

NBER WORKING PAPER SERIES

BANKRUPTCY: PAST PUZZLES, RECENT REFORMS, AND THE MORTGAGE
CRISIS

Michelle J. White

Working Paper 14549

<http://www.nber.org/papers/w14549>

NATIONAL BUREAU OF ECONOMIC RESEARCH

1050 Massachusetts Avenue

Cambridge, MA 02138

December 2008

This is an expanded version of the talk that I gave as President of the American Law and Economics Association, which took place at the 18th Annual ALEA Meeting on May 16-17, 2008. The views expressed herein are those of the author(s) and do not necessarily reflect the views of the National Bureau of Economic Research.

NBER working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

© 2008 by Michelle J. White. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Bankruptcy: Past Puzzles, Recent Reforms, and the Mortgage Crisis
Michelle J. White
NBER Working Paper No. 14549
December 2008
JEL No. E44,G01,K35,R31

ABSTRACT

This paper discusses four bankruptcy-related policy issues. First, what is the economic rationale for having a bankruptcy procedure at all and what defines an economically efficient bankruptcy procedure? Second, why did the number of U.S. bankruptcy filings increase so dramatically between 1980 and 2005? Third, a major bankruptcy reform went into effect in the U.S. in 2005—what did it do and how did it affect credit and mortgage markets? Finally, the paper discusses the mortgage crisis, the high social cost of foreclosures, and the difficulty of avoiding foreclosure by voluntarily renegotiation of mortgage contracts, even when such renegotiations are in the joint interest of debtors and creditors. I also discuss the pros and cons of government programs to refinance mortgages and the possibility of giving bankruptcy judges new power to change the terms of mortgage contracts in bankruptcy.

Michelle J. White
Department of Economics
University of California, San Diego
La Jolla, CA 92093-0508
and NBER
miwhite@ucsd.edu

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), and two governors—John Connolly of Texas (1986) and J. Fife Symington of Arizona (1995).¹ 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. Creditors' collection efforts against the filer are suspended and, if the bankruptcy filing is approved, they can collect only what the bankruptcy process entitles them to receive. 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 else 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

¹ See www.angelfire.com/stars4/lists/bankruptcies.html for a list of celebrity bankruptcies.

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 non-exempt assets (Chapter 7) or a procedure in which they were only obliged to repay from non-exempt earnings (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 willingness to borrow. The higher the bankruptcy exemptions for debtors’ assets and earnings and the shorter the obligation to repay from post-bankruptcy earnings, the more 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 both 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.⁵

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 file. In addition, a more favorable

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.

⁵ Even if a business is incorporated, lenders often require owners to guarantee loans to their corporation. This means that if the corporation fails, the owner is likely to file for bankruptcy because of business debts.

bankruptcy procedure encourages debtors to behave opportunistically by filing even when their ability-to-repay is high. Debtors may work less before bankruptcy because the cost of losing their jobs is lower or work less after bankruptcy because they must share their earnings with creditors. All of these 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 use U.S. data and make use of the fact that U.S. bankruptcy law 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, which ranges 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 consumption insurance to debtors, debtors in these states are predicted to have higher demand for credit, lower supply of credit, 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. When asset exemptions increase, interest rates are predicted to rise and more loan applicants are predicted to be turned down for credit, 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. Gropp, Scholz and White (1997) found evidence 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 in states with high asset exemptions, because lenders tightened credit standards. Lin and White (2001) found that applicants were more likely to be turned down for home improvement loans in states with high asset exemptions. Berkowitz and White (2004) found that small businesses borrowed less and paid higher interest rates in states with high asset exemptions.

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. 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, the optimal asset exemption level would therefore be zero. But as the average debtor becomes more risk-averse, the optimal asset exemption level rises. Now consider the determination of the optimal earnings exemption. A higher earnings exemption similarly makes risk-averse debtors better off by partially insuring their consumption, but makes all debtors worse off because the supply of credit falls. 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 avoid going bankrupt, and increasing the supply of credit. This suggests that the optimal level of shaming penalties could 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. In the next section, I discuss why filings dropped in 2006 and the trend since 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 the number of 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, but only 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 percentage of Americans not covered by health insurance also rose slightly over the period, from 14.8% in 1985 to 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 allowed only in Nevada and Atlantic City in 1980 but had spread over most of the country 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

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.

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 find that higher debt is positively and significantly related to debtors' filing decisions.

Why did credit card debt 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

⁸ Average revolving debt per household increased from \$1665 in 1980 to \$7530 in 2005, while average mortgage debt increased from \$29,300 in 1980 to \$85,600 in 2005 (figures in 2006 dollars). 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.

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 if 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 or not 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, since buyers and insurers of the securities absorbed some of the risk.¹⁰

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

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 Furllett (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.

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. 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. Except for jumbos, these new types of mortgages were often marketed to riskier, lower-income debtors who did 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. I discuss how bankruptcy helps debtors who are homeowners save their homes in the next section.

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 exceed the exemption by more than \$167 per month (or \$2000 per year) can no longer file under Chapter 7; instead they must file under Chapter 13 if they file for bankruptcy at all. In Chapter 13, they must use all of their non-exempt earnings for five years 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.

¹¹ This is based on data from the Securities Industry and Financial Markets Association (see www.sifma.org/research/pdf/MortgageRelatedOutstanding.pdf).

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 vast 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 formula is generous enough that most debtors qualify for Chapter 7 even if their incomes are in the top decile of the income distribution. In addition, filers whose debts are primarily due to a failed business can bypass the means test entirely and file under Chapter 7 regardless of their incomes.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 submit copies of their past tax returns (even if they never filed tax returns), take a credit counseling course before they file and a debt management course before they receive a discharge, and pay higher filing fees. Bankruptcy lawyers are now subject to new registration requirements, they must certify the accuracy of all the information that debtors provide on their bankruptcy forms, and they can be found liable if debtors provide false or misleading formation. These changes caused bankruptcy lawyers to raise their fees. Overall, the first of the two changes was intended to discourage high-income debtors from filing by forcing them to repay some of their debts in Chapter 13, while the second was intended to discourage lower-income debtors from filing by raising their filing 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, but rose to 800,000 in 2007 and rose even more in the first

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

half of 2008. 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, 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). Credit card lenders reacted to favorable conditions by supplying more credit—consumer revolving debt per household rose by 12% from 2005 to 2007.¹³ Fourth, the reform did not deter high-income debtors from filing more than it deterred debtors in general—about 1% of bankruptcy filers in both 2001 and 2007 had incomes above \$100,000.¹⁴ This may be because the means test allows even high-income debtors to file under Chapter 7 or because most high-income filers are entrepreneurs who are allowed to bypass the means test completely. Fifth, the proportion of bankruptcy filings under Chapter 13 rose from 20% in 2005 to around 40% in 2006 and 2007. Since mortgage defaults began rising at the same time as bankruptcy reform went into effect, this raises the question of whether the increased use of Chapter 13 is due to the reform or to the mortgage crisis.

Now consider how bankruptcy helps financially distressed homeowners to save their homes and how the reform changed this. Debtors who file under Chapter 7 have their unsecured debt discharged, which frees up additional income to make their mortgage payments. But they can only use Chapter 7 to save their homes if they are current on their mortgage payments or can pay off their mortgage arrears quickly, since filing under Chapter 7 does not stop lenders from foreclosing. In addition, their home equity must be below their state's homestead exemption, since otherwise the home must be sold in bankruptcy and the non-exempt portion of home equity must be used to repay unsecured debt. Bankruptcy reform reduced the number of debtors who can use Chapter 7 to save their homes, both because debtors must now pass the means test in order to file under Chapter 7 and because debtors who moved to their current homes within the previous 3½ years are limited to a maximum homestead exemption of \$125,000 -- even if their

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.

¹⁴ Income figures are corrected to 2007 dollars. See Lawless et al (2008).

state's homestead exemption is higher.¹⁵ Debtors can alternately file under Chapter 13 to save their homes. A Chapter 13 filing helps debtors even if they have defaulted on their mortgage payments and lenders have initiated foreclosure, since filing under Chapter 13 stops foreclosure. Debtors must repay their mortgage arrears--plus interest—over five years as part of their Chapter 13 repayment plans and they must also make all of their normal mortgage payments. While debtors are theoretically required to repay unsecured debt in Chapter 13 as well, in practice most repay only the mortgage. This is because the mortgage payment comes first and debtors are only required to use their non-exempt incomes to repay. Thus if debtors' mortgage payments exceed their non-exempt income, then they are not required to repay any unsecured debt. Chapter 13 as a strategy for debtors to save their homes existed before the 2005 bankruptcy reform and was not changed by the reform, except that the costs of filing for bankruptcy rose.

In a recent paper, Ning Zhu and I (2007) examined a sample of debtors who filed under Chapter 13 in 2006. Our goal was to understand whether debtors file under Chapter 13 to save their homes or because the means test now forces them to do so. We found that 96% of Chapter 13 filers in our sample were homeowners and 78% passed the means test—meaning that they could have filed under Chapter 7. About 90% of Chapter 13 filers proposed repayment plans and only 9% of plans proposed to repay only unsecured debt.¹⁶ Thus while Chapter 13 has become relatively more important since the adoption of bankruptcy reform, debtors are still using it to save their homes rather than to repay unsecured debt.

Finally, filing for bankruptcy under either chapter also helps debtors who default on their mortgages and do not wish to save their homes. This is because, if the house sells in foreclosure for less than the amount owed, in some states the lender has a claim on the debtor for the difference. This claim can be discharged in bankruptcy.

Overall, the 2005 bankruptcy reform benefitted creditors by raising the cost of filing for bankruptcy, but discouraged debtors from behaving opportunistically by introducing a means test

¹⁵ Berkowitz and Hynes (1999) first suggested that debtors could use Chapter 7 to save their homes. See Morgan et al (2008) for discussion of the effect of bankruptcy reform on homeowners' use of Chapter 7.

¹⁶ See White and Zhu (2007). Most debtors who repaid only unsecured debt in Chapter 13 were repaying priority (tax) claims or student loans or the fees of their bankruptcy lawyers. These debts are not discharged in bankruptcy.

for Chapter 7. The reform also made it more costly for debtors to use bankruptcy to save their homes.

4. Bankruptcy and the Subprime Mortgage Crisis

My last topic is how bankruptcy relates to the subprime mortgage crisis. About 1.5 million foreclosures occurred in 2007 and an additional 1.2 million in the first half of 2008. Estimates suggest that another two million foreclosures may occur in the next two years.¹⁷ Foreclosures are extremely costly. Homeowners lose because they are forced to move, which destroys their ties to the neighborhood and forces their children to switch to new schools. Some become homeless. Lenders lose because, by the time foreclosed homes are sold, around one-half of the value of the loan is lost. Neighborhoods where foreclosures occur suffer because vacant homes deteriorate and cause blight, reducing the value of nearby properties.¹⁸ 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.¹⁹

Given that foreclosures are 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 allow only a limited number of mortgages, usually 5%, to be modified. Even when renegotiation is allowed, owners of mortgage-backed securities often prefer foreclosure because it is quicker and they fear that debtors will eventually default on the renegotiated mortgage. In addition, securitized mortgages have multiple sets of owners with differing levels of priority.

¹⁷ See Bair (2008).

¹⁸ 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).

¹⁹ 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).

When renegotiations occur, the changes generally make one set of owners better off and others worse off, so that the latter try to block them. Thus securitization makes renegotiation much more difficult. Another problem is that many distressed homeowners have second as well as first mortgages, and second mortgage-holders have the right to prevent modification 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 cooperate.

All mortgage securities have a servicer who collects the mortgage payments and represents the owners in renegotiations. But the contracts between security owners and servicers also discourage renegotiation. One problem is that servicers are compensated for their costs of foreclosing, but not for the costs of renegotiating. Another is that servicers impose fees when debtors pay late or default and servicing contracts allow them to keep these fees if they can collect them. Since renegotiating a mortgage often involves giving up these fees, they give servicers an additional incentive to foreclose. Thus most mortgage servicing contracts are unsuited to dealing with the housing crisis.²⁰

Few renegotiations occurred during 2006 and 2007 and many that did occur merely added the debtor's past due payments and fees to the mortgage principle—a change that is unlikely to prevent foreclosure more than temporarily. The pace of renegotiations increased in 2008, but still only about one-third of mortgages in default are being renegotiated. Most recent renegotiation activity involves mortgages that either were retained by the lender (i.e., not securitized) or were securitized by Fannie Mae and Freddie Mac. Few mortgages that were securitized by private banks have been renegotiated, even though these banks specialized in buying and securitizing subprime mortgages.²¹

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

²⁰ See Cordell et al (2008) for a discussion of mortgage servicing contracts.

²¹ See Cordell et al (2008) and Pew Charitable Trust (2008, p. 34) for data on renegotiations.

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 principle residence. (3) First mortgage-holders will receive 85% of the current market value of the house, which means that they lose more than the decline in value of the house. (4) First mortgage-holders must consent to the refinancing. (4) The government will bear all losses if the debtor defaults on the refinanced mortgage, but it and second mortgage-holders will receive part of the future capital appreciation of the house. The Congressional Budget Office (2008) predicts that around 400,000 mortgages will be refinanced under the program.²²

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 if they predict that the debtor is likely to default. This suggests that many debtors will default even on the refinanced mortgages and the government will then bear the costs. The Congressional Budget Office recently estimated that around one-third of refinanced mortgages would default (Herzenhorn, 2008). An additional problem is that lenders have an incentive to frequently refuse their consent in order to discourage strategic behavior by relatively well-off debtors. These debtors have an incentive to apply for refinancing under the program, but would repay their original mortgages if lenders refuse. Since lenders cannot perfectly distinguish between debtors who apply strategically and those who apply because they cannot afford to repay, they have an incentive to frequently refuse their consent in order to discourage strategic behavior. As a result, some mortgages will not be refinanced even when debtors cannot afford to repay and will otherwise default. Requiring lenders' consent thus means that the "Hope for Homeowners" program cannot prevent all foreclosures, even in situations where both sides would gain from participating. Thus from an economic efficiency standpoint, allowing lenders to block refinancing is socially costly.

²² See Herzenhorn (2008). See thomas.loc.gov/cgi-bin/query/F?c110:2:./temp/~c110V7WYMz:e472103: for a description of the program.

A similar approach was recently proposed by Sheila Bair, Chairman of the Federal Deposit Insurance Corporation. The FDIC program also modifies mortgages to reduce debtors' mortgage payments to 31% of their gross income. Lenders, rather than the government, must hold the modified mortgages, but the government will absorb up to 50% of the loss if debtors default on the modified mortgages. This approach has the advantage that lenders' consent is not required, but has the problem that strategic behavior will result in too many—rather than too few--mortgages being modified.²³

A third approach to solving the mortgage crisis is to expand the save-your-home feature of bankruptcy by allowing bankruptcy judges to modify residential mortgages. Judges would 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 discharged in Chapter 7 or paid under the debtor's Chapter 13 repayment plan if the debtor has enough non-exempt income. 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, bankruptcy judges have the power to change the terms of mortgages if they are secured by vacation homes, multi-family homes, or boats, but not if they are secured by the debtor's principal residence. So the proposed reform would make the treatment in bankruptcy of mortgages secured by a debtor's primary residence the same as the treatment in bankruptcy of other secured loans.²⁴

The main advantage of allowing mortgage modification in bankruptcy is that it provides an alternative route for homeowners whose mortgages cannot be modified under the other approaches. Homeowners may find themselves in this situation because their loans are part of a private mortgage-backed security that does not allow modification or because the first- or second-mortgage lender refuses to consent. Other homeowners may find themselves in this situation because their mortgage payments are less than 31% of income, but they would nonetheless default unless modification occurs. These defaults can be avoided by allowing

²³ The FDIC is applying this approach to loans held by IndyMac Bank, which it took over in July 2008, and has argued that it should be applied more broadly. See Bair (2008).

²⁴ See Goodman and Levitin (2008) for discussion.

judges to modify mortgages in bankruptcy. Another important advantage of allowing mortgage modification in bankruptcy is that the costs would be absorbed by mortgage lenders, so that the bankruptcy route would be available even if government programs exhausted their funding.

What are the drawbacks of allowing mortgage modification in bankruptcy? One is that it would encourage strategic behavior by debtors who gain from defaulting because their mortgages are underwater, but who can afford to repay their original mortgages. This cost is likely to be small, because most strategic behavior can be detected by bankruptcy trustees, who have extensive information about debtors' financial situations. An additional way to limit strategic behavior would be to require all debtors seeking mortgage modification to file under Chapter 13, where they must follow a court-supervised repayment plan for five years. A second consideration—forcefully made by lenders—is that allowing mortgage modification 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 modified in bankruptcy carried virtually the same interest rates.²⁵ A final issue is whether the bankruptcy system can handle the extra filings by homeowners seeking mortgage modifications. The number of bankruptcy filings fell by more than 1 million between 2005 and 2006 and the current filing rate is still well below the peak in 2005. It therefore seems likely that the U.S. bankruptcy system has substantial excess capacity and would have little difficulty in handling the additional filings.

These points suggest that adding a bankruptcy route to mortgage modification would be a useful additional means of addressing the mortgage crisis. Congress rejected legislation that would have made this change in the fall of 2007, but the Obama campaign expressed support for it and the proposal is likely to be reconsidered after the new Administration takes office.²⁶

²⁵ Between 1979 and 1993, some bankruptcy districts allowed modification of mortgages on single-family homes, while others did not. Levitin and Goodman (2008) find that there was no significant difference in mortgage terms between the two types of districts.

²⁶ For the Obama campaign statement, see <http://www.barackobama.com/issues/economy/index.php#home-ownership>. The proposed law is S.2136: Helping Families Save Their Homes in Bankruptcy Act of 2008.

Figure 1:
Number of Personal Bankruptcy Filings in the U.S., 1980-2007

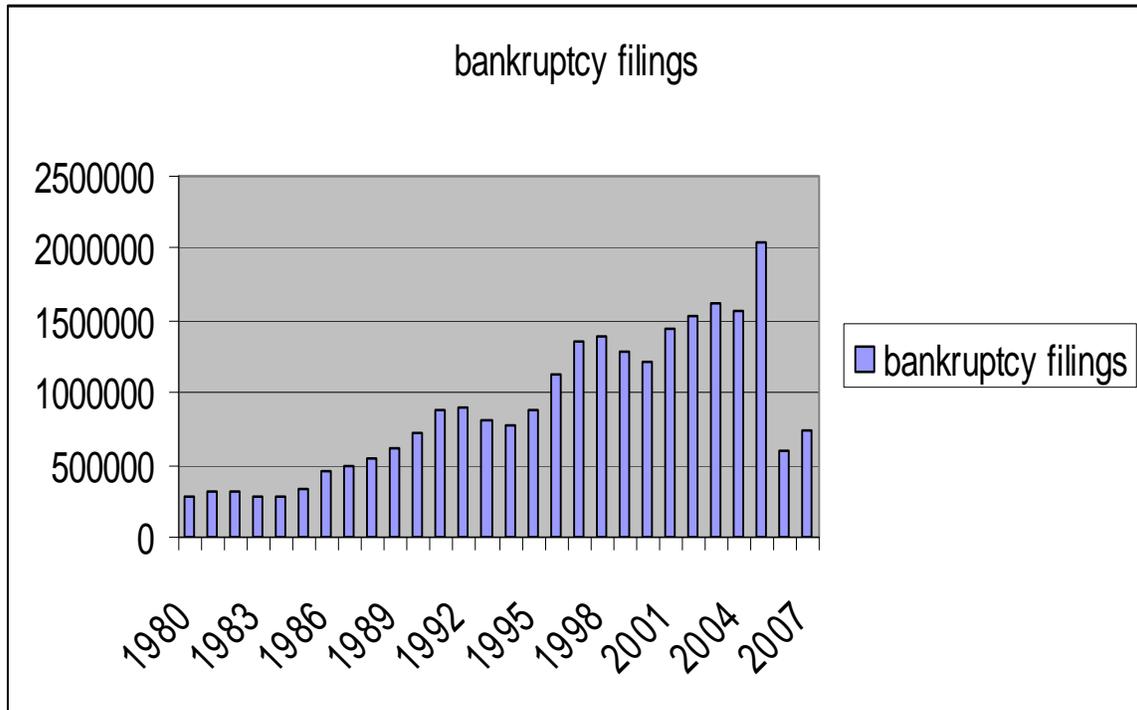
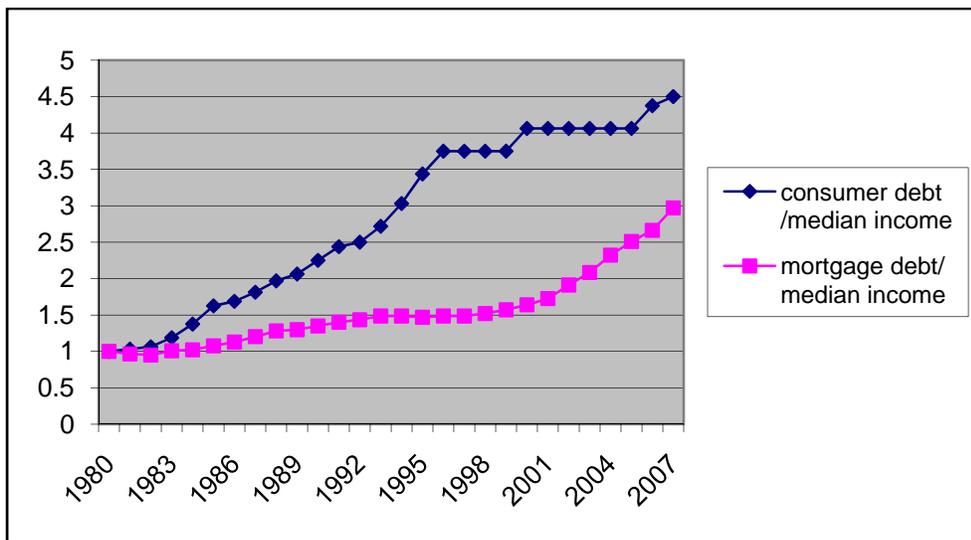


Figure 2:
Growth of Average Consumer Debt and Average Mortgage Debt per Household
Relative to U.S. Median Family Income, 1980 - 2007



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

References

- Armour, John and Douglas Cumming. 2005. "Bankruptcy Law and Entrepreneurship," ESRC Centre for Business Research, University of Cambridge, Working Paper No. 300.
- Ashcraft, Adam, Astrid A. Dick, and Donald P. Morgan. 2007. "The Bankruptcy Abuse Prevention and Consumer Protection Act: Means-Testing or Mean Spirited? Federal Reserve Bank of New York Staff Report No. 279.
- Bair, Sheila C. 2008. "Statement of Sheila C. Bair to Committee on Financial Services; U.S. House of Representatives," November 18, 2008 (www.fdic.gov/news/news/speeches/chairman/spnov1808.html).
- Barron, John M., Michael E. Staten, and Stephanie M. Wilshusen. 2002. "The Impact of Casino Gambling on Personal Bankruptcy Filing Rates." 20 *Contemporary Economic Policy* 440–45.
- Berkowitz, Jeremy, and Richard Hynes, 1999. "Bankruptcy Exemptions and the Market for Mortgage Loans," 42 *J. of Law & Economics* 809-830.
- Berkowitz, Jeremy, and Michelle J. White. 2004. "Bankruptcy and Small Firms' Access to Credit," 35 *RAND J. of Economics* 69-84.
- Cordell, Larry, et al, 2008. "The Incentives of Mortgage Servicers: Myths and Realities," Federal Reserve Board, Finance and Economics Discussion Series 2008-46.
- Doms, Mark S., and John Krainer. 2005. "Innovations in Mortgage Markets and Increased Spending on Housing," Fed. Reserve Bank of San Francisco working paper 2007-05.
- Dranove, David, and Michael L. Millenson. 2006. "Medical Bankruptcy: Myth versus Fact," 25 *Health Affairs* (online edition) w74-w83.
- Efrat, Rafael. 2002. "Global Trends in Personal Bankruptcy," 76 *American Bankruptcy Law Journal*. 81-110.
- Evans, David S., and Richard Schmalensee. 1999. *Paying with Plastic: The Digital Revolution in Buying and Borrowing*. Cambridge: MIT Press.
- Fan, Wei, and Michelle J. White. 2003. "Personal Bankruptcy and the Level of Entrepreneurial Activity." 46 *Journal of Law & Economics* 543-568.
- Fay, Scott, Erik Hurst, and Michelle J. White. 2003. "The Household Bankruptcy Decision," 92 *American Economic Rev.* 708-718.

- Furletti, Mark. 2002. "An Overview of Credit Card Asset-Backed Securities," Discussion Paper, Payment Cards Center, Federal Reserve Bank of Philadelphia.
- Gerardi, Kristopher, Adam Shapiro, and Paul S. Willen. 2007. "Subprime Outcomes: Risky Mortgages, Homeownership Experiences, and Foreclosures," Federal Reserve Bank of Boston, working paper 07-15.
- Government Accountability Office. 2008. "Bankruptcy Reform: Dollar Costs Associated with the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005," U.S. GAO-08-697.
- Grant, Charles, and Wilfred Koeniger. 2005. "Redistributive Taxation and Personal Bankruptcy in U.S. States," IZA Discussion Paper No. 1805.
- Gropp, Reint, J. Karl Scholz and Michelle J. White. 1997. "[Personal Bankruptcy and Credit Supply and Demand](#)," 112 *Quarterly Journal of Economics* 217-251.
- Gross, David B., and Nicholas S. Souleles. 2002. "An Empirical Analysis of Personal Bankruptcy and Delinquency," 15 *Review of Financial Studies* 319-47.
- Gross, David B., and Nicholas S. Souleles. 2002. "Do Liquidity Constraints and Interest Rates Matter for Consumer Behavior? Evidence from Credit Card Data." 117 *Quarterly J. of Econ.* 149-185.
- Herszenhorn, David M. 2008. "Sweeping Housing Bill Signed by Bush," *New York Times*, July 31, 2008.
- Himmelstein, David U., Elizabeth Warren, Deborah Thorne, and Steffie Woolhandler. 2005. "Illness and Injury as Contributors to Bankruptcy." 24 *Health Affairs* (online edition) w5-63-w5-73 (Feb. 2, 2005).
- Immergluck, Dan, and Geoff Smith. 2006. "The External Costs of Foreclosure: The Impact of Single-Family Mortgage Foreclosures on Property Values." 17 *Housing Policy Debate* 57 (2006).
- Lawless, Robert M., et al. 2008. "Did Bankruptcy Reform Fail? An Empirical Study of Consumer Debtors." 82 *American Bankruptcy Law Journal* 349-405.
- Levitin, Adam J., and Joshua Goodman. 2008. "Mortgage Market Sensitivity to Bankruptcy Modification." Paper presented at the 2008 ALEA Conference, New York.
<http://law.bepress.com/cgi/viewcontent.cgi?article=2485&context=alea>
- Lin, Emily Y., and Michelle J. White, Bankruptcy and the Market for Mortgage and Home Improvement Loans, *J. of Urban Economics*, 50, 138-162 (2001).

- Mann, Ronald J. 2006. *Charging Ahead*. Cambridge University Press.
- Morgan, Donald P., Benjamin Iverson, and Matthew Botsch, 2008. "Seismic Effects of the Bankruptcy Reform," Federal Reserve Bank of New York Staff Reports, no 358.
- Pew Charitable Trusts. 2008. "Defaulting on the Dream: States Respond to America's Foreclosure Crisis," 2008, available at www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Subprime_mortgages/defaulting_on_the_dream.pdf.
- Porter, Katherine. 2008. "Misbehavior and Mistake in Bankruptcy Mortgage Claims," 87 *Texas Law Review*. Available at papers.ssrn.com/sol3/papers.cfm?abstract_id=1027961.
- Sullivan, Teresa, Elizabeth Warren and Jay Lawrence Westbrook. 1989. *As We Forgive Our Debtors*. New York, NY: Oxford University Press.
- Sullivan, Teresa, Elizabeth Warren and Jay Lawrence Westbrook. 2000. *The Fragile Middle Class: Americans in Debt*. New Haven, CT: Yale University Press.
- U.S. Census Bureau, Current Population Reports, various years.
- White, Michelle J. 2007a. "Bankruptcy Law," in *Handbook of Law and Economics*, edited by A.M. Polinsky and Steven Shavell. Elsevier Press.
- White, Michelle J. 2007b. "Bankruptcy Reform and Credit Cards," *J. of Economic Perspectives*, Fall 2007b, 175-199.
- White, Michelle J. 1998. "Why Don't More Households File for Bankruptcy?" 14 *J. of Law, Econ. and Org.* 205-231.
- White, Michelle J., and Ning Zhu. 2008. "Saving Your Home in Chapter 13 Bankruptcy," NBER working paper no. 14179.
- Zhu, Ning. 2007. "Household Consumption and Personal Bankruptcy," SSRN abstract number 971134. Forthcoming, *J. of Legal Studies*.