The Bankruptcy Puzzle

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THE BANKRUPTCY PUZZLE

F. H. BUCKLEY and MARGARET F. BRINIG*

ABSTRACT

This article offers new evidence on the determinants of U.S. consumer bankruptcy filing rates, which tripled from 1984 to 1991. The run-up in filing rates does not appear to be a consequence of legal changes since the increase coincided with Bankruptcy Code amendments designed to reduce filing rates by rejecting opportunistic petitions. The run-up also coincided with a major economic boom and crested with the 1991 recession. However, much of the variation in district filing rates is attributable to differences in social variables, and we suggest that changes in social norms might account for the increased bankruptcy filings. This article is therefore a contribution to social capital explanations of behavior.

I. INTRODUCTION

ONE of the greatest puzzles in American bankruptcy law is how to account for the run-up in consumer filings from 1985 to 1991, when personal filing rates tripled. One might expect to see an increase in filings during an economic downturn, such as the Great Depression. However, the run-up that began in 1985 coincided with the Reagan economic recovery and crested with the 1991 recession. We would also expect increased filings on a shift to a more prodebtor regime. But the major legal change during the period was the 1984 Bankruptcy Code revisions which strengthened barriers to debtor opportunism under Chapters 7 and 13.1 One would therefore have predicted a decline in filing rates, rather than the greatest increase since World War II.

Our study presents new evidence on the determinants of consumer bankruptcy during this period. We regressed consumer bankruptcy filing rates on legal, economic, and social variables for 86 federal judicial districts from

* Buckley and Brinig are professors at the George Mason University School of Law. We gratefully acknowledge the support of the Law and Economics Center of George Mason University School of Law and the helpful comments of Eric Posner, Eric Rasmusen, David Skeel, Elizabeth Warren, anonymous referees of this journal, and participants at the American Law and Economics Association annual meeting in Chicago, May 1996.


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1980 to 1991. Legal variables were unable to account for the run-up in consumer filings, and economic variables were scarcely more successful. However, social predictors, measuring differences in social norms and institutions, were a powerful predictor of consumer filing rates, and we suggest that the explosion in bankruptcy filings is in substantial part attributable to a shift in social norms.

Section II describes the run-up in personal filings during the 1980s. Section III reviews the determinants of bankruptcy, and Section IV describes our model of the bankruptcy decision. Last, Section V presents our results. Our principal finding is that differential social norms appear to explain much of the variation in consumer filings over time and between districts.

II. THE BANKRUPTCY EXPLOSION

As may be seen in Figure 1, bankruptcy rates remained relatively stable during the 15 years that preceded the adoption of the new Bankruptcy Code in 1979. Each year, about one adult in a thousand filed a nonbusiness bank-

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Bankruptcy petition under Chapters 7, 11, or 13. The filing rate increased to 1.26 per 1,000 adults in 1980 and to 1.37 in 1981, and for the next few years it remained stable at the higher rate. However, the rate soon exploded, from 1.20 in 1984 to 3.52 per 1,000 adults in 1992. At current levels, 1 percent of American adults files for personal bankruptcy every 3 years. What was formerly a rarity is now almost commonplace.³

The increase in filing rates defies easy analysis. It coincided with the Reagan recovery and eased off during the subsequent economic downturn. Filing rates were also higher in high-growth areas in the South and West. In addition, the increase in filing rates followed a reduction in the tax subsidy for personal leverage. The 1986 amendments to the Income Tax Code phased out the deduction for interest payments on loans made to purchase consumer goods and reduced the value of the home mortgage interest deduction by lowering marginal tax rates.

The run-up in filing rates also followed legal changes designed to reduce consumer filings. Bankruptcy Code Chapter 7 was amended in late 1984 to curb excessive filings by permitting a court to reject opportunistic petitions. Under new § 707(b), courts could dismiss a case where the debtor's discharge would constitute "a substantial abuse." While that term was left undefined, the new provision was motivated by a concern for debtor opportunism.

Consumers are given the choice of filing under either Chapter 7 or 13. In Chapter 7, debtors give up existing nonexempt assets but shelter future earnings; in Chapter 13 they preserve their assets but sacrifice some of their future earnings. Younger debtors, with papier-mache furniture but great expectations, have thus an incentive to discharge debts under Chapter 7 which they might without undue difficulty repay out of future earnings. Such misincentives had existed before 1980, but the increase in consumer filings that began in that year led some commentators to conclude that the bankruptcy regime was tilted too much toward debtors. Several contemporary empirical studies reported that the vast majority of consumer bankruptcies did not provide for any payout to creditors and that many consumer petitioners could have repaid their debts in a Chapter 13 plan.⁴

³ The run-up in personal filings occurred under both Chapters 7 and 13. Chapter 7 filings increased from 230,404 in 1981 to 573,150 in 1991, while Chapter 13 filings increased from 81,913 to 235,103 over the same period. Personal Chapter 11 filings numbered only 597 in 1981 and 2,953 in 1991.

⁴ A study of 1979–82 personal bankruptcy filings reported that unsecured creditors received nothing 97 percent of the time and on average received only 0.11 percent of their claims. See Michelle J. White, Personal Bankruptcy under the 1978 Bankruptcy Code: An Economic Analysis, 63 Ind L J 1, 38–39 (1987). See also Consumer Bankruptcy Study (Monographs Nos 23 & 24, Purdue University, Krannert School of Management, Credit Re-
These findings have been challenged by Teresa Sullivan, Elizabeth Westbrook, and Jay Warren, who argue that debtor misbehavior concerns are minimal in the United States. However, the Sullivan, Westbrook, and Warren findings stop well short of demonstrating that American debtors are never opportunistic. One-quarter of the wage-earning debtors had a debt/income ratio of 70 percent or less, and a nonmortgage debt/income ratio of 40 percent or less, suggesting that many of them could have repaid a substantial amount of their debt under a Chapter 13 plan. Moreover, asset value was significantly and positively associated with a Chapter 13 rather than a Chapter 7 filing in a regression equation. In addition, the Sullivan, Westbrook, and Warren findings might understate the debtor opportunism problem since Chapter 7 debtors have an incentive to file for bankruptcy before an earnings increase. For example, a recent graduate from a professional school might truthfully report low earnings when significant pay raises are expected within a few years. By adopting an ex post perspective, the Sullivan, Westbrook, and Warren study also ignores moral hazard concerns. From an ex ante perspective, a shift in good-faith norms will lead debtors to alter their investment strategies, and this will affect filing rates. Investments that were rejected as too risky will be taken up on a shift to laxer good-faith norms since the debtors will have less to fear from default. They will also borrow more heavily. When their financial gambles produce a blank, they will truly be strapped for money. Because their strategic behavior will be unobservable ex post, they will escape close good-faith scrutiny and will resemble the ordinary Americans the Sullivan, Westbrook, and Warren study claims they are. But from an ex ante perspective, the incentive effects of a shift to laxer good-faith norms will have resulted in increased filing levels.

While § 707(b) is vague, most courts came to adopt rigorous good-faith standards to police debtor opportunism. The Chapter 7 discharge was denied when the debtor could repay a substantial amount of his debts in 3–5 years under a Chapter 13 plan. Only a minority of courts adopted

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6 Id at 206. Mortgage debt refers primarily to home mortgage debt. One of us has a debt/income ratio considerably in excess of 100 percent and considers this a rational response to home mortgage interest deductibility under the Income Tax Code. Buckley (cited in note 12).

7 Id at 253.

8 See, for example, In re Kelly, 841 F2d 908 (9th Cir 1988); In re Walton, 86 F2d 981 (8th Cir 1989).
a laxer "totality of the circumstances" standard, where the ability to fund a Chapter 13 plan was not a sufficient condition for the denial of a discharge.9

Creditors usually receive more under a Chapter 13 plan than a Chapter 7 liquidation since the Chapter 13 plan consigns a portion of future earnings to the bankruptcy estate. Nevertheless, Chapter 13 filings might also be opportunistic. First, the Chapter 7 debtor is barred from a fresh Chapter 7 petition for 6 years, but there is no such restriction for Chapter 13 debtors. Thus a debtor might combine Chapter 7 and 13 petitions for a "Chapter 20" filing, or two Chapter 13 petitions for a "Chapter 26 filing." Even "Chapter 52" filings are not unknown.10 Second, the Chapter 13 discharge is not subject to all of Chapter 7's exceptions. For example, educational loans are not discharged under § 523(a)(8) but are dischargeable under § 1328(a). Third, a Chapter 13 debtor is permitted to cure defaults to secured lenders and to modify secured loans (apart from those secured by the debtor's home).11

The concern for debtor opportunism in Chapter 13 led to a stiffening of good-faith standards in 1984. Under § 109(g), added that year, a debtor cannot petition under Chapter 13 if his case had been dismissed within the past 6 months for willful failure to abide by orders of the court. As well, new § 1325(b) provides that a creditor may require the debtor to consign all of his projected disposable income to his creditors for a 3-year period. The debtor's ability to convert his petition from Chapter 13 to Chapter 7 constrains the creditor's threat advantage under § 1325(b). However, the debtor's strategic advantages under Chapter 7 were themselves reduced by § 707(b) in 1984.

In sum, the penalties for debtor opportunism were stiffened in 1984. The post-1984 explosion in filings therefore remains a mystery, which we attempt to fathom in the econometric study described in the following sections.

III. THE DETERMINANTS OF BANKRUPTCY

This article seeks to account for the puzzle of the bankruptcy run-up through a regression estimation of filing rates during the 1980s. We explain filing rates as a function of three types of variables, through the reduced-form regression equation

\[ y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e, \]

9 In re Green, 934 F2d 568, 572 (4th Cir 1991).
10 Re Barker, 129 BR 287 (Bankr MD Fla 1991).
11 Bankruptcy Code, § 1322(b).
where
\[ y = \text{the district bankruptcy filing rate per adult}; \]
\[ X_1 = \text{a vector of legal variables}; \]
\[ X_2 = \text{a vector of economic variables}; \]
\[ X_3 = \text{a vector of social and demographic variables}; \]
\[ e = \text{an error term}. \]

We would expect the bankruptcy filing rate to depend in part on the legal regime, which determines when opportunistic debtors are denied a discharge, as well which assets are exempt from seizure by the bankruptcy trustee. We would also expect the filing rate to be correlated with general economic conditions, rising during depressions and falling during boom years. In addition, the strength of social norms of promise-keeping might affect the extent to which debtors will seek a discharge from their contracts, while regional differences in risk aversion might explain differences in the willingness of debtors to hazard a liquidity crisis.

A. The Legal Regime

We assume that rational debtors react to the costs that the legal regime imposes on them. In a lax legal regime, opportunistic debtors will petition even though they can repay their creditors; in a more rigorous regime, debtors will forgo the bankruptcy option unless their backs are to the wall. This in part explains why filing rates are higher in the United States than in Canada, where legal barriers to debtor opportunism are more exacting and where fresh-start policies are weaker.\(^2\) Differences in the way in which good-faith norms are interpreted might also assist in explaining regional filing patterns within the United States. In addition, there are sharp state law differences in the value of the assets that debtors are permitted to exempt from a bankruptcy trustee under Chapter 7.\(^3\)

B. Economic Factors

We would expect proxies for economic growth to be negatively correlated with high filing rates. To be sure, filing rates will depend more on unexpected volatility than on absolute values. A perfectly stable society,


\(^3\) Bankruptcy Code, § 522(b), permits states to opt out of the federal list of exempt assets, and about two-thirds of the states have done so. Some states, such as Florida, have no ceiling on the amount of assets the debtor can shelter in his homestead from his trustee. Other states restrict the homestead exemption and feature a relatively modest list of exempt assets. Not surprisingly, some wealthy debtors have moved from low-exemption states and purchased a house in Florida before they filed for bankruptcy. Denise M. Topolnicki and Elizabeth M. Macdonald, *The Bankruptcy Bonanza! Money* (August 1993), at 85.
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without economic fluctuations, will feature a low filing rate. The feudal debtor, with few opportunities for advancement, did not borrow heavily and seldom faced a liquidity crisis. Only in more prosperous economies will debtors lever up, take risks, and encounter the reversals that propel them into bankruptcy. High filing rates might even coexist with prosperity, as where old industries die off and new ones are born during a period of Shumpeterian restructuring.\textsuperscript{14}

However, this would not seem to explain the spectacular run-up in bankruptcy filings during the second half of the 1980s since the economy was as volatile in the first half of the decade. In addition, Shumpeterian theories do not predict that proxies for economic growth will be positively correlated with high filing rates in a regional study. Even in a period of restructuring, some regional economies will expand while others will contract. The 1980s were a decade in which economic growth was concentrated in southern and western states, while the economies of many northern and midwestern states contracted. Over the period, therefore, we would anticipate that proxies for economic decline in rustbelt states would be positively correlated and that proxies for economic growth in sunbelt states would be negatively correlated with bankruptcy filing rates.

C. Social Capital Theories

In the past, social scientists looked for an explanation for social pathologies in economic root causes. Today, America is wealthier than ever before, but its social problems appear more pressing. As a consequence, the focus of attention in social science research has begun to shift to social root causes and to social capital.

Social capital may be defined as the network benefits of individual human capital.\textsuperscript{15} For individuals, human capital refers to intrinsic skills and the habits of industry and cooperation that increase expected lifetime earnings. Like human capital theories, social capital theories posit that wealth depends importantly on nonmaterial factors. However, human capital is personal to the individual and can be taken with him if he emigrates, while social capital consists in the external benefits of membership in a society of high human capital individuals. On human capital theories, a person’s propensity to file for bankruptcy might depend on his religious sentiments; on social capital theories, the religious sentiments of his neighbors might

\textsuperscript{14} Joseph A. Shumpeter, \textit{The Theory of Economic Development} 131 (1934).

\textsuperscript{15} James S. Coleman, \textit{Foundations of Social Theory} (1990); Gary S. Becker, \textit{Accounting for Tastes} (1996).
also affect the likelihood that he will file for bankruptcy, even if he is an atheist.

On social capital theories, the increase in filing rates might be attributed to a decline in social sanctions for promise-breaking and the loss of a sense of shame one feels when such values are internalized. In the nineteenth century, the stigma of bankruptcy was so strong that some debtors, like Sir Walter Scott and Mark Twain, worked for years to repay debts that had legally been discharged. Even 15 years ago, those who complained of debtor opportunism were not accused of blaming the victim. More recently, however, bankruptcy would appear to have lost much of its stigma. The change in attitudes is likely a consequence as well as a cause of the increase in filing rates since a social sanction is harder to maintain when a pathology metastasizes.

A change in social attitudes might result in increased filing rates for other, more benign, reasons. Filing rates will be low if individuals are unwilling to assume the risk of default. The run-up in filing rates might therefore signal a shift to a more entrepreneurial, risk-taking society rather than to a more pathological one.

D. The Lag from the Bankruptcy Code

Debtors will react to a liberalization of bankruptcy law in two ways. First, insolvent debtors who might have struggled to repay their debts will file for bankruptcy. Second, solvent debtors will adjust their investment and financing decisions because default is less to be feared. Riskier projects will now be accepted, and more debt will be issued. In both of these ways, bankruptcy filing rates will rise. But while the increase from the first effect is immediate, the increase from the second is not. Before the outcomes of riskier investments are revealed, the debtor might wait years. It is possible, therefore, that the increase in filing rates that began in 1985 in part represented a delayed reaction to the Bankruptcy Code that came into effect in 1979. We therefore employed different lag times in our model, in order to

16 The suggestion that social stigma constrains consumer bankruptcies is consistent with findings that debtors do not extract the maximum economic advantage from Chapter 7's fresh start. Michelle White and Wendy Petropolous, What Proportion of Households Would Benefit Financially from Bankruptcy? (working paper, Univ Michigan, Dept Economics 1996).

17 On how the Code reduced the cost of bankruptcy for consumer debtors, see Ian Domowitz and Thomas L. Eovaldi, The Impact of the Bankruptcy Reform Act of 1978 on Consumer Bankruptcy, 36 J Law & Econ 803 (1993). For studies reporting a significant increase in filing rates after the introduction of the new Code, see W. J. Boyes and R. L. Faith, Some Effects of the Bankruptcy Reform Act of 1978, 29 J Law & Econ 139 (1986); R. L. Peterson and K. Aoki, Bankruptcy Filings before and after Implementation of the Bankruptcy Reform Law, 36 J Econ & Bus 95 (1984); Lawrence Shepard, Personal Failures and the Bankruptcy Reform Act of 1978, 27 J Law & Econ 419 (1984). Domowitz and Eovaldi failed to detect a significant increase in filing rates, but this might be attributable to their use of a personal
test whether filing rates responded to a change in legal variables after a delay of longer periods of time.

**E. Transaction Costs and Credit Card Availability**

Data problems prevented us from testing two further explanations for the run-up in filing rates. On transaction-cost theories, filing rates increased in the 1980s because the cost of legal services to debtors declined. Alternatively, the run-up in consumer filings might be attributed to increased access to consumer credit.\(^{18}\)

Transaction-cost theories plausibly explain part of the increase in filings, though likely not the major part. For some petitioners during the period, the price of legal services fell because of competition from low-cost paralegals. In the Sullivan, Westbrook, and Warren survey, only 4 percent of 1981 debtors were not represented by lawyers.\(^{19}\) By 1991–92, however, paralegals in one California district prepared 14 percent of the consumer filings.\(^{20}\) In addition, the growth in lawyer advertising during the 1980s likely increased the competition for legal services and reduced legal fees for debtors.\(^{21}\)

We are skeptical that increased access to credit explains much of the increase in filing rates. Homeowners had adequate access to credit through the first and second mortgage markets. Of nonhomeowners, some likely had increased access to credit cards during the 1980s, though it is not clear whether this made a great difference in leverage rates. During the period, U.S. credit card debt rose only from 3.8 percent to 4.8 percent as a percent of total personal income.\(^{22}\) However, we had no regional data on credit card availability or credit card debt. We had regional data on total personal leverage levels but chose not to employ a total leverage predictor. Most debtors had the same access to credit throughout the decade. As well, introducing a total leverage predictor would have given rise to vexed multicolinearity concerns. Consumer borrowing levels will depend on the legal and

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\(^{18}\) Sullivan et al, at 133 (cited in note 5).

\(^{19}\) Id at 23.


\(^{22}\) Our data source is the *Statistical Abstract of the United States, 1994* (using 1990 dollars).
social sanctions for default. When the social penalty weakens, for example, debtors will borrow more heavily, having less to fear from default. Leverage ratios would then have increased because the cost of default had declined and not because credit was more easily available.

IV. Our Model

The following reports on a test of the determinants of personal bankruptcy, in which filing levels were regressed on socioeconomic variables over the 12-year period from 1980 to 1991. The equations we used to estimate filing levels were of the form

\[
\ln \text{TOTAL}_t = \beta_1 1985 + \beta_2 \ln \text{EXEM}_{t-1} + \beta_3 \ln \text{UNEM}_{t-1} \\
+ \beta_4 \ln \text{POVERTY}_{t-1} + \beta_5 \ln \text{MIG}_{t-1} \\
+ \beta_6 \ln \text{METRO}_{t-1} + \beta_7 \ln \text{CATH}_{t-1} \\
+ \beta_8 \ln \text{ELDER}_{t-1} + \beta_9 \ln \text{DIV}_{t-1} \\
+ \beta_{10} \text{YEAR} + \beta_{11,\ldots,86} \text{DIST} + e_t, \tag{1}
\]

\[
\ln \text{SEVEN}_t = \beta_1 1985 + \beta_2 \ln \text{EXEM}_{t-1} + \beta_3 \ln \text{UNEM}_{t-1} \\
+ \beta_4 \ln \text{POVERTY}_{t-1} + \beta_5 \ln \text{MIG}_{t-1} \\
+ \beta_6 \ln \text{METRO}_{t-1} + \beta_7 \ln \text{CATH}_{t-1} \\
+ \beta_8 \ln \text{ELDER}_{t-1} + \beta_9 \ln \text{DIV}_{t-1} \\
+ \beta_{10} \text{YEAR} + \beta_{11,\ldots,86} \text{DIST} + e_t, \tag{2}
\]

and

\[
\ln \text{THIRTEEN}_t = \beta_1 1985 + \beta_2 \text{CASE13}_{t-1} + \beta_3 \ln \text{UNEM}_{t-1} \\
+ \beta_4 \ln \text{POVERTY}_{t-1} + \beta_5 \ln \text{MIG}_{t-1} \\
+ \beta_6 \ln \text{METRO}_{t-1} + \beta_7 \ln \text{CATH}_{t-1} \\
+ \beta_8 \ln \text{ELDER}_{t-1} + \beta_9 \ln \text{DIV}_{t-1} \\
+ \beta_{10} \text{YEAR} + \beta_{11,\ldots,86} \text{DIST} + e_t, \tag{3}
\]

where the variables are defined as provided in the Appendix, and where

\begin{align*}
\beta_{1,\ldots,86} & = \text{regression coefficients}; \\
e & = \text{residual}; \\
i & = 1, 2, \ldots, 86 \text{ index for bankruptcy filing districts; and} \\
t & = 1, 2, \ldots, 12 \text{ index for each year from 1980 to 1991}.
\end{align*}

See Table 1.
TABLE 1
Descriptive Statistics

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<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
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<td>1.7457</td>
<td>.13440</td>
<td>15.480</td>
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<tr>
<td>SEVEN</td>
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<td>1.0808</td>
<td>.12151</td>
<td>6.4135</td>
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<tr>
<td>THIRTEEN</td>
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<td>1.0406</td>
<td>.00000</td>
<td>11.380</td>
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<td>EXEM</td>
<td>38,260</td>
<td>36,027</td>
<td>1,310</td>
<td>138,000</td>
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<tr>
<td>POVERTY</td>
<td>14.623</td>
<td>4.2736</td>
<td>2.9000</td>
<td>29.000</td>
</tr>
<tr>
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<td>9.5140</td>
<td>3.8584</td>
<td>4.0951</td>
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<td>20.642</td>
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<td>15.000</td>
</tr>
<tr>
<td>CATH</td>
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<td>DIV</td>
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<td>5.2094</td>
<td>2.3000</td>
<td>9.1000</td>
</tr>
</tbody>
</table>

A. Estimation Technique

We employed a log-log model after determining, through a Box-Cox estimation of the untransformed data, that it was appropriate to do so.\(^2\)

Our study estimates average filings rates at the level of each judicial district through district- and state-level legal and socioeconomic predictors. It is a fallacy to suppose that because the consumer bankruptcy decision is made by an individual, it cannot usefully be studied with aggregate data. Societies also have their own character, and one’s propensity to file a bankruptcy petition may depend on where and when one lives. While a panel study of individual petitioners might incorporate state-level independent variables, the dependent variable would still be the individual bankruptcy decision. In a society-level study, by contrast, societal predictors are employed to estimate a society-level dependent variable, which must be the dependent variable of greatest interest on social capital theories.

Our reliance on time-series, cross-sectional data heightens concerns about idiosyncratic state factors not captured by the other variables. The filing decision across districts may be influenced by a variety of political, social, and economic factors not captured by our model. Because of this, we employed a fixed-effects model, with a separate intercept for each state.\(^2\)

\(^2\) The Box-Cox \(\lambda\) was 0.23 for the first equation. Box-Cox transformations are discussed in George C. Judge, R. Carter Hill, William E. Griffiths, Helmut Lutkepohl, and Tsoung-Chao Lee, *Introduction to the Theory and Practice of Econometrics* 555–56 (Wiley, 2d ed 1987).

\(^2\) On the need to employ a fixed-state effect model for time-series, cross-sectional data, see Gary Becker, *Comments on Danzon, Maki, Murray, and Allen*, 11 J Labor Econ S326 (1993). We performed a Hausman test for omitted variables and were able to reject the null hypothesis that fixed-state and year effects are independent of the explanatory variables in cross-sectional specifications.
In the principal regressions, the dependent variables were lagged 1 year. Because bankruptcy data are reported with a June 30 year-end, the lag was actually 6 months. However, we also estimated filing rates with lag times of 18, 30, and 42 months in an attempt to determine whether part of the run-up in rates might have been a delayed reaction to the introduction of the Bankruptcy Code in 1979. There was very little difference in our results when we used a 6- and an 18-month lag time. For longer lag times, the independent variables had much less explanatory power. We concluded that a 6-month lag was as reasonable as any lag time we could easily select.

Federal district level data were obtained by aggregating county data available through the Regional Economic Information System of the Bureau of Economic Analysis, Department of Commerce. Where county-level data were unavailable, we employed state-level data, obtained from the Statistical Abstract of the United States unless otherwise indicated.

B. The Dependent Variables

Our model’s dependent variables are voluntary personal filings under Chapters 7 and 13, as well as both chapters together, divided by the adult population, for 86 federal judicial districts from 1980 to 1991. All of our cases commenced under the Bankruptcy Code of 1978, which reports filings with a year-end of June 30 of each year. Since there were no Bankruptcy Code filings for the first 3 months of the 1980 year, from July to September 1979, we applied a 4/3 multiplier to the reported rates for that year.

We estimated filing rates for Chapters 7 and 13 separately because debtor opportunist concerns are more pressing under Chapter 7. As well, we were able to construct a case-law variable measuring judicial good-faith standards under Chapter 13 but not under Chapter 7.

Debtor use of Chapter 13 varies widely, ranging from 0.2 (North Dakota) to 22.5 (Tennessee) per 1,000 adults from 1985 to 1991, with a mean of 4.4 and a standard deviation of 4.6. Because of this, the pattern of combined filings under both chapters might look quite different from that of the two chapters when considered separately. We therefore estimated the combined filing rate in a third set of regression equations.

We did not include filings under Chapters 11 or 12, which often straddle the boundary between business and consumer filings. In any event, consumer Chapter 11 filings constituted only 0.3 percent of total consumer fil-

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25 Data and results are available from us on request.
26 Our data source is the Administrative Office of the United States Courts. We excluded Alaska and Hawaii because we employed a migration predictor and Nevada because we employed a divorce predictor.
ings in 1991, while Chapter 12 filings (family farmers) were 0.2 percent of the total.

C. Legal Predictors

We employed three legal variables: 1985, EXEM, and CASE13. The 1985 dummy variable took the value of zero before 1985 and one in 1985 or thereafter. On the assumption that the Bankruptcy Code amendments that came into effect in late 1984 served to police debtor opportunism, we would expect the 1985 coefficient to have a negative sign in all regressions.

The variable EXEM is our estimate of the maximum real value of assets exempt from seizure in Chapter 7 by unsecured creditors under Bankruptcy Code § 522(d) or the state law equivalent.\footnote{Data are available from us on request.} Any estimate of the value of the exemption is highly subjective. Ours assumed that petitioners were under 65, married with two minor children, and owned tools worth $2,000, clothes worth $1,000, provisions and fuel worth $1,000, household furniture worth $5,000, a ring worth $1,000, and home equity worth $100,000. No value was ascribed to the more obscure species of exempt assets, such as family portraits or burial lots. We might easily have come up with any number of other bases for estimating the value of exempt assets but think our method as reasonable as any. In any event, our results were little changed when we made several obvious changes to the basis of estimation.\footnote{Data are available from us on request.} With a greater level of exemptions, bankruptcy becomes more attractive, and our model predicts that the EXEM coefficient will have a positive sign.

Bankruptcy Code good-faith norms repose a great deal of discretion in the trier of fact, and as noted courts differ greatly in the way they exercise this discretion. We therefore sought to test whether differential good-faith norms affected the bankruptcy decision by constructing a case-law dummy variable. There were too few cases decided under Bankruptcy Code § 707(b) to do so for Chapter 7, but few sections of the Code are more heavily litigated than § 1325(a)(3). After eliminating noncontroversial cases, we were left with 219 reported cases where courts appeared to tip their hand, revealing either relatively lax or strict good-faith standards.\footnote{Data are available from us on request.} In
some districts, the cases seemed split, and these we discarded, unless they appeared to evidence a temporal trend. With the remaining cases we constructed a CASE13 variable, which took the value of one if the district was deemed to take a lax approach to debtor misbehavior under Chapter 13, and zero otherwise. Since lax good-faith standards invite opportunistic filings, we expected that the CASE13 variable would have a positive sign.

D. Economic Predictors

Our economic predictors were UNEM and POVERTY. We would expect filing rates to be countercyclical, with high bankruptcy levels in depressed times or districts. We therefore expected that both coefficients would have a positive sign.

E. Social Predictors

In Section II we suggested that bankruptcy filing rates would depend on the strength of certain social norms. In particular, we hypothesize that filing rates are dependant on (1) the strength of social networks, (2) conservative and hierarchal attitudes, and (3) the social stigma of promise-breaking. We employ our MIG and METRO variables as proxies for the strength of social networks, our CATH and ELDER variables as proxies for conservative and hierarchal attitudes, and our DIVORCE variable as a proxy for the social stigma of promise-breaking.

Social sanctions are strengthened by social networks and weakened by anonymity. We would therefore expect higher filing rates in high-migration districts.\textsuperscript{30} Reputational concerns are weaker when one has recently moved to a state or when one’s circle of friends constantly changes because of migration. As a measure of the alienation caused by migration, our MIG variable represents per capita migration into a state from another state plus intercounty migration within a state.

The METRO variable represents the percent of the population living in a metropolitan area. We would expect urbanization to be linked with increased filing rates since social norms are plausibly weaker in cities than in smaller towns. As well, aspiring entrepreneurs, who are more willing to risk financial disaster, are more likely to be found in cities. Finally, the

METRO variable might be a proxy for lower transaction costs. City residents are likely to have easier access to attorneys, trustees, and bankruptcy courts.

We would also expect lower filing rates in conservative and hierarchical societies and higher rates in egalitarian and populist societies. A conservative society frowns on bounders; an egalitarian society champions new men. A hierarchical society deplores the iconoclast; a populist society defends the rule breaker. This plausibly explains part of the difference between Canadian and American filing rates and may also explain regional differences within the United States.

We would expect that members of mainline religions are socially more conservative than their fellows. We lacked data for other establishment religions but were able to measure the percentage of Catholics in each state. Catholicism is the most hierarchical religion and is far and away the largest mainline sect in the United States. Filing rates in CATHOLIC regions might also be lower if Catholics are less entrepreneurial and more risk-averse than Protestants, as Max Weber famously argued.

We would also expect the elderly to be socially more conservative than their fellows. The ELDER variable represents the percent of a state’s population that is over 65. In addition, we expected that those who lived on fixed incomes would be less ready to take economic risks.

Finally, we would expect promise-breaking in bankruptcy to be related to other social vices. Personal bankruptcy is, if anything, a white-collar form of misbehavior. As such, we would not expect it to be strongly correlated with social vices more closely associated with an underclass, such as violent crime and illegitimacy. However, we hypothesize that the desire for a fresh start from creditors bears a family resemblance to a desire for a fresh start from spouses and that patterns of promise-breaking in divorce might usefully predict bankruptcy filing rates.

Our DIVORCE predictor represents per capita divorce rates. First, divorce rates might be positively correlated with bankruptcy rates in two ways. If the social stigma of promise-breaking is weakened across the


\[ \text{Our data source is the Official Catholic Directory (P. J. Kennedy & Sons in association with R. R. Bowker, Reed Reference 1970–91).} \]

\[ \text{Max Weber, The Protestant Ethic and the Spirit of Capitalism (1930).} \]
board, then divorce and bankruptcy rates might both increase. Second, an increase in the divorce rate might directly affect bankruptcy rates because divorce results in financial distress.

F. Endogenous Variables

While we hypothesize that filing rates are affected by divorce rates, causation may work in the other direction as well. Divorce rates may be higher as a consequence of higher bankruptcy levels. Some people go bankrupt because they divorce, and some people divorce because they go bankrupt.

The MIG variable might also be endogenous. While migration might weaken social networks and lead to increased filing rates, increased filing rates might also affect migration levels. To the extent that a region’s high bankruptcy rates signal economic distress, some migrants will avoid it. And to the extent that its high filing rates signal relaxed social and legal norms, deadbeat migrants will be attracted to it.34

We addressed endogeneity problems in two ways. First, we lagged the divorce predictor (and most independent variables) by a year. That is, we estimated how filing levels in year 2 were affected by divorces in year 1. Lagging predictors reduces (but does not eliminate) concerns about the direction of causation, insofar as causes precede consequences. We were unable to lag the MIG predictor, however, since yearly migration flows were not available.

Second, we estimated filing rates through a two-stage least squares technique, in which bankruptcy, divorce, and migration rates were jointly estimated. To do so, we employed 1985, YEAR, and the district dummy variables as instrumental variables, as well as three new instrumental variables: INCOME, AFDC, and MARRIAGE. The variable INCOME is per-adult income; AFDC is the average payout per family of four under the Aid to Families with Dependent Children program; and MARRIAGE is the per capita number of married couples.

V. Results

Our results are found in Tables 2 and 3, which report on our estimates of total Chapter 7 and Chapter 13 consumer filing rates. Table 2 employs ordinary least squares and Kmenta pooling estimation techniques, while Table 3 employs a two-stage least squares estimation of filing and divorce rates. While social predictors generally had the expected signs, economic and legal variables appear unable to account for the run-up in filing rates.

<table>
<thead>
<tr>
<th>VARIABLE NAME</th>
<th>TOTAL</th>
<th>SEVEN</th>
<th>THIRTEEN, OLS</th>
<th>TOTAL, OLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pooled</td>
<td>OLS</td>
<td>Pooled</td>
<td>OLS</td>
</tr>
<tr>
<td>DUMMY85</td>
<td>.21195</td>
<td>.25402</td>
<td>.25789</td>
<td>.31422</td>
</tr>
<tr>
<td></td>
<td>(12.35)**</td>
<td>(7.749)**</td>
<td>(14.95)**</td>
<td>(9.201)**</td>
</tr>
<tr>
<td>ln EXEM</td>
<td>.036977</td>
<td>.06825</td>
<td>-.015486</td>
<td>.068666</td>
</tr>
<tr>
<td></td>
<td>(-1.073)</td>
<td>(1.275)</td>
<td>(-.4684)</td>
<td>(1.231)</td>
</tr>
<tr>
<td>CASE13</td>
<td></td>
<td></td>
<td>-.36672</td>
<td>-.25574</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(-1.211)</td>
<td>(-1.533)</td>
</tr>
<tr>
<td>ln UNEM</td>
<td>.062974</td>
<td>.14821</td>
<td>.064590</td>
<td>.13471</td>
</tr>
<tr>
<td></td>
<td>(2.847)**</td>
<td>(4.153)**</td>
<td>(2.862)**</td>
<td>(3.624)**</td>
</tr>
<tr>
<td>ln POVERTY</td>
<td>.013913</td>
<td>-.04566</td>
<td>-.013406</td>
<td>-.046429</td>
</tr>
<tr>
<td></td>
<td>(.3741)</td>
<td>(-.6625)</td>
<td>(-.3528)</td>
<td>(-.6494)</td>
</tr>
<tr>
<td>ln MIG</td>
<td>.25432</td>
<td>.22574</td>
<td>.29130</td>
<td>.26575</td>
</tr>
<tr>
<td></td>
<td>(6.311)**</td>
<td>(4.572)**</td>
<td>(6.648)**</td>
<td>(5.166)**</td>
</tr>
<tr>
<td>ln METRO</td>
<td>-.17310</td>
<td>.12760</td>
<td>-.31248</td>
<td>.045336</td>
</tr>
<tr>
<td></td>
<td>(-1.090)</td>
<td>(.7775)</td>
<td>(-1.731)</td>
<td>(-.2652)</td>
</tr>
<tr>
<td>ln CATH</td>
<td>-.17173</td>
<td>-.27033</td>
<td>-.16525</td>
<td>-.28441</td>
</tr>
<tr>
<td>ln ELDER</td>
<td>-.21943</td>
<td>-.27562</td>
<td>-.23115</td>
<td>-.29512</td>
</tr>
<tr>
<td></td>
<td>(-7.345)**</td>
<td>(-7.861)**</td>
<td>(-7.581)**</td>
<td>(-8.079)**</td>
</tr>
<tr>
<td>ln DIV</td>
<td>.17959</td>
<td>.17188</td>
<td>.12419</td>
<td>.14432</td>
</tr>
<tr>
<td></td>
<td>(3.976)**</td>
<td>(2.112)**</td>
<td>(2.726)**</td>
<td>(1.702)*</td>
</tr>
<tr>
<td>YEAR</td>
<td>.10098</td>
<td>.10310</td>
<td>.094419</td>
<td>.097537</td>
</tr>
</tbody>
</table>

Note: — OLS = ordinary least squares. Kmenta pooling and OLS fixed-district-effects estimation are used. Values in parentheses are t-statistics.
* Significant at the 10% level (two-tailed test).
** Significant at the 5% level (two-tailed test).
### TABLE 3

**The Determinants of Personal Bankruptcy Filing Rates, 1980–91**

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>TOTAL</th>
<th>SEVEN</th>
<th>THIRTEEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>In EXEM</td>
<td>-.19965</td>
<td>-.21549</td>
<td>1.4759</td>
</tr>
<tr>
<td></td>
<td>(-9.146)**</td>
<td>(-9.209)**</td>
<td></td>
</tr>
<tr>
<td>CASE13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In UNEM</td>
<td>-.16658</td>
<td>-.17979</td>
<td>.070129</td>
</tr>
<tr>
<td></td>
<td>(-2.409)**</td>
<td>(-2.369)**</td>
<td>(.4116)</td>
</tr>
<tr>
<td>In POVERTY</td>
<td>.33996</td>
<td>.15197</td>
<td>1.1217</td>
</tr>
<tr>
<td></td>
<td>(4.168)**</td>
<td>(1.523)</td>
<td>(5.446)**</td>
</tr>
<tr>
<td>In MIG</td>
<td>.20806</td>
<td>.17850</td>
<td>-.13697</td>
</tr>
<tr>
<td></td>
<td>(2.220)**</td>
<td>(1.780)*</td>
<td>(-.6490)</td>
</tr>
<tr>
<td>In METRO</td>
<td>.30731</td>
<td>.073201</td>
<td>1.1733</td>
</tr>
<tr>
<td></td>
<td>(6.596)**</td>
<td>(1.483)</td>
<td>(9.931)**</td>
</tr>
<tr>
<td>In CATH</td>
<td>-.11529</td>
<td>.10881</td>
<td>-.53586</td>
</tr>
<tr>
<td></td>
<td>(-4.416)**</td>
<td>(3.889)**</td>
<td>(-8.466)**</td>
</tr>
<tr>
<td>In ELDER</td>
<td>-.20678</td>
<td>-.058321</td>
<td>-2.1907</td>
</tr>
<tr>
<td></td>
<td>(-2.024)**</td>
<td>(-.5229)</td>
<td>(-9.293)**</td>
</tr>
<tr>
<td>In DIV</td>
<td>.64070</td>
<td>.93034</td>
<td>-1.2981</td>
</tr>
<tr>
<td></td>
<td>(5.776)**</td>
<td>(7.721)**</td>
<td>(-5.058)**</td>
</tr>
<tr>
<td>N</td>
<td>1,032</td>
<td>1,032</td>
<td>456</td>
</tr>
<tr>
<td>SE</td>
<td>.60626</td>
<td>.64232</td>
<td>.95071</td>
</tr>
<tr>
<td>Sum of errors</td>
<td>376.37</td>
<td>422.48</td>
<td>404.92</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.2277</td>
<td>.1196</td>
<td>.4550</td>
</tr>
</tbody>
</table>

**Note.**—A two-stage least squares fixed-district-effects estimation is used; MIG and DIV are endogenous variables.

* Significant at the 10% level (two-tailed test).

** Significant at the 5% level (two-tailed test).

Diagnostic tests on ordinary least squares estimates revealed the presence of autocorrelation. Because of this, we employed the Kmenta pooling method when we were able to do so.35

In Table 3, the 1985 coefficient was uniformly positive, and it was statistically significant in all but one specification. If the 1984 Bankruptcy Code revisions were meant to reduce the level of debtor opportunism, there is no evidence that they had this result.

We had expected that exemption levels would be positively correlated with filing rates. Our EXEM coefficient was indeed positive and significant in the second, fourth, and sixth specifications of Table 2. However, it was

35 Jan Kmenta, *Elements of Econometrics* 509–12 (1971). Under the Kmenta method, filing rates are estimated through a generalized least squares procedure, which assumes cross-sectional heteroskedasticity and time-wise autoregression and transforms the observations with cross-sectionally independent autoregressive parameters.
insignificant, and was negative and significant in Table 3’s two-stage least squares estimation.

One explanation for our failure to find a significant, positive EXEM coefficient is that the exemptions provide a very limited shield against secured lenders. Many debtors will have pledged most of their assets before bankruptcy in order to fend it off. In particular, few homeowners will file for bankruptcy without a mortgage over their house. The highly publicized migration of debtors to high-exemption states such as Florida would thus appear limited to a small group of wealthy deadbeats. A second possible explanation is that higher exemption levels reduce the ability of high-risk debtors to borrow. A third possible explanation is that married debtors might shelter their houses under tenancies by the entireties in states with low homestead exemptions.

The CASE13 coefficient was unexpectedly negative in the fifth and sixth specifications of Table 2 but positive and significant in the third specification of Table 3. This offers but weak support for the hypothesis that judicial sanctions strongly constrain debtor opportunism. One possible explanation for this result is that legal norms are endogenous and that courts are more ready to police debtor bad faith when filing rates increase.

Our model’s economic variables had a mixed success in predicting filing rates. The UNEM coefficient was positive and significant in Table 2 but was negative in Table 3. The POVERTY coefficient was not positive and significant in any specification in Table 2.

By contrast, our model’s social variables more successfully predicted filing rates. The MIG coefficients were generally positive and significant except in Chapter 13 estimations. This is consistent with the hypothesis that filing rates are higher in regions where social networks are weaker.

The CATH and ELDER coefficients were generally negative and significant, consistent with the hypothesis that filing rates are lower in socially conservative regions. Again, but for the Chapter 13 estimations, the DIVORCE coefficients were generally positive and significant, consistent with the hypothesis that filing rates are higher when social sanctions for promise-

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36 However, debtors may avoid nonpurchase-money security interests in the personal chattels listed in Bankruptcy Code, § 522(f)(1)(B).

37 More than half of the debtors in the Sullivan, Warren, and Westbrook study were homeowners, only slightly less than the 64 percent of nonbankrupts and dependents who are homeowners. Sullivan et al, at 129 (cited in note 5).


39 See Douglas G. Baird and Thomas H. Jackson, Bankruptcy: Cases, Problems, and Materials 890–94 (2d ed 1990). This strategy will not avail against creditors to whom both spouses are obligated.
breaking are weaker. The failure to detect significant positive coefficients in Chapter 13 estimations may be attributed to idiosyncratic judicial preferences as to the choice of filing chapter in the various districts.

These findings suggest that econometric analyses of consumer filing rates are seriously incomplete if social predictors are excluded. As noted, social capital theories might attribute the run-up in filing rates either to a decline in social sanctions for promise-breaking or to a greater propensity for risk-taking. Our model does not permit a sharp distinction between these competing hypotheses. Nevertheless, we suspect that the United States was as entrepreneurial at the beginning as at the end of the 1980s and that the increased bankruptcy filing rate is more plausibly attributed to a decline in social sanctions.

If the run-up in filing rates during the 1980s may in part be attributed to weaker social sanctions, this may also explain the model's significant time trends, as seen in the significant positive 1985 and YEAR coefficients. Legal variables do not explain why filing rates increased over the period, and economic variables are ordinarily unable to account for sharp discontinuities in behavior. Nature does not make jumps, said Alfred Marshall. But it may make a jump on a change in social norms, such as one has observed in recent years. The skeptic who thinks otherwise will have a very difficult time accounting for recent changes in illegitimacy rates or in consumer bankruptcy filing rates.40

VI. CONCLUSION

This article presents new evidence on the determinants of personal bankruptcies for the 12-year period following the introduction of the new Bankruptcy Code in 1979. This period saw an explosion in filing rates that cannot easily be explained through economic predictors since the increase overlapped with the Reagan recovery and crested with the 1991 recession. Moreover, the increase coincided with the adoption of stronger statutory barriers to debtor opportunism. More than anything, we suggest, the increase in filing rates is attributable to changes in social norms.

APPENDIX

DEFINITION OF VARIABLES

TOTAL = Total consumer bankruptcy filings under Chapters 7 and 13 divided by the adult population.

BANKRUPTCY PUZZLE

SEVEN = Consumer bankruptcy filings under Chapter 7 divided by the adult population.
THIRTEEN = Consumer bankruptcy filings under Chapter 13 divided by the adult population.
1985 = Dummy variable taking the value of zero before 1985, one afterward.
EXEM = Estimate of total value of assets exempt from seizure by a Chapter 7 bankruptcy trustee.
CASE13 = Dummy variable taking the value of one if decisions in a district indicate a lax approach to debtor opportunism, zero otherwise.
UNEM = Average of monthly unemployment rates.
POVERTY = Percentage of the population living below the federal poverty line.
MIG = Per capita interstate migration into a state plus intercounty moves within a state, 1985–90.
METRO = Percent of population living in a standard metropolitan statistical area.
CATH = Percentage of the population identified as Catholic.
ELDER = Percent of population over 65.
DIV = Divorces per 1,000 population.
DIST = Dummy variable for 86 federal judicial districts.