 50 miles of a casino is roughly double that of areas within a 50-250 mile range of a casino.⁸

Both the geographic pattern and the concentration of private and Indian casinos across the United States vary considerably (Figure 2). The heaviest concentrations of Indian casinos are, unsurprisingly, in the upper Midwest, on the West Coast, and in the state of Oklahoma. The largest concentrations of private casinos are in Atlantic City; Deadwood, South Dakota; central Colorado; Nevada; and along the Mississippi River. Very little gaming is found in the eastern third of the country.

The substantial variation in bankruptcy filing rates across U.S. counties might be explained in part by the wide variance in access to gambling. Empirical studies of the relationship between gambling and personal bankruptcy, however, are mixed in their findings. Some studies find the presence of gambling increases bankruptcy filing rates. Yet most studies find no significant relationship.⁹

Other social factors. Other social factors are likely to help explain the variation in bankruptcy filing rates across counties. Such factors include marital status, the lack of health insurance coverage, the numbers of the disabled, and the numbers of those who receive some form of public assistance.

Divorce often causes a substantial, immediate, and unanticipated reduction in income, which may lead to bankruptcy. This relationship is true for women in particular, who are estimated to suffer a 30 percent decline in economic status in the first year after divorce.¹⁰ Many studies of bankruptcy using data on individuals support the idea of a strong positive relationship between divorce and bankruptcy.¹¹ Thus, the shares of the population that are divorced are expected to influence county bankruptcy filing rates.

Medical expenses often are the straw that breaks the camel's back in bankruptcy filing—and medical debt in the United States has become pervasive. Hospitals and doctors provide about \$45 billion in uncompensated care each year, much of which is bad debt. HCA, the largest hospital operator in the country, for example, reserves 12 percent of its revenues for bad debt. Tenet Healthcare Corp., the second largest operator, reserves 11 percent. Not surprisingly, these bad debts often arise from bankruptcy filings.

In a 2000 survey of 1,974 participants, one-fourth of the debtors identified injury or illness as a reason for filing for bankruptcy (Warren and others). One-third described their medical bills as substantial—that is, \$1,000 or more of their medical bills were not covered by insurance. A 2005 study had similar findings (Himmelstein and others). It reported that about one-fourth of the 1,771 personal bankruptcy filers surveyed identified injury or illness as a specific reason for bankruptcy. An additional one-fourth had uninsured medical bills of at least \$1,000. In 1999, another study found that households with high medical debt were 28 times more likely to file for bankruptcy than baseline households (Domowitz and Sartain). In short, medical bills often play a critical role in an individual's decision to file for bankruptcy. Thus, the degree to which the population is covered by health insurance is likely to have some, presumably negative, effect on bankruptcy filing rates.

A related factor is the share of the population between the ages of 21 and 64 that is disabled. This group presumably is more likely to file for bankruptcy for two reasons. Disabilities often require extra medical spending, and employment options for the disabled are often limited.

Another potentially important factor is the share of the population receiving public assistance. Those receiving public assistance are likely to have limited access to credit, which should be reflected in lower bankruptcy filing rates. Further, the availability of financial support during times of hardship may reduce bankruptcy filings somewhat.

Entrepreneurship and self-employment

About 70 to 80 percent of new businesses fail in their first year. Of those that survive, half fail within their first five years (U.S. Small Business Administration). Such high failure rates might suggest that entrepreneurs have relatively high bankruptcy rates. In 2004, the latest date for which complete data are available, less than 2.2 percent of all bankruptcy filings were actually business filings, according to the U.S. Bankruptcy Court.¹² These official reports, however, may significantly understate the actual number of business filings because the self-employed, small business owners, and independent contractors are likely to file for *personal* bankruptcy protection if they have a failed business (Lawless and Warren). While official reports put business filings at 2.3 percent of total filings in 2003, in reality as much as 19 percent of all bankruptcy filings that year may have been due to business failures. Thus, a significant number of personal bankruptcy filings are business filings, and an examination of the determinants of personal bankruptcy filing rates should account for this.

II. ANALYSIS OF COUNTY BANKRUPTCY FILING RATES

A substantial literature already exists that seeks to determine the causes of personal bankruptcy, some of which is discussed above. But critical holes remain in the literature. In particular, existing studies offer only weak inferences about the role of stigma in explaining the decision to file for bankruptcy or in explaining regional variation in bankruptcy filing rates. There is also a lack of consensus on the effects of gambling on bankruptcy, with most research finding no statistically significant relationships. The existing literature lacks consensus on the effects of homestead exemptions as well, with some finding positive effects, some finding negative effects, and still others finding no effects at all. Finally, many potential determinants of bankruptcy filing rates have not been considered in existing studies, including small business ownership and self-employment, a full distribution of ages in the population, disability, lack of health insurance, and receipt of public assistance. This section describes a model designed to help fill some of those gaps.

The basic model employed in this study is one of bankruptcy filing rates per 10,000 households. The units of observation are U.S. counties, and data are from the year 2000. The emphasis of the study is on the effects on bankruptcy filing rates of policy levers, specifically homestead exemptions and wage garnishment laws; social issues such as stigma, legalized gambling, and other social factors; and self-employment. Numerous other potential determinants of bankruptcy filing rates also exist that are not discussed in detail in the article, but nevertheless are employed in the model (appendix). These variables are mostly factors that have been analyzed in some depth in previous studies.

Policy levers

A major aim of the model is to correct for bias that may arise when estimating the strength of a relationship between variables that potentially affect each other. Two such variables are homestead exemptions and bankruptcy filing rates.

Initial estimates of the effect of homestead exemptions on bankruptcy filing rates yielded no significant impact, a typical finding in the existing literature. Once corrections were made for the possibility that bankruptcy filing rates may also affect homestead exemptions, however, the model yielded a positive value for homestead exemptions. Specifically, for every one percentage point increase in the share of the median house value covered by the homestead exemption, bankruptcy filing rates in the county increased by 0.94 per 10,000 households. (Table A-1) Thus, an exemption of 100 percent of median house value would yield 47 additional bankruptcies per 10,000 households in that county relative to a county where the state exemption is only 50 percent. The average county had roughly 100 personal bankruptcies per 10,000 households in 2000 (the median had 91), so this would represent a 47 percent increase in the bankruptcy filing rate for the average county.

The model accounts for wage garnishment by including the fraction of state household median income protected from garnishment. Keep in mind that all but the wealthiest working-age individuals derive virtually all of their income from wages and salaries.¹³ The analysis finds that the greater the protection given to wages, the lower the bankruptcy filing rate. Specifically, the number of bankruptcies per 10,000 households decreases roughly one-to-one for every one percentage point increase in the proportion of state household median income protected from garnishment.

Social factors

The results of the analysis also provide more conclusive evidence that social issues are major determinants of county bankruptcy filing rates.

Social Stigma. Proxies for social stigma used in existing bankruptcy studies include geography and age. Some studies of individual bankruptcy filings have included the bankruptcy filing rate in the county or state in which the individual lives, assuming that bankruptcy filing becomes less stigmatized where it occurs more commonly. The results mostly bear this out.

The model in this analysis incorporates geography in two distinct ways from the literature. One simple difference is that the model includes variables representing eight separate regions of the United States. Even after controlling for numerous factors that may affect bankruptcy filing rates across counties, a regional effect persists. Specifically, otherwise-identical counties suffer higher bankruptcy filing rates in some regions than in others. The Mid-Atlantic states, the Southeast, and the Rocky Mountain states have higher rates than the Northeast, Great Lakes region, the Plains states, the Southwest, and the Pacific Region. One explanation for such persistent regional differences in a relatively comprehensive model is that cultural differences, such as stigma, likely play a significant role in bankruptcy behavior.

Another more sophisticated measure of this regional effect provides further support for its relevance in explaining differing bankruptcy filing rates. The findings from an alternative specification, which is detailed in the appendix (see spatial autoregressive model), show that a given county's bankruptcy filing rate becomes higher as its neighbors' bankruptcy filing rates rise. The relationship between the bankruptcy filing rates of any two counties declines geometrically as the distance between them increases.

In previous studies, the share of the adult population that is young (say, 25 to 44) has been found to be a significant determinant of bankruptcy filing rates. Again, the idea is that the stigma associated with filing for bankruptcy increases with age, and therefore youth's share of the population may be a proxy for stigma. Rather than focusing on a specific age group, the model includes the entire age distribution of each county in the analysis, in part to pick up the effects of stigma. The results are consistent with this view. Bankruptcy filing rates drop as the share of the population aged 55 to 64 rises. Inconsistent with this view, however, is that bankruptcy filing rates increase with the share of the population that is aged 75 to 84. These results are actually more consistent with stigma being a generational phenomenon rather than a chronological one (Chart 1).

The model also uses religious adherence, along with geographic variables and county age distributions, as a proxy for stigma.¹⁴ The underlying assumption is that different religions have different views on the acceptability of filing for bankruptcy. The results from the

analysis of these religion variables strongly support the notion that stigma plays an important role in determining regional variation in bankruptcy filing rates.

While clearly not a direct measure of stigma, the confluence of effects of geographic variables, the age distribution, and data on religious adherence is highly suggestive of a strong role for stigma in the determination of bankruptcy filing rates.

Gambling. The model improves upon existing estimates of the relationship between gambling and bankruptcy in several ways. First, the gambling measure is based on access. Second, given the mixed results of earlier studies, the model includes a full set of Indian gaming establishments and includes all counties in the United States. The earlier studies tended to examine only a subset of states. In addition, some studies considered Indian gaming establishments but many were likely missed because the studies only included class III casinos, which provide all types of gambling. Many other casinos provide “fast-style class II gaming,” in which substantial amounts of money can be wagered. Excluding such gambling establishments biases the estimate of the relationship between gambling and bankruptcy rates toward the common finding of no relationship. The model in this study accounts for a full range of gambling activities—from Indian and commercial casinos to card rooms, race tracks, and state lotteries.

The results of the analysis suggest that gambling is an important determinant of bankruptcy filing rates. The further a county is to a gambling casino, the lower its nonbusiness bankruptcy filing rates. Adding 100 miles to the distance between the two places results in 4.3 fewer bankruptcy filings per 10,000 households.¹⁵ Counties with legal card rooms have 11 more bankruptcy filings per 10,000 households than counties where card rooms are illegal.

Surprisingly, the availability of race track gambling and a state lottery actually *reduce* filing rates, compared to counties without race tracks and state lotteries. Race track betting is legal in 42 states, while 33 states have state lotteries. So, there is little variation in the data, especially given that these are state-level variables. It is not clear why the legality of race tracks and the presence of a lottery would be associated with lower bankruptcy filing rates.

Other social factors. The model results also suggest that other social factors are important factors in explaining county bankruptcy filing rates.

The marital status of the population is believed to be a significant factor in the variation in bankruptcy filing rates across counties. The model considers not only the share of the population that is divorced, but also the shares that are married, separated, or widowed—relative to the share of the population that has never married. As expected, the divorced share is positively correlated with bankruptcy filing rates. A one-percentage-point-higher share of the population that is divorced is associated with 7.8 more bankruptcies per 10,000 households, which is substantial even though county divorce rates are highly concentrated around the average for the nation. Higher married shares and widowed shares also lead to higher filing rates, relative to the share of never-married households; but the difference is much smaller than in the case of divorced households. Surprisingly, the separated share of the population is negatively associated with bankruptcy filings, even though separation is known to cause substantial financial strain. A possible explanation for this unlikely finding is that people in the throes of a marital dissolution are less likely to choose to deal with bankruptcy inconveniences at such a time in their lives. Those who are separated and in severe financial distress will put off filing as long as possible.

In an effort to account for the role of medical costs in bankruptcy filing rates, the model includes the share of the county population without health insurance coverage. It also includes the share of the population aged 21-64 that is disabled. As expected, bankruptcy filing rates were found to be higher the greater the share of the population without health insurance and the larger the share that is disabled. Specifically, a one-percentage-point rise in the share of the population without health insurance is associated with 0.9 more bankruptcies per 10,000 households. These shares ranged from 7.4 percent to 24.2 percent in 2000. A one-percentage-point rise in the share of the age 21-64 population that is disabled, which ranged from 5.7 percent to 45.6 percent in 2000, is associated with 1.5 additional bankruptcies per 10,000 households.

The model results also suggest that share of the population receiving public assistance is positively correlated with filing rates. This result is surprising in that public support in times of financial crisis would

presumably forestall bankruptcy filings. On the other hand, controls for income, employment rates, and other economic factors are included in the model, and the receipt of public assistance for some people (but certainly not all) may reflect poor financial decision making and little capacity for climbing out of financial messes. Moreover, a large proportion of the population receiving public assistance may indicate an underlying economic crisis in the county that may not be picked up by other variables.

Entrepreneurship and self-employment

If entrepreneurs have higher bankruptcy filing rates than wage and salary workers due to business failures, then higher self-employment rates should be associated with higher bankruptcy filing rates. The model includes the share of total employment made up of self-employed people. Net firm births, which are total firm births less total firm deaths per 10,000 residents, are included in the model as a measure of the environment for entrepreneurship in a local area. A high number of firm births relative to firm deaths suggest the environment is conducive to entrepreneurship and small business and thus should be associated with lower bankruptcy filing rates. Net firm births may also reflect the general business climate.

Both the self-employment rate and net firm births (firm births less firm deaths) are negatively related to bankruptcy filing rates. A one-percentage-point-higher self-employment rate is associated with 4.4 fewer bankruptcy filings per 10,000 households, on average, which conflicts with the expectation that higher self-employment rates would be associated with increased bankruptcy filing rates. Most likely, this result reflects the generally better financial position of self-employed people than wage and salary earners, at least for men.¹⁶ Ten additional net firm births are associated with roughly 2.6 fewer bankruptcy filings per 10,000 households, suggesting, as expected, that greater business success engenders lower bankruptcy filing rates.

Other factors

Empirical analysis requires that the model's determinants be as comprehensive as possible. This article has discussed the results of the model that are the most unique to this study or that represent enhancements of previous work. Several other variables, not discussed but included in the model, are critical determinants of bankruptcy filing rates as well. The most obvious of these are variables that reflect the personal financial situation of the average person in the county, such as total debt relative to income, revolving debt share of total debt, number of credit cards and new accounts, and the punctuality of bill payments. The model's determinants also included demographic factors, such as race and education, and variables representing asset choices like housing and autos. Most of these other factors were found to be significant components of the model.

III. CONCLUSIONS

This article analyzed a variety of potential determinants of bankruptcy filing rates. Homestead exemptions are a substantial determinant, after taking account of potential causality in both directions. Thus, the weak relationship between homestead exemptions and bankruptcy filing rates often found in the existing literature may be more of an estimation issue than a substantive one. Another important policy variable, the share of wages protected from garnishment, is a significant factor as well. The results support the conceptual view that wage garnishment spurs bankruptcy filing. Policymakers face a crucial trade-off in setting homestead exemptions and garnishment laws in that they must balance consumer protections with incentives. Given the sizeable effects of homestead exemptions and wage garnishment rules on bankruptcy filing rates and the importance of homestead and wage protections for making a fresh start, striking the right balance is a challenging and continuing endeavor.

Social factors are also important determinants of county bankruptcy filing rates. The data on religious adherence included in this study are probably the closest proxy to stigma that has been used in bankruptcy studies. Further, results from measures of the localization of

bankruptcy filing rates bring new evidence to bear on the stigma issue, as well as on related spatial issues. Including the entire age distribution in the analysis, rather than simply median age, yields more informative results on the role of age in determining bankruptcy filing rates.

Proximity to gambling establishments is associated with higher bankruptcy filing rates. The analysis used a different measure of proximity and provided comprehensive data to help shed light on a still-unresolved issue.

The share of the population that is divorced is also a significant determinant of bankruptcy filing rates. And, as expected, county filing rates tend to rise with rising shares of the population that lack health insurance, are disabled, and receive public assistance.

The new bankruptcy law passed in 2005 will likely have some effect on filing rates by curbing abuses and forcing more petitioners into a reorganization plan that requires them to pay part of their debts. This analysis suggests that exemption and garnishment laws should be evaluated to ensure that consumers are offered some protection and a fresh start without being given too much incentive to engage in risky financial behavior that may lead to bankruptcy.

APPENDIX

This appendix provides details of the model used in the analysis. It also provides results from additional control variables used in the model.

The Model

The two-stage model begins with a least squares estimation of homestead exemptions in the 50 states and the District of Columbia:

$$(1) \bar{E} = \mathbf{W}\bar{\beta} + \bar{u}$$

where $E(\bar{u}\bar{u}') = \sigma^2 I$. The dependent variable is the level of the homestead exemption in 2000, in dollars (E). Virtually all of the independent variables included in the model (\mathbf{W}) were statistically significant at the 90 percent confidence level or better (Table A-1). Poorer states, as measured by median household income, the poverty rate, and the share of households receiving some form of public assistance, tend to have lower homestead exemptions. States with populations that are older and states with larger families and greater shares of males and minorities tend to have more generous exemptions. Surprisingly, both higher owner occupancy rates and home values tend to lower exemption levels. The political tendencies of the state do not seem to have a significant effect on the levels of homestead exemptions. These variables in total explained about 21 percent of the total variation in homestead exemption levels across states.

In the second stage, for each county, the homestead exemption variable is equal to the predicted value of the homestead exemption in the state in which it resides (\hat{E}) divided by the actual median home value in the county (H), yielding an estimating equation given by:

$$(2) \bar{b} = \alpha(\hat{E}/\bar{H}) + \mathbf{X}\bar{\delta} + \bar{\varepsilon} = \mathbf{Z}\bar{\theta} + \bar{\varepsilon},$$

where \bar{b} is the vector of bankruptcy filing rates and \mathbf{X} represents the matrix of other explanatory variables.

Because a generated regressor is used in the second stage, t-statistics are calculated using bootstrapped standard errors, following Efron (1979) and as described in Greene (1993). A sample of $B = 100$ bootstrap estimates

Table A-1
RESULTS

Variable/Model†	R-IV	SAR-IV	Variable/Model†	R-IV	SAR-IV
Intercept	-194.2* (-1.892)	-173.3* (-1.760)	<i>Social</i>		
<i>Education (%)</i>			15K – 25K	1.944*** (3.502)	2.181*** (4.283)
< High School	0.031 (0.124)	-0.311 (-1.232)	25K – 35K	2.926*** (4.561)	2.354*** (4.027)
Some College / Associate Deg	-0.507** (-2.212)	-0.182 (-0.808)	35K – 50K	1.872*** (3.240)	1.327** (2.318)
Bachelor's or Higher	-0.003 (-1.225)	-0.005* (-1.691)	<i>Income (%)</i>		
<i>Age distribution (%)</i>			50K – 75K	3.144*** (6.962)	2.192*** (4.070)
< 15	0.947 (0.968)	1.144 (1.049)	>5K – 100K	2.319*** (3.095)	0.996 (1.227)
15 – 19	0.377 (0.332)	0.103 (0.105)	>100K	1.582*** (2.629)	0.135 (0.204)
20 – 24	1.720 (1.331)	0.547 (0.388)	Households w/ Public Asst.	1.671** (2.495)	0.785 (1.330)
35 – 44	-2.124 (-1.374)	-0.682 (-0.450)	Disabled Pop. 21-64	1.621*** (4.702)	1.460*** (4.340)
45 – 54	-0.196 (-0.177)	0.472 (0.423)	No Health Insurance	0.986** (2.345)	0.906*** (3.318)
55 – 59	-4.551* (-1.738)	-4.685** (-2.069)	<i>Marital status</i>		
60 – 64	-3.842 (-1.366)	-4.038* (-1.773)	Married	1.847*** (5.044)	0.902*** (2.692)
65 – 74	-1.332 (-0.872)	-0.248 (-0.162)	Divorced	7.824*** (11.063)	5.201*** (7.599)
75 – 84	3.970* (1.764)	3.768* (1.836)	Separated	-7.457*** (-5.369)	-5.418*** (-3.517)
> 84	0.235 (0.093)	-0.410 (-0.153)	Widowed	3.464*** (3.744)	1.078 (1.084)
<i>Race</i>			<i>Housing</i>		
Black	1.152*** (9.624)	0.871*** (6.987)	Median House Value (\$)	-0.00020*** (-3.935)	-0.00022*** (-5.760)
American Indian	-0.733*** (-4.526)	-0.584*** (-4.290)	Median Costs, Owner-Housing	0.034** (2.424)	0.055*** (4.324)
Asian	0.202 (0.358)	-0.282 (-0.447)	Median Rent	0.004 (0.187)	0.029 (1.401)
Hawaiian/ Pacific Islander	7.307* (1.810)	5.400 (1.542)	Owner-Occup. Rate	-0.839*** (-3.516)	-0.389** (-2.042)
Other Race	-0.480* (-1.818)	-0.068 (-0.275)	Owner-Occup. Vacancy Rate	1.021 (1.374)	1.133* (1.660)
2 or More Races	0.430 (0.384)	0.268 (0.269)	Owner-Occup. w/ Mortgage	1.021*** (5.846)	0.859*** (5.714)
			Mortgage Debt Share of Total	-0.003 (-0.219)	-0.013 (-0.912)

† R-IV represents instrumental variables estimation with regional dummy variables; SAR-IV represents instrumental variables estimation of a spatial autoregressive model

***, **, * indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively

Table A-1
(CONTINUED)

<u>Variable/Model†</u>	<u>R-IV</u>	<u>SAR-IV</u>	<u>Variable/Model†</u>	<u>R-IV</u>	<u>SAR-IV</u>
<i>Vehicles</i>			<i>State law</i>		
None	0.526 (1.387)	- 0.098 (- 0.242)	Homestead Exemption	0.939** (2.244)	0.253 (0.685)
Two	0.057 (0.127)	- 0.248 (- 0.553)	Unlimited Homestead Exemption	- 2.354 (- 0.729)	- 4.706 (- 1.610)
More than Two	1.446*** (4.971)	0.402 (1.458)	Not Subject Wage Garnishment	- 1.038*** (- 12.200)	- 0.704*** (- 9.554)
Auto Debt Share of Total	1.016*** (3.834)	0.828*** (3.351)	<i>Regional dummies</i>		
<i>Economy</i>			Mid Atlantic	25.617*** (5.219)	
Employment Rate	- 0.825*** (- 3.406)	- 0.722*** (- 2.972)	Great Lakes	6.499 (1.328)	
Self-Employ Rate	- 4.402*** (- 4.261)	- 1.681** (- 2.448)	Plains	0.208 (0.044)	
Net Firm Births	- 0.257** (- 2.540)	- 0.322*** (- 2.911)	Southeast	17.28*** (4.017)	
<i>Debt management</i>			Southwest	6.918 (1.297)	
Total Debt to Income	0.157** (2.065)	0.062 (0.787)	Rocky Mountain	12.24** (2.140)	
Revolving Debt Share of Total	- 0.593** (- 2.249)	- 0.398 (- 1.503)	West/Pacific	4.119 (1.096)	
Number of Bankcards	- 4.655 (- 0.832)	1.697 (0.350)	ρ		0.528*** (18.92)
Number of New Accounts	- 82.25 (- 0.487)	- 139.88 (- 0.889)	Adj. R ²	0.5244	0.5137
Past Due Credit Bills Index	1.590*** (6.991)	1.272*** (5.531)			
<i>Gambling</i>					
Min Distance to a Casino	- 0.043*** (- 5.777)	- 0.017*** (- 2.703)			
Lottery	- 2.814 (- 1.195)	- 11.821*** (- 5.904)			
Card Rooms	10.78*** (2.616)	4.885 (1.347)			
Race Tracks	- 13.67*** (- 4.835)	- 3.554 (- 1.585)			

† R-IV represents instrumental variables estimation with regional dummy variables; SAR-IV represents instrumental variables estimation of a spatial autoregressive model

***, **, * indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively

$\tilde{\theta}_1, \tilde{\theta}_2, \dots, \tilde{\theta}_B$, are obtained by sampling n observations from \mathbf{Z} , with replacement, and reestimating the model B times. The estimated asymptotic covariance is then

$$(3) \frac{1}{B} \sum_{b=1}^B [\tilde{\hat{\epsilon}}_b - \hat{\epsilon}] [\tilde{\hat{\epsilon}}_b - \hat{\epsilon}]'$$

Spatial autoregressive model

Model (2) is relevant for the case where (BEA) regional dummy variables are employed. When a spatial autoregression is employed, the regional dummy variables are dropped and estimation proceeds as follows.

Let \mathbf{D} be an $N \times N$ matrix where

$$(4) D(i,j) = 1,000,000 / d_{i,j}^2,$$

$D(i,j)$ is the row i column j element of \mathbf{D} , N is the total number of counties, and $d_{i,j}$ is the arc distance between the geographic centroid of county i and the geographic centroid of county j . Letting ρ be a scalar, the spatial autoregressive model is given by

$$(5) \bar{b} = \mathbf{Z}\bar{\theta} + \rho\mathbf{D}\bar{b} + \bar{\epsilon}.$$

(5) is solved for θ and ρ by the method of maximum likelihood. Bootstrapping is again used to compute standard errors according to (3).

The parameter ρ is a measure of the degree that the bankruptcy filing rate in any county i depends on the bankruptcy filing rates of all other counties, where the strength of the relationship between filing rates in any two counties declines quadratically with the distance between them. The spatial autoregressive term estimated in this study is positive (0.528) and statistically significant at the 99 percent confidence level, which is indicative of stigma effects: A given county's bankruptcy filing rate is higher the higher is its neighbors' bankruptcy filing rates.

Control variables

Numerous control variables were included in the model that are not discussed in the main text. These are predominantly variables that have been analyzed in detail in previous studies. Detailed results for all variables are provided in Table A-2. The first column of results is for the model with regional dummy variables, which is an instrumental variables model estimated using least squares. The second column of results

Table A-2
SELECTED RESULTS

	...is associated with	<u>Bankruptcies per 10,000 households</u>
A 100 percent exemption of the median-priced homestead, relative to a 50 percent exemption		47.0 additional
A one-percentage-point-higher share of median household income protected from garnishment		1.0 fewer
A one-percentage-point-higher share of the population that is aged 55-59		4.6 fewer
A one-percentage-point-higher share of the population that is aged 60-64		3.8 fewer
A one-percentage-point-higher share of the population that is aged 75-84		4.0 additional
A 100-mile-shorter distance to the nearest casino		4.3 additional
The legality of card rooms in the state		10.8 additional
The legality of race track betting in the state		13.7 fewer
A one-percentage-point-higher share of the population that is married (relative to never married)		1.8 additional
A one-percentage-point-higher share of the population that is divorced (relative to never married)		7.8 additional
A one-percentage-point-higher share of the population that is separated (relative to never married)		7.5 fewer
A one-percentage-point-higher share of the population that is widowed (relative to never married)		3.5 additional
A one-percentage-point-higher share of the population aged 21-64 that is disabled		1.6 additional
A one-percentage-point-higher share of the population receiving public assistance		1.7 additional
A one-percentage-point-higher share of the population that is self-employed		4.4 fewer
One additional net firm birth per 10,000 population		0.3 fewer

is for the spatial autoregressive model, which also is an instrumental variables model and is estimated using maximum likelihood. In both cases, bootstrapped standard errors are presented.

Economic factors. The employment rate is negatively related to bankruptcy filing rates, as expected. A one-percentage-point difference in the employment rate is associated with about 0.8 less bankruptcy

filings per 10,000 households, a change of less than 1 percent for the average county. Although this effect seems small on the surface, employment rates across counties varied from 23.8 percent to 84.6 percent in 2000. The mean employment rate was 57.4 percent and the standard deviation was 7.5 percent, which mean that a county one standard deviation up from the mean would incur roughly six fewer bankruptcies than the county with the mean employment rate.

Previous studies have generally included the level of income in individual studies or the level of median or average income in aggregate studies, with a quadratic term in some cases. The results have been mixed. The models estimated here include the entire distribution of income, and the results suggest that bankruptcy filing rates likely rise with income initially (from very low income), drop slightly in the middle income range, then spike at the \$50,000-\$75,000 range before declining steadily with higher levels of income. Very low bankruptcy filing rates would be expected in the lowest income ranges because there is little access to credit, and therefore less borrowing. At higher income levels, bankruptcy filing rates increase with much better access to credit but relatively moderate incomes. At some point, in the \$50,000-\$75,000 range in this model, bankruptcy filing rates begin to decline with a reduced need to borrow relative to income.

Of course, these results reflect proportions of the population that are in the various income ranges. The assumption is that these proportions mirror closely the distribution of filers. In fact, Rodríguez and others (2002), in a study using the 1998 Survey of Consumer Finances, show that the income quintile with the highest bankruptcy filing rate is the third quintile, which in 2000 included households with income in the range of \$33,006-\$52,272, which is consistent with this view.¹⁷ Nevertheless, county income distributions may reflect other phenomena besides the income distribution of bankruptcy filings. For example, low-income people may be more likely to file for bankruptcy if they live in a high-income area than in a low-income area if there is pressure to “keep up with the Joneses.”

Credit and Debt. Results suggest that debt loads are an important factor in explaining bankruptcy filing rates. But measures of access to credit, such as the number of new accounts and credit cards per capita, are not statistically significant explanatory factors. Total debt to income

is positively related to bankruptcy filing rates, but the magnitude is quite small at less than 0.2 filings per 10,000 households for every additional point in the debt-to-income ratio. The coefficient on the past-due index is positive and fairly substantial. A one-unit-higher past-due index, which ranges from 0.7 to 48.9, is associated with 1.6 additional bankruptcies per 10,000 households.

Homes and Autos. Significant spending on autos is associated with higher bankruptcy filing rates. A one-percentage-point-higher share of the population with more than two vehicles is associated with 1.4 additional bankruptcies per 10,000 households, while greater ratios of auto debt to total debt are related to higher bankruptcy filing rates in roughly a one-to-one fashion.

As in existing literature, estimates show that higher rates of home ownership generate lower bankruptcy filing rates. Specifically, a county with a one-percentage-point-higher owner-occupancy rate has, on average, 0.8 less bankruptcies per 10,000 households. However, owner-occupancy rates across counties are highly concentrated around the mean of 74 percent. Also supporting the literature is that the results suggest that home equity is associated with lower bankruptcy filing rates. Specifically, median house value has a statistically significant positive coefficient, while the share of owner-occupied homes with mortgages, controlling for the owner-occupancy rate, is positively correlated with bankruptcy filing rates. The vacancy rate of owner-occupied dwellings does not appear to affect bankruptcy filing rates. Higher costs of home ownership are associated with higher bankruptcy rates, but median rent does not seem to affect bankruptcy filing rates.

Demographics. In terms of race, relative to the share of the population that is caucasian, African-American and Hawaiian/Pacific Islander shares of the population are positively correlated with bankruptcy filing rates, while proportions that are American Indian, Asian, or "other race" are negatively correlated with bankruptcy filing rates. The results on the African-American share of the population are consistent with existing literature, which has little to say about other races.

ENDNOTES

¹In the case of a mortgage foreclosure, proceeds from the sale of the house would be allocated (until exhausted) first to the transactions costs associated with the foreclosure, then to the first mortgage, then to the second mortgage. Of any remainder, only the amount in excess of the homestead exemption would be used to pay unsecured debt.

²See, for example, Brinig and Buckley (1996) and Elul and Subramanian (2002).

³Cited in Julie Kosterlitz, 1997 (May 3), "Over the Edge," *National Journal*, 29(18), 871.

⁴See, for example, Domowitz and Eovaldi (1993) and Flynn and Bermant (2003).

⁵In one of the first formal studies to look at the relationship between bankruptcy and gambling, Tahira Hira found that average annual net income is about a third lower for gamblers than for nongamblers and that the average total debt of gamblers is about 19 percent higher than the average total debt of nongamblers.

⁶Christiansen Capital Advisors, LLC, "The Gross Annual Wager of the United States 2003."

⁷Author's estimate.

⁸The use of the terms "problem gambling" and "pathological gambling" reflect specifically the criteria set by the American Psychiatric Association. For criteria, see http://www.ncpgambling.org/about_problems/about_problem_timeline.asp.

⁹Examples of studies which find that the presence of legalized gambling leads to higher bankruptcy filings include Nichols et al. (2000) and Barron et al. (2002). Studies finding no significant relationship include U.S. Department of the Treasury (1999), de la Viña and Bernstein (2002), and Thalheimer and Ali (2004).

¹⁰See Hoffman and Duncan (1988). Economic status is defined as the ratio of average income to needs.

¹¹See White (1987) and Fay et al. (2002).

¹²Data is available at http://www.uscourts.gov/bnkrpctystats/bankrupt_f2table_dec2004.pdf (accessed August 23, 2005).

¹³In 2000, the year of data used in this study, when capital gains were at an all-time high during the late 1990s stock market boom, those making less than \$100,000 earned 70 to 80 percent of their income from wages and salaries, with the bulk of the remainder coming from IRA distributions and Social Security. Thus, for working-age people in that income class, virtually all income comes in the form of wages and salaries. See Burman and Kobes (2003).

¹⁴Data is from Association of Statisticians of American Religious Bodies (ASARB), *Religious Congregations and Memberships in the United States: 2000*, Nashville, Tennessee, Glenmary Research Center, 2002.

¹⁵The variable used to pick up proximity to casinos is for each county the distance from the geographic center of that county to the geographic center of the closest casino-containing zip code.

¹⁶See Karoly and Zissimopoulos (2004) and Fairlie (2005).

¹⁷Data on limits of income quintiles for 2000 are from the U.S. Census Bureau, Historical Income Tables—Households, Table H-1, accessed November 2, 2005, at <http://www.census.gov/hhes/income/histinc/h01.html>.

REFERENCES

- Barron, John M., Michael E. Staten, and Stephanie M. Wilshusen. 2002. "The Impact of Casino Gambling on Personal Bankruptcy Filing Rates," *Contemporary Economic Policy*, vol. 20, no. 4, pp. 440-55.
- Brinig, Margaret F., and F. H. Buckley. 1996. "The Market for Deadbeats," *Journal of Legal Studies*, vol. 25, no. 1, pp. 201-32.
- Burman, Leonard E., and Deborah I. Kobes. 2003. "Composition of Income Reported on Tax Returns," *Tax Analysts' Tax Notes*, November 10. Accessed at www.taxpolicycenter.org/UploadedPDF/1000639,TaxFacts_111003.pdf; November.
- de la Viña, Lynda, and David Bernstein. 2002. "The Impact of Gambling on Personal Bankruptcy Rates," *Journal of Socio-Economics*, vol. 31, no. 5, pp. 503-09.
- Domowitz, Ian, and Thomas L. Eovaldi. 1993. "The Impact of the Bankruptcy Reform Act of 1978 on Consumer Bankruptcy," *Journal of Law and Economics*, vol. 36, no. 2, pp. 803-35.
- Domowitz, Ian, and Robert L. Sartin. 1999. "Determinants of the Consumer Bankruptcy Decision," *Journal of Finance*, vol. 54, no. 1, pp. 403-20.
- Efron, Bradley. 1979. "Bootstrap Methods: Another Look at the Jackknife," *Annals of Statistics*, vol. 7, no. 1, pp. 1-26.
- Elul, Ronel, and Narayanan Subramanian. 2002. "Forum-Shopping and Personal Bankruptcy," *Journal of Financial Services Research*, vol. 21, no. 3, pp. 233-55.
- Fairlie, Robert W. 2005. "Self-employment, Entrepreneurship, and the NLSY79," *Monthly Labor Review*, vol. 128, no. 2, pp. 40-47.
- Fay, Scott, Erik Hurst, and Michelle J. White. 2002. "The Household Bankruptcy Decision," *American Economic Review*, vol. 92, no. 3, pp. 706-18.
- Flynn, Ed, and Gordon Bermant. 2003. "Chapter 7 Debtors—From 19 to 92," *ABI Journal*, December/January.
- Himmelstein, David U., Elizabeth Warren, Deborah Thorne, and Steffie Woolhandler. 2005. "Illness and Injury as Contributors to Bankruptcy," *Health Affairs*, Web Exclusive, February 2. Accessed September 30, 2005 at <http://content.healthaffairs.org/cgi/content/full/hlthaff.w5.63/DCI>.
- Hira, Tahira K. 1998. "Bankruptcy and Gambling in Iowa: Is There a Connection?" Paper presented at Annual Conference for the National Coalition Against Gambling Expansion, St. Louis, Mo.
- Hoffman, Saul D., and Greg J. Duncan. 1988. "What Are the Economic Consequences of Divorce?" *Demography*, vol. 25, no. 4, pp. 641-45.
- Karoly, Lynn A., and Julie Zissimopoulos. 2004. "Self-Employment and the 50+ Population," Public Policy Institute, AARP, March, accessed February 9, 2006, at www.aarp.org/research/work/employment/aresearch-import-844-2004-03.html.
- Lawless, Robert M., and Elizabeth Warren. 2005. "The Myth of the Disappearing Business Bankruptcy," *California Law Review*, vol. 93, no. 5, p. 743.
- National Opinion Research Center. 1999. "Gambling Impact and Behavior Study: Report to the National Gambling Impact Study Commission," April.
- Nichols, Mark W., B. Grant Stitt, and David Giacompassi. 2000. "Casino Gambling and Bankruptcy in New United States Casino Jurisdictions," *Journal of Socio-Economics*, vol. 29, no. 3, pp. 247-61.

- Thalheimer, Richard, and Mukhtar M. Ali. 2004. "The Relationship of Pari-mutuel Wagering and Casino Gaming to Personal Bankruptcy," *Contemporary Economic Policy*, vol. 22. no. 3, pp. 420-32.
- U.S. Department of the Treasury. 1999. "A Study of the Interaction of Gambling and Bankruptcy," Washington, D.C., July.
- Visa USA, Inc. 1996. "Consumer Bankruptcy: Causes and Implications," Visa Consumer Bankruptcy Reports, July.
- Warren, Elizabeth, Teresa Sullivan, and Melissa Jacoby. 2000. "Medical Problems and Bankruptcy Filings," *Working Paper No. 008*, Public Law and Legal Theory Working Paper Series, Harvard Law School, April.
- White, Michell J. 1987. "Personal Bankruptcy Under the 1978 Bankruptcy Code: An Economic Analysis," *Indiana Law Journal*, vol. 63. no. 1, pp. 1-53.