

**Bankruptcy:
Past Puzzles, Recent Reforms,
and the Mortgage Crisis¹**

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¹ This is an expanded version of the talk that I gave as President of ALEA, which took place at the 18th Annual Meeting on May 16-17, 2008 at Columbia Law School. Note that the original talk did not have footnotes!

The number of personal bankruptcy filings in the US rose 5-fold between 1980 and 2005, from around 300,000 per year in 1980 to over 1½ million in each of the years from 2001 to 2005. By the early 2000's, more people were filing for bankruptcy each year than were graduating from college, getting divorced or being diagnosed with cancer. Many celebrities also filed, including boxer Mike Tyson (2003), actors Kim Basinger (1993), Burt Reynolds (1995), and Debbie Reynolds (1997), singers Anita Bryant (2001), Merle Haggard (1993), M.C. Hammer (1996) and Wayne Newton (1992), entrepreneurs Bob Guccione (2003) and Donald Trump (1992) and (2004), and two governors—John Connolly of Texas (1986) and J. Fife Symington of Arizona (1995). Bankruptcy filings by celebrities and those by ordinary people are related, since celebrity filings generate extensive publicity and send ordinary people the message that filing for bankruptcy is socially acceptable and does not carry any stigma.

I'll discuss four different topics in this talk. First, what is the economic rationale for having a bankruptcy procedure in the first place and what defines an economically efficient bankruptcy procedure? Second, why did the number of U.S. bankruptcy filings increase so much? Third, a major bankruptcy reform went into effect in the U.S. in 2005—what did it do? And, fourth, how can bankruptcy help solve the subprime mortgage crisis?

1. Why Have Bankruptcy?²

Personal bankruptcy law is a legal procedure for resolving all of the filer's unsecured debts at once.³ It specifies how much filers must repay and how the repayment (if any) is divided among creditors. During the bankruptcy procedure, creditors' collection efforts against the filer are suspended. Filers are generally obliged to repay pre-bankruptcy creditors from both their assets and their post-bankruptcy earnings, where specified levels of both assets and earnings are exempt. The obligation to repay from earnings usually lasts for a fixed number of years. Whatever debt remains after filers have met their obligation to repay is discharged. This means that debt is discharged only after filers spend a certain number of years repaying from their future earnings—or convince a bankruptcy judge that they can never earn enough to repay.

In France, the obligation to repay from post-bankruptcy earnings lasts for 8 to 10 years, in Germany it lasts for 6, and in the U.K. it lasts for 3. At the other extreme, U.S. bankruptcy law

² See White (2007a) for discussion and a comparison between personal and corporate bankruptcy procedures.

³ See below for discussion of the treatment of mortgage debt and car loans in bankruptcy.

prior to 2005 did not require filers to repay from post-bankruptcy earnings at all. Filers were allowed to choose between a bankruptcy procedure in which they were only obliged to repay from assets above an exemption level (Chapter 7) or a procedure in which they were only obliged to repay from earnings above an exemption level (Chapter 13). Because few bankruptcy filers have any non-exempt assets, they mainly chose Chapter 7 and were not obliged to repay at all. These provisions made U.S. bankruptcy law extremely pro-debtor.

In addition to the obligation to repay, some countries also impose “shaming” penalties on bankruptcy filers. In the U.K., filers are disqualified from becoming Members of Parliament and from managing a company for three years. In the U.S., filers’ names are made public and the filing stays on their credit records for 10 years.⁴

The economic justification for having a personal bankruptcy procedure is that individuals benefit from borrowing in order to smooth consumption, but they face uncertainty in their ability-to-repay. Bankruptcy reduces the downside risk of borrowing by discharging some or all debt when debtors’ ability-to-repay turns out to be low. It therefore provides debtors with partial consumption insurance. Assuming that debtors are risk-averse, having some consumption insurance makes them better off and increases their demand for loans. The higher the bankruptcy exemptions for debtors’ assets and earnings and the shorter the obligation to repay from post-bankruptcy earnings, the more complete is the consumption insurance that bankruptcy provides.

Another reason for having a personal bankruptcy procedure is that it encourages entrepreneurial behavior. Individuals face more risk when they start businesses than when they work for others, because they are personally liable for their business debts. Having a personal bankruptcy procedure raises their consumption when business failure occurs by discharging their business and personal debts. It therefore makes risk-averse individuals more likely to go into business in the first place and more likely to start a second business if the first one fails. Henry Ford, Walt Disney, Milton Hershey, Charles Goodyear, and H.J. Heinz are examples of entrepreneurs who filed for bankruptcy when their first businesses failed, but succeeded on their second or third tries in business.

⁴ In the past, bankrupts were subject to criminal penalties, including banishment, imprisonment, being sold into slavery, and death (Efrat, 2002). See White (2007b) for a comparison of bankruptcy laws in the U.S. versus several European countries.

Thus having a personal bankruptcy procedure benefits debtors by reducing the risk they face and encouraging them to borrow—both to smooth consumption and to start businesses. But having a bankruptcy procedure also has drawbacks. One is that the more favorable the bankruptcy procedure is to debtors, the more often they default. Another drawback is that the more favorable the bankruptcy procedure is to debtors, the more often they behave opportunistically by filing for bankruptcy even when their ability-to-repay is high. Both drawbacks cause interest rates to rise and the supply of credit to fall. If the bankruptcy system is too pro-debtor, the supply of credit could dry up completely.

A number of hypotheses concerning bankruptcy have been empirically tested. Most of the empirical tests make use of the fact that bankruptcy law in the U.S. is uniform all over the country, except that asset exemptions vary across states. In most states, the largest asset exemption is the homestead exemption for equity in owner-occupied homes. Homestead exemptions range from zero in a few states to unlimited in Texas, Florida and four other states. In states with high homestead exemptions, debtors can keep multi-million dollar homes when they file for bankruptcy. They can also keep other types of assets, as long as they convert these assets into home equity before filing. Because states that have higher homestead exemptions provide more complete consumption insurance to debtors, they are predicted to have higher demand for credit, lower credit supply, and more opportunistic behavior by debtors.

In a series of papers, co-authors and I examined how the variation in asset exemptions across U.S. states affects credit markets. Higher asset exemptions are predicted to cause interest rates to rise and loan applicants to be turned down for credit more often, but loan sizes could either rise or fall depending on whether the increase in loan demand is bigger or smaller than the decrease in loan supply. In Gropp, Scholz and White (1997), we found that interest rates on car loans were higher in high-exemption states. We also found that high-income debtors borrowed more in states with high asset exemptions because lenders accommodated the increase in demand for these debtors, while low-income debtors borrowed less because lenders tightened credit standards. In Lin and White (2001), we found that debtors in states with high asset exemptions were more likely to be turned down for home improvement loans. In Berkowitz and White

(2004), we found that small businesses borrowed less and paid higher interest rates in states with high asset exemptions.⁵

Turning to the effects of the bankruptcy system on entrepreneurial behavior, Wei Fan and I (2003) examined whether there are more entrepreneurs in US states that have higher asset exemptions. Support for this hypothesis would imply that individuals' higher propensity to own businesses in states with higher asset exemptions more than offsets the deterrent effect of tighter credit supply in these states. We found that states with unlimited homestead exemptions had around one-third more entrepreneurs than states with low homestead exemptions. Armour and Cummings (2005) tested the same hypothesis using cross-country data. Because many features of bankruptcy law differ across countries, they focused on the length of the period during which bankruptcy filers are obliged to repay from earnings, where a shorter period implies a more pro-debtor bankruptcy law. They found that countries with shorter repayment periods in bankruptcy have more entrepreneurs.

Fay, Hurst and White (2002) examined the hypothesis that pro-debtor bankruptcy laws encourage opportunistic behavior. Specifically they tested whether debtors are more likely to file for bankruptcy when their financial gain from filing is higher, where the financial gain from filing equals the amount of debt discharged in bankruptcy minus the amount debtors must repay. Their results showed that for every \$1,000 increase in debtors' financial gain from bankruptcy, the filing rate rose by 7 percent. Finally, Grant and Koeniger (2005) used aggregate state-year data for U.S. states to test whether states with more pro-debtor bankruptcy laws have less variation in their aggregate consumption levels over time, because consumption is more fully insured. They found that the variance of consumption over time was lower in states with higher asset exemption levels.

What do these considerations suggest in terms of formulating an economically efficient personal bankruptcy law? Consider first the determination of the optimal asset exemption level. The basic tradeoff is that an increase in the exemption level makes risk-averse debtors better off because their consumption is more fully insured, but makes all debtors worse off because the supply of credit falls. If all debtors were risk-neutral, this means that the optimal asset exemption would be zero. But as the average debtor becomes more risk-averse, the optimal asset

⁵ For mortgages, evidence concerning the effect of asset exemptions is mixed; see Berkowitz and Hynes (1999) and Lin and White (2001).

exemption level rises. Now consider the determination of the optimal earnings exemption. A higher earnings exemption similarly makes risk-averse debtors better off because their consumption is more fully insured, while making all debtors worse off because the supply of credit falls. But an additional consideration is that a low exemption for earnings may discourage debtors from working after bankruptcy, particularly if most or all of their marginal earnings must be paid to creditors. So an increase in the earnings exemption can improve efficiency by reducing the distortion to debtors' post-bankruptcy labor supply. Loosely speaking, these considerations suggest that the optimal earnings exemption in bankruptcy is relatively high, while the optimal asset exemption is relatively low. Neither exemption should be so high that credit markets break down.

Finally, consider shaming penalties for bankruptcy. Higher shaming penalties make risk-averse debtors worse off because they do not wish to face the risk of paying these penalties, but they make all debtors better off by reducing opportunistic behavior, increasing debtors' labor supply (since debtors work harder to reduce the probability of bankruptcy), and increasing the supply of credit. This suggests that, unless debtors are very risk-averse, the optimal level of shaming penalties may be positive rather than zero.

2. Explaining the Rise in US Bankruptcy Filings Since 1980

Figure 1 shows the 5-fold increase in the number of personal bankruptcy filings in the US between 1980 and 2005 and also shows the large drop in filings that occurred in 2006, following the adoption of bankruptcy reform. In this section, I consider various explanations for the increase in filings up to 2005 and, in the next section, I discuss the drop in filings that occurred in 2006.

There has been quite a bit of controversy about why the number of bankruptcy filings increased. The fact that the US bankruptcy system was pro-debtor prior to 2005 was necessary for the increase in filings, since debtors don't file unless doing so makes them better off. But it isn't sufficient to explain why the number of filings increased. Many of the explanations for the increase in filings involve adverse events. But while adverse events are often positively related to debtors' filing decisions in cross-section regression models, they generally cannot explain why filings increased so dramatically over time.

Consider divorce first. In their model explaining households' bankruptcy filing decisions, Fay, Hurst and White (2003) found a significant relationship between getting divorced and filing for bankruptcy one year later—this may be because people consult lawyers when they get divorced and the lawyers may suggest filing for bankruptcy. But divorces cannot explain the large increase in bankruptcy filings over time, since the divorce rate in the U.S. fell over the period from 5.2 per thousand people in 1980 to 3.6 in 2005 (Statistical Abstract of the U.S., 2000, table 77, and later years).

Job loss and health problems are also adverse events that may trigger bankruptcy; their roles in the bankruptcy decision have been particularly controversial. Using data from surveys of bankruptcy filers, Sullivan, Warren and Westbrook (2000) argued that 67% of bankruptcy filings were due to job loss and Himmelstein et al (2005) claimed that 55% of bankruptcy filings occurred because of illness, injury or medical bills not covered by insurance. But the former study treated job loss as a cause of bankruptcy even if debtors quickly obtained new jobs and the latter counted uninsured health care expenditures as a cause of bankruptcy even when these expenditures were quite small.⁶ Another source of data is a 1996 survey of bankruptcy filers by the Panel Study of Income Dynamics (PSID), which asked a representative sample of filers their primary reason for filing. In that survey, only 21% of filers gave job loss as their primary reason and 16% gave illness, injury, or medical costs as their primary reason. These results suggest much smaller roles for both job loss and health problems. In their model of the bankruptcy filing decision that used the PSID dataset, Fay et al (2002) did not find a significant relationship between job loss or health problems and whether debtors filed for bankruptcy.

In any case, job loss and health problems cannot explain the increase in bankruptcy filings over the 25-year period, because they did not increase substantially over the period. The U.S. unemployment rate fell from 7.1% in 1980 to 5.5% in 2005, although it fluctuated substantially over the period (*Economic Report of the President 2007*, table B-42). The on-the-job-injury rate as a fraction of population rose from 0.97% in 1980 to 1.6% in 1990, but then fell steadily to 1.2% in 2005 (*Statistical Abstract of the US*, 2004-05, table 631, and 2008, table 635.).⁷ Uninsured health care costs rose slightly as a percent of US median family income over the period, from 3.5% in 1980 to 3.9% in 2005 (US Census Bureau, 2007, table 120). Finally, the

⁶ See Dranove and Millenson (2006) and White (2007) for discussion.

⁷ This figure is workers killed or disabled on the job, where disabilities cause at least one full day of work to be lost.

percentage of Americans not covered by health insurance also rose slightly over the period, from 14.8% in 1985 to 15.4% in 1995 and 15.7% in 2004 (U.S. Census Bureau, 1990 and 2007, table 144). Overall, neither job loss nor health-related problems are able to explain the large increase in bankruptcy filings over the last 25 years.

Increased availability of casino gambling seems a more promising explanation for the rise in bankruptcy filings, since gambling was available only in Nevada and Atlantic City in 1980 but spread over most of the US by 2005. A recent study by Barron, Staten, and Wilshusen (2002) found that bankruptcy filing rates were significantly higher in counties that contained a casino or were adjacent to a county with a casino than in counties that were further from casinos. But the spread of gambling can explain only a small increase in bankruptcy filings: their model predicts that if casino gambling were abolished all over the US, then bankruptcy filings would fall nationally by only one percent.

Finally, Sullivan, Warren and Westbrook (2000) argue that bankruptcy filings increased over time because bankruptcy became a middle-class phenomenon. Their argument is that even middle-class households have become so financially stretched that any small financial reverse forces them to file for bankruptcy. But surveys in fact show that bankruptcy filers have become poorer rather than richer over time relative to the median U.S. household. According to Sullivan, Warren and Westbrook's (1989) survey of debtors who filed in 1981, the median filer's income was 70% of U.S. median family income. But in Sullivan, Warren and Westbrook's (2000) survey of debtors who filed in 1991, this ratio had fallen to 50%. And in a recent survey of debtors who filed in 2003, Zhu (2007) found that the ratio was 49%. Thus evidence suggests that bankruptcy filers have become poorer—not richer—over time, relative to U.S. families overall.

Now turn to debt as an alternative explanation for the increase in bankruptcy filings. Figure 2 shows average consumer revolving debt (mainly credit card debt) per household and average mortgage debt per household, both shown as a fraction of median U.S. family income from 1980 to 2005. Both debt-to-income ratios are scaled to equal one in 1980. Over the period, average consumer revolving debt increased 4-fold relative to median family income, from 3.2% to 13.0%, and average mortgage debt increased 3-fold relative to median family income, from 57%

to 156%.⁸ With these large increases, it's not surprisingly that 33% of respondents in the PSID's survey of bankruptcy filers gave "high debt/misuse of credit cards" as their primary reason for bankruptcy—more respondents gave this reason than any other. Econometric models of the bankruptcy filing decision by Domowitz and Sartain (1999) and Gross and Souleles (2002a) also found that higher debt is positively and significantly related to debtors' filing decisions.

Why did debt levels increase so much over time? The reasons include both de-regulation of credit markets and technological changes in lending. The first general credit cards were issued in the U.S. in 1966, but the industry remained small because of state usury laws that limited interest rates. The main regulatory change for the credit card industry was the Supreme Court's *Marquette* decision in 1978, which effectively abolished state usury laws and allowed lenders to charge higher interest rates. However the growth of credit card lending was also held back by the fact that consumers could only obtain credit cards from the bank where they kept their checking or savings accounts, because only this bank knew whether they were credit-worthy. An important technological change in consumer lending was the development of credit bureaus and computerized credit-scoring models in the 1980's. Credit bureaus broke local banks' monopoly on credit card lending by allowing any potential lender to obtain any individual consumer's credit score, regardless of whether the lender and the consumer had a prior banking relationship. In particular, credit card lenders began to buy national lists of consumers who had credit scores above a minimum level and to offer these consumers credit cards by mail. The resulting increase in competition among lenders improved the terms of credit card loans for consumers and allowed lenders to operate nationwide and benefit from economies of scale. Another important technological change in credit card markets was the development of the secondary market for credit-card-backed securities—around 43% of credit card debt was securitized as of 2005.⁹ Securitization both lowered lenders' cost of funds and reduced their risk exposure, since security-holders absorbed some risk.¹⁰

⁸ In contrast, installment debt—mainly automobile loans—increased by only one-third relative to median family income. Debt data are taken from the *Economic Report of the President* (2007), tables B76 and B77.

⁹ This is based on data from the Securities Industry and Financial Markets Association, see www.sifma.org/research/pdf/ABS_Outstanding.pdf.

¹⁰ One reason that securitization of credit card debt lowers lenders' cost of funds is that, if the securities have a triple-A debt rating, they can be bought by institutional investors such as pension funds. See Furletti (2002) for discussion of the market for credit-card-debt-backed securities. Evans and Schmalensee (2005) and Mann (2007) discuss the credit card industry generally.

With lower costs and diversified risk, lenders increased the supply of funds and offered credit cards to lower-income consumers. According to data from the *Survey of Consumer Finance*, the percentage of households in the lowest quintile of the income distribution who have at least one credit card rose from just 11% in 1977 to 43% in 2001 (Durkin, 2000; Johnson, 2005). Increased borrowing on credit cards in turn led to more bankruptcy filings, particularly by lower-income debtors.

Similar technological changes also occurred in the mortgage market, although the timing was different. In the 1960's and earlier, homeowners obtained mortgages from their local banks, for the same reasons that they later obtained credit cards from their local banks. But the development of credit bureaus and credit scoring, along with computerized property appraisals, allowed mortgage lenders to lend to non-customers and to expand nationally. The secondary market for mortgage-backed securities developed earlier than that for credit card-backed securities, because the Federal government chartered Fannie Mae and later Freddie Mac to buy mortgages and package them as mortgage-backed securities. The government's goal was to increase the supply of mortgage credit and allow more households to become homeowners. Fannie Mae began purchasing and securitizing conventional mortgages in the 1970's and, in the 1990's, private banks began purchasing and securitizing non-conventional mortgages, including adjustable-rate mortgages, jumbo mortgages, negative amortization mortgages, and mortgages with low or zero down-payments. These new types of mortgages were often marketed to lower-income, riskier debtors who could not qualify for conventional mortgages. Around 63% of mortgage debt was securitized as of 2005.¹¹

But while additional credit card debt gives debtors a stronger incentive to file for bankruptcy, the relationship between additional mortgage debt and bankruptcy is less straight-forward. This is because—under current law—mortgage debt cannot be discharged in bankruptcy and therefore the only way for debtors to escape their mortgage commitments is to give up their homes. They can do so regardless of whether they file for bankruptcy. Nonetheless debtors who are in trouble paying their mortgages can benefit from filing for bankruptcy. One way they benefit is that, if the lender forecloses and sells the home for less than the amount owed, in some states the

¹¹ This is based on figures for outstanding mortgage-backed securities in 2005 from the Securities Industry and Financial Markets Association (see www.sifma.org/research/pdf/MortgageRelatedOutstanding.pdf). See Green and Wachter (2005) for discussion of the mortgage market generally.

mortgage lender has a claim on the debtor for the difference. This claim can be discharged in bankruptcy. Another way that debtors gain from filing is that some or all of their credit card debt is discharged in bankruptcy and getting rid of other debt increases debtors' ability to pay their mortgages. A third way that debtors gain is that filing for bankruptcy under Chapter 13 stops the foreclosure process and gives debtors more time to make their mortgage payments. The two latter aspects of bankruptcy law mean that some debtors file for bankruptcy in order to save their homes.

3. The 2005 Bankruptcy Reform—What Did It Do?

The dramatic increase in the number of bankruptcy filings caused lenders to lobby long and hard for bankruptcy reform and they finally succeeded in 2005. To briefly summarize a complicated piece of legislation, there were two major changes. The first was the adoption of a “means test” which requires higher-income bankruptcy filers to use some of their future earnings to repay. The means test specifies a new procedure for calculating each filer's earnings exemption. Filers whose earnings are above their exemptions are no longer allowed to file under Chapter 7; instead they must file under Chapter 13 if they file for bankruptcy at all and all of their non-exempt earnings for five years must be used to repay debt. Thus for the first time, U.S. bankruptcy law no longer fully exempts debtors' post-bankruptcy earnings from the obligation to repay.

However the procedure for determining the earnings exemption is fairly generous to debtors. The minimum earnings exemption equals the median family income in the debtor's state of residence, so that all debtors in the lower half of the income distribution in their states are allowed to file under Chapter 7. As the data discussed above suggests, the median filer's income is only about half of median U.S. family income, so that the majority of bankruptcy filers still qualify for Chapter 7 based on having below-median income. Filers whose incomes are above the median compute their earnings exemptions by summing pre-determined allowances for rent, transportation and personal expenditures and then adding their actual expenditures for taxes, insurance, care of disabled relatives, telecommunications costs, security costs, and secured

debt payments. The resulting earnings exemptions are high enough to allow most debtors to qualify for Chapter 7 even if their incomes are in the top decile of the income distribution.¹²

The second major change under the 2005 bankruptcy reform was to raise debtors' cost of filing for bankruptcy by imposing a number of new requirements on both debtors and bankruptcy lawyers. Debtors are now required to disclose additional information, submit copies of their tax returns, and receive credit counseling before they file. Bankruptcy lawyers are now subject to new registration requirements and they are liable if debtors provide false or misleading information on their bankruptcy disclosure forms. Overall, the first of the two changes was intended to discourage higher-income debtors from filing by forcing them to repay some of their debt in Chapter 13, while the second of the two changes was intended to discourage lower-income debtors from filing by raising their costs. What actually happened as a result of these changes?

First, debtors rushed to file for bankruptcy before the new law went into effect—the number of bankruptcy filings jumped from 1.5 million in 2004 to 2 million in 2005. Filings then fell sharply to around 600,000 in 2006 and 800,000 in 2007. Second, the new requirements increased debtors' costs of filing by about 50%, from a median level of \$700 to \$1,100 for Chapter 7 and from a median level of \$2,000 to \$3,000 for Chapter 13 (GAO, 2008). These higher costs suggest that the number of bankruptcy filing is likely to remain at a lower level than before the reform. Third, no celebrities have filed for bankruptcy since the end of 2005 (as far as I can determine). This suggests that the new law has been fairly effective in discouraging high-income debtors from filing. Fourth, credit card lending became more profitable: lenders' charge-off rates (losses due to default and bankruptcy) fell from around 6 percent to 3 percent and the share prices of publicly-traded debt collection firms increased relative to the market (Ashcraft, Dick and Morgan, 2007). Fifth, credit card lenders reacted to the favorable lending conditions by increasing the supply of credit—consumer revolving debt per household rose by 12% from 2005 to 2007.¹³

¹² See White (2007b) for discussion of the earnings exemption and how debtors can increase it by planning in advance for bankruptcy.

¹³ Mortgage debt per household rose by even more, 16%, over the same period. But this was probably due to the housing bubble rather than to bankruptcy reform. Debt data are taken from *Economic Report of the President 2008*, tables B76 and B77.

Finally, more debtors are filing under Chapter 13 rather than Chapter 7—the proportion of filings under Chapter 13 rose from 20% in 2005 to 40% in 2006 and 2007. But the increased number of Chapter 13 filings doesn't mean that more filers are repaying unsecured debt; instead, most debtors who choose Chapter 13 do so to save their homes. They do so because filing under Chapter 13 stops foreclosure and allows debtors who are behind in their mortgage payments to repay what they owe—plus interest—over a 5-year period. Once they repay in full, the original mortgage contract is reinstated. Debtors cannot save their homes in Chapter 7, so they must file under Chapter 13. The use of Chapter 13 as a “save-your-home” procedure is not new; debtors could do the same thing prior to the 2005 bankruptcy reform.

In a recent paper with Ning Zhu (2007), we examined a sample of debtors who filed under Chapter 13 in 2006. Our goal was to understand whether debtors are filing under Chapter 13 because the means test forces them to do so or because they wish to save their homes. We found that nearly all debtors use Chapter 13 to save their homes. 96% of Chapter 13 filers in our sample were homeowners and 80% passed the means test—meaning that they could have filed under Chapter 7. About 90% of Chapter 13 filers proposed repayment plans and only 8% of their plans involved repayment of only unsecured debt. Thus while Chapter 13 has become relatively more important since the adoption of bankruptcy reform, debtors are using it to save their homes rather than to repay unsecured debt.¹⁴

Overall, the 2005 bankruptcy reform benefitted creditors by raising the cost of filing for bankruptcy and reducing the bankruptcy filing rate. But the reform did not change how debtors use Chapter 13—they use it mainly to save their homes, just as they did before the reform.

4. Bankruptcy and the Subprime Mortgage Crisis

My last topic is how bankruptcy relates to the subprime mortgage crisis. Currently, about 1.6 million mortgages in the US are in foreclosure and many analysts predict that between 2 and 3 million foreclosures will occur by the end of 2008.¹⁵ Foreclosures are extremely costly. Homeowners lose because they are forced to move, which destroys their ties to the neighborhood

¹⁴ Debtors who repaid only unsecured debt in Chapter 13 were often repaying priority (tax) claims or student loans or the fees of their bankruptcy lawyers. Unlike credit card loans, none of these debts can be discharged in bankruptcy.

¹⁵ See Lardner (2008) and Pew Charitable Trust (2008).

and forces their children to relocate to new schools. A few become homeless. Lenders lose because, by the time foreclosed homes are sold, one-third to one-half of the home's value is lost. Neighborhoods where foreclosures occur suffer because vacant homes deteriorate and cause blight, reducing the value of nearby properties.¹⁶ And local governments are harmed because property values fall, reducing property tax revenues and forcing cuts in local public services. Foreclosures also lead to more foreclosures, since sales of foreclosed homes drive down house prices. This makes additional defaults likely, both because more homeowners have negative equity and because homeowners who wish to keep their homes cannot refinance their mortgages.¹⁷

Given that foreclosure is costly to both borrowers and lenders, avoiding default is in both sides' interest and it might be expected that they would voluntarily renegotiate many mortgage contracts. But very few renegotiations have in fact occurred—why? The first part of the answer is that many mortgages are held in mortgage-backed securities. These securities sometimes do not allow the terms of the underlying mortgages to be modified at all and sometimes they allow only a limited number of mortgages, usually 5%, to be modified. In addition, securitized mortgages have multiple sets of owners who have differing levels of priority. But when renegotiations occur, the changes generally make owners of high-priority claims better off at the expense of owners of low-priority claims. The latter therefore attempt to block the renegotiation. Thus securitization sometimes prevents renegotiation completely and always increases the cost of renegotiating.

All mortgage securities have a servicer who collects the mortgage payments and represents the owners in renegotiations. But the contracts between security owners and mortgage servicers also discourage renegotiation. One problem is that servicers are compensated for their costs of foreclosing, but not for their costs of renegotiating. Another problem is that servicers impose fees when debtors pay late or default, and the servicing contracts allow them to keep the fees if they can be collected. Since renegotiating a mortgage often involves giving up these fees, they give servicers an additional incentive to foreclose rather than negotiate. Thus most

¹⁶ One recent study found that each foreclosure causes a reduction of \$150,000 in the total value of nearby homes. See Immergluck and Smith (2006).

¹⁷ A number of studies have found that reductions in home values are an important determinant of default and foreclosure. See, for example, Gerardi et al (2007).

mortgage servicing contracts are unsuited to dealing with the housing crisis. A third problem arises from the fact that many distressed homeowners have second as well as first mortgages, and second mortgage-holders have the right to prevent refinancing or renegotiation of first mortgages unless the second mortgage is paid off. Since the decline in housing values has made many second mortgages worthless, second mortgage-holders have little incentive to consent to any changes in the terms of first mortgages.

These conditions suggest that few mortgages are likely to be renegotiated voluntarily and the facts bear out this prediction. Despite a Bush Administration program to encourage renegotiation of subprime mortgages, only a small number of mortgages have actually been renegotiated. Further, many mortgages have been renegotiated merely by adding the debtor's past due payments and fees to the mortgage principle—a change that is unlikely to prevent foreclosure more than temporarily.¹⁸

What about government programs to provide new mortgages to distressed homeowners? In July 2008, Congress passed and the Bush Administration signed the “Housing and Economic Recovery Act of 2008” (H.R. 3221), which includes the “Hope for Homeowners Act of 2008.” This program is mainly intended to aid homeowners who obtained subprime mortgages with low “teaser” interest rates that will rise after an initial period, making their monthly mortgage payments unaffordable. The main features of the program are as follows: (1) The Federal Housing Administration will provide and guarantee new 30-year, fixed-rate mortgages to eligible homeowners. The new mortgages will be for 90% of the homes' current market value. (2) In order to qualify, homeowners' new mortgage payments must be less than 31% of their income and the house must be the homeowner's principal residence. (3) Holders of first mortgages will receive 85% of the current market value of the house, which means that they will lose 15% of current market value plus the decline in the value of the house since the mortgage was issued minus the borrower's down-payment. (4) Mortgage-holders must consent to the refinancing. (5) Homeowners must pay an insurance fee to the government each year and they must pay the government at least 50% of the future capital appreciation of the house. (6) Second mortgage-holders may receive an unspecified share of the future capital appreciation of the house. The

¹⁸ A report by the Mortgage Bankers Association indicated that about 67,000 loan modifications occurred during the third quarter of 2007 (Pew Charitable Trust, 2008, p. 34). See Levitin and Goodman (2008) for discussion of mortgage servicing contracts.

Congressional Budget Office (2008) predicts that around 400,000 mortgages will be refinanced under the program.¹⁹

The feature of this program that is most problematic is the requirement that existing mortgage lenders consent to the refinancing. The consent requirement inevitably means that adverse selection will occur, since lenders have an incentive to consent to refinancing only of mortgages that they predict are likely to default.²⁰ This suggests that the government many debtors will default even on the refinanced mortgages and the government will then bear the cost of foreclosure. The Congressional Budget Office recently estimated that around one-third of refinanced mortgages would default (Herzenhorn, 2008).

An additional problem is that strategic behavior by lenders will reduce the effectiveness of the program in preventing foreclosures. To illustrate, suppose there are two types of debtors who can apply to have their mortgages refinanced by the government and both types would gain from participating in the program. But lenders must consent in order for debtors to participate. If lenders refuse, the two types of debtors differ because type 1 debtors will default, while type 2 debtors will repay their original mortgages in full. (Type 2 debtors might have higher incomes than type 1's or they might simply behave more strategically.) The most efficient outcome would be to refinance all type 1 debtors' mortgages and none of type 2s'. But suppose lenders cannot identify individual debtors' types, so that the model involves asymmetric information. Asymmetric information models commonly result in pooling equilibria. In a pooling equilibrium, all type 1 debtors apply to participate in the program and some or all type 2 debtors also apply. Lenders' best strategy is to play mixed by sometimes consenting and sometimes refusing. But this outcome is inefficient because, when lenders refuse their consent, some of the debtors will turn out to be type 1's and their homes will go into foreclosure. The inefficiency occurs because it is worthwhile for lenders to sometimes refuse their consent in order to reduce the number of type 2 debtors who behave strategically by applying to have their mortgages

¹⁹ See Herzenhorn (2008). See thomas.loc.gov/cgi-bin/query/F?c110:2::/temp/~c110V7WYMz:e472103: for a description of the program.

²⁰ Lenders have an incentive to consent to refinancing if $(1 - d)M + d(1 - f)V < .85V$, where d is the probability of default, V is the market value of the house, f is the cost of foreclosure as a percent of house value, and M is the present value of future mortgage payments assuming that the mortgage is repaid in full. If $V = \$350,000$, $M = \$420,000$, and $f = .4$, this condition implies that lenders only consent if the predicted probability of default d exceeds .6.

refinanced.²¹ Requiring that lenders consent to refinancing of mortgages means that the “Hope for Homeowners” program cannot prevent all foreclosures from occurring, even in situations where both sides would gain from participating. Thus from an economic efficiency standpoint, allowing lenders to block refinancing is socially costly.

A third approach to solving the mortgage crisis is to expand the existing “save-your-home” feature of Chapter 13 by allowing bankruptcy judges to strip-down residential mortgages. The proposed change would allow bankruptcy judges to divide mortgages that are underwater into a secured portion equal to the current market value of the home and an unsecured portion equal to the difference between the mortgage principle and the current market value of the home. The latter would be treated like any other unsecured claim in bankruptcy and could be partly or fully discharged. Bankruptcy judges would also have the power to discharge excessive fees or penalties imposed by lenders, to reduce interest rates if they are excessive, and/or to convert variable-interest-rate mortgages to fixed-rate. Under current law, mortgages on debtors’ principal residences and some car loans are the only types of loan contracts that cannot be modified in bankruptcy. The proposed change would allow bankruptcy judges to treat these loans the same way as other secured loans in bankruptcy.

The main advantage of allowing strip-down of mortgages in Chapter 13 is that it provides an alternative to the “Hope for Homeowners” program. For many homeowners, mortgage relief will be unavailable through the program, because either the first- or second-mortgage holder refuses to consent to refinancing. Mortgage relief may also be unavailable outside the program because the first-mortgage holder refuses to renegotiate or the second-mortgage holder demands to be repaid. Other homeowners may not qualify for the “Hope for Homeowners” program, since their mortgage payments are less than 31% of income, but they may still default unless their mortgages are modified. These defaults can be avoided by allowing bankruptcy judges to strip-down mortgages in Chapter 13. Another important advantage of allowing mortgage strip-down is that the costs would be absorbed by mortgage lenders, rather than by the U.S. government.

²¹ The higher the proportion of debtors who are type 2’s, the more often lenders will refuse to consent to refinancing and the more foreclosures will occur. See White (1998) for discussion of a model of this type in the context of credit card loans.

What are the drawbacks of introducing mortgage strip-down in Chapter 13? One is that it would encourage strategic behavior by type 2 debtors who can afford to repay their original mortgages. This cost is probably small, because most strategic behavior can be detected by bankruptcy trustees, who have extensive information about debtors' financial situations (including past tax returns). In addition, the high cost of filing for bankruptcy and the obligation to follow a court-supervised repayment plan for five years will discourage most debtors from behaving strategically. A second consideration—forcefully made by lenders—is that allowing strip-down in bankruptcy would reduce the supply of mortgage credit in the future. Levitin and Goodman (2008) have argued that this is unlikely, since in the past, mortgages that could or could not be stripped-down in bankruptcy carried virtually the same interest rates.²² A final issue is whether the bankruptcy system can handle the extra filings by homeowners seeking mortgage modifications. In a recent paper, Ning Zhu and I (2008) predicted that introducing mortgage strip-down would cause an additional 100,000 bankruptcy filings to occur per year. Because the number of bankruptcy filings fell by more than 1 million between 2005 and 2006, it seems likely that the U.S. bankruptcy system has excess capacity and would have little difficulty in handling the additional filings.

Thus adding a bankruptcy route to mortgage strip-down would be a useful additional means of addressing the mortgage crisis. In the fall of 2007, Congress rejected proposed legislation that would have made this change. Hopefully it will reconsider.

²² Between 1979 and 1993, some bankruptcy districts allowed strip-down of mortgages on single-family homes, while others did not. Using regression analysis, Levitin and Goodman (2008) find that there was no significant difference in interest rates or in the number of mortgage loans made between the two types of districts.

Figure 1:
Number of Personal Bankruptcy Filings in the U.S., 1980-2006

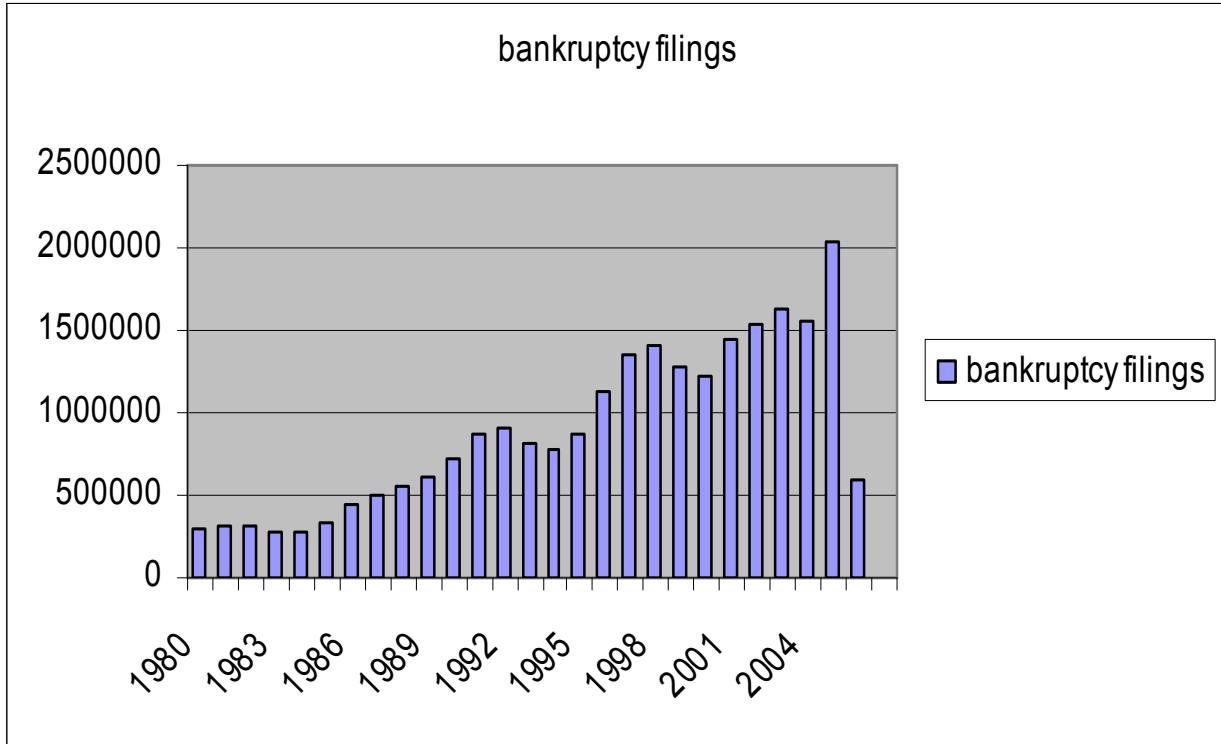
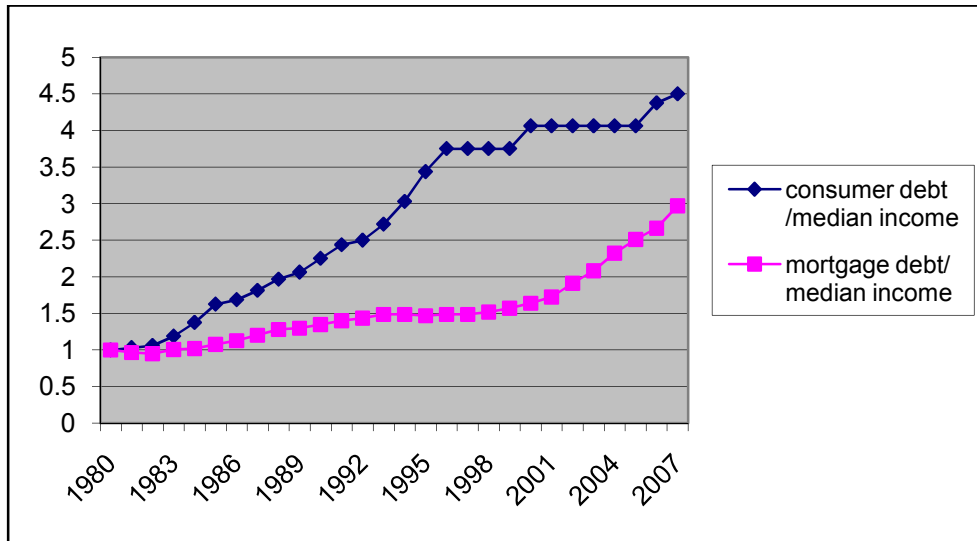


Figure 2:
Growth of Average Consumer Debt and Average Mortgage Debt per Household
Relative to U.S. Median Family Income, 1980 - 2005



Note: both series are scaled to equal one in 1980.

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