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The Bankruptcy Abuse Prevention and Consumer Protection Act: Means-Testing or Mean Spirited?

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Abstract

Thousands of U.S. households filed for bankruptcy just before the bankruptcy law changed in 2005. That rush-to-file was more pronounced, we find, in states with more generous bankruptcy exemptions and lower credit scores. We take that finding as evidence that the new law effectively reduces exemptions, which in turn should reduce the "demand" for bankruptcy and the resulting losses to suppliers of consumer credit. We expect the savings to suppliers will be shared with borrowers by way of lower credit card rates, although credit card spreads have not yet fallen. If cheaper credit is the upside of the new law, the downside is reduced bankruptcy "insurance" against bad luck. The overall impact of the new law on the average household depends on how one weighs those two sides.

Key words: personal bankruptcy, consumption smoothing, insurance, competition

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I. Introduction

The Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA) of 2005 makes it costlier to file for personal bankruptcy. Higher income filers with sufficient *means,* as determined by recent income (relative to the state median) and expenses, must continue paying on their debts for five years under chapter 13. All filers must undergo six months of mandatory credit counseling, provide additional documentation, and pay higher filing fees. Access to state homestead and property exemptions that protect assets of chapter 7 filers will be limited by a residency requirement.[1]

That BAPCPA will reduce *future* demand for bankruptcy is obvious from the unprecedented rush-to-file just before BAPCPA took effect last October (Chart 1). Chapter 7 filing rates per household increased by about one third between 2005:Q3 and 2005:4. In D.C., the rate doubled.

According to Nunez and Rosenthal (2006), Congress hardened personal bankruptcy law in response to persistent lobbying by consumer lenders, especially credit card banks, whose unsecured claims on borrowers were the first to be discharged under Chapter 7 Lenders blamed the steady rise in personal filing rates (Chart 2) on "soft" bankruptcy law that motivated households to borrow more than they could afford, with the bankruptcy option in mind, then repay less than they could afford in the event of bankruptcy. In textbook terms, lenders claimed that soft bankruptcy laws were increasing the demand for bankruptcy by *strategic* borrowers.

Opposing BAPCPA were consumer advocates and the *bankruptcy bar,* the lawyers and trustees who administer bankruptcy procedures in the U.S. (Steel 2001). Their side dismisses the strategic aspects of consumer bankruptcy decisions, stressing instead the *accidents* that may trigger bankruptcy: illness, unemployment, divorce, etc. (Sullivan et al. 1989, Himmelstein et al. 2005). Their side sees bankruptcy as a last resort form of

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[1] In pseudo corporate-legal terms, Chapter 7 means l*iquidation:* filers turn over any non-exempt assets that are not already owned by secured creditors. Remaining debts are *discharged,* so filer's own their future income free and clear. Chapter 13 is *reorganization*: filers' keep even non-exempt assets but agree to continue payments out of future income. Reorganizations are subject to approval by a *federal trustee*. Exemptions are set by state. Before BAPCPA, the liquidate (7) or re-organize (13) decision was jointly determined by filers and trustee. The means test under BAPCPA limits that discretion.

insurance against such calamities, so to reduce the supply of bankruptcy insurance, as BAPCPA may, seems mean spirited.[2]

Lawmakers caught between those forces face Goldilock's dilemma. Laws that are too soft reduce the supply of household credit (Gropp et al. 1997). Laws that are too hard expose borrowers to all sorts of accidents may reduce entrepreneurship (Fan and White 2003, Armour and Cummings 2005). In fact, some E.U. nations have recently softened their consumer bankruptcy laws partly to spur entrepreneurship. Erring in either direction has first-order consequences on household welfare.[3]

With that debate as background, this article asks whether the means test under BAPCPA take U.S. bankruptcy law a step closer to the socially optimal law. We approach the question from a variety of perspectives.

Section II takes an institutional-theoretic view. We argue that a means test is a step toward the sort of income indexed debt contracts that risk averse borrowers would choose of their own accord. Income indexing obligates borrowers to repay more or less of their debt depending on their income, much like a means test. However, if income verification costs are prohibitive (Townsend 1979), or if contracting innovations by the private sector are stymied by free rider problems, welfare enhancing contracts (such as income-indexed contracts) may not be privately available or enforceable. Franks and Sussman (2005) argue that the state can improve on private contracting outcomes (by internalizing innovation externalities), but self-interest may bias the "bankruptcy bar" (Steel 2004) toward soft laws. Conflicting interests and suspicions about the intent of changes in bankruptcy law can also cause the law to cycle between soft and hard. Our brief review of the evolution of U.S. consumer bankruptcy law seems consistent with those predictions.

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[2] For example, Krugman (2005) condemns BAPCPA as another step toward "privatization of risk" that takes U.S. society a step further toward a "debt-peonage." Rhetoric over BABPCA echoes the debates over welfare reform in the mid 1980s

> The banking and credit-card companies that bankrolled the new law … want us to believe that it is designed to capture wild spenders who finance lavish lifestyles before ducking behind the protection of bankruptcy when the bills come due. But this contemporary retelling of the myth of the welfare queen dissolves under scrutiny (*New York Times*, October 3, 2005)

[3] Consumer spending accounts for roughly two-thirds of aggregate U.S. spending, much of it financed by debt, so any change in consumer credit markets automatically matters for aggregate spending. The hardening of U.S. law will also affect hospitals, whose claims on uninsured patients are discharged under chapter 7.

Section III reviews empirical studies of how bankruptcy laws affect the demand for bankruptcy and the supply of credit. A number of studies confirm that soft bankruptcy laws and falling stigma have increased the demand for bankruptcy. High bankruptcy demand, in turn, reduces the supply of credit. On the other hand, bankruptcy demand also depends on accidents, especially health shocks, thus justifying concerns that reducing the supply of bankruptcy also reduces the supply of insurance to unlucky households.

Section IV studies the rush-to-file just before BAPCPA became effective in October of 2005 to determine what sorts of households stand to lose the most under BAPCPA. Consistent with the strategic view, we find that the rush-to-file was significantly higher in states with higher exemption rates, and that exemption rates have their largest impact in states with troubled borrowers (low FICO scores).

Section V looks for credit supply effects of BAPCPA at a number of stages in the production process, from the credit card banks who originate loans, to the credit card backed securities the loans get turned into, to the third party debt collectors who buy discharged credit card loans. Event studies show that stock prices of debt collectors and (some) credit card banks increased as BAPCPA passed through Congress. We document that chargeoffs of credit card loans are now at historical lows since the rush-to-file ended, but note that interest rates paid by borrowers have not yet responded, and document that the excess spread paid to issuers of credit card asset-backed securities, remains at historical highs.

Section VI discusses recent simulations of how harder bankruptcy rules affect welfare for the representative household. In our view, these computable models offer the best hope for answering our question because they take into account how a hardening of the law affects both the supply of credit and the supply of insurance against income risk and other shocks. Unfortunately, the models deliver conflicting answers.

Section VII takes up a crucial assumption in all these models: perfect competition in consumer credit markets. Under that assumption, all the benefit of hardening bankruptcy laws gets passed on to borrowers. However, if competition is weak, increased creditor protection translates into increased profits for lenders instead of lower interest rates for borrowers. While there are legitimate reasons to expect “sticky” credit

card rates (Ausubel 1991, Stango and Knittel 2003, Calem, Gordy, and Mester 2006), our VAR analysis of the relationship between credit card spreads and chargeoffs shows that spreads do indeed eventually decline as chargeoffs decline. Given that credit card write-offs in the first quarter of 2006 were at their lowest in nearly twenty years, we predict lower credit card rates in the near future.

Although we predict that BACPA will increase consumer credit supply, we have to end more ambiguously on the question we set out to answer: will BAPCPA improve overall welfare for the typical household? The welfare calculus is complicated because the costs and benefits of BAPCPA fall unevenly. Increased credit supply benefits all borrowers, more or less. The downside, reduced supply of bankruptcy insurance, is harder to evaluate because we cannot be sure who that most affects. If the marginal filer fits the strategic model, social conscience may be assuaged. But if the marginal filer is truly unlucky, BAPCPA will indeed seem hard-hearted. The rush-to-file before BAPCPA included both strategic and accident-prone types, so in the end, we cannot say for sure whether the increased supply of consumer credit we expect from BAPCPA is enough to offset the reduced supply of insurance for risky (as opposed to strategic) filers.

II. Means Testing as Innovation and the Forces Opposing It

We argue that means testing resembles an income indexed debt, a potentially welfare improving innovation in financial contracts. We then discuss the forces that might oppose such innovations.

II.1 Means Testing as Income Indexed Debt

If borrowers have random income and are risk averse, they will prefer financial contracts with future repayment that increase with realized income. We illustrate using a standard, two-period credit model. Let c denote household consumption in period one or period two. Utility from consumption equals $U(c)$. Utility is increasing in consumption, $U'(c) > 0$, but at a diminishing rate, $U''(c) < 0$. Second period utility gets discounted by $\delta < 1$.

Suppose household income equals zero today period and 2 on payday, i.e. next period. Without credit, household consumption equals income each period, so total utility equals $U(0) + \delta U(2)$. That rags to riches consumption pattern is suboptimal, so households will demand credit to smooth their consumption. Given sufficient

competition among lenders, households should be able to borrow at the safe rate of interest, *R*. Households will borrow (b) until the marginal utility of consuming another unit in today equals the discounted, marginal disutility of repaying the debt on payday, i.e., $U'(b) = \delta RU'(2-Rb)$. Total utility at optimal borrowing equals $U(b^*) + \delta U(2-Rb^*)$. If $b^* > 0$, household utility must be higher with credit than without. Lenders raise welfare in this particular scenario by providing a pure credit service: they let households smooth their income as their income changes over time. In the special case of log utility where $u(c) = ln(c)$, we have $c_1^* = b^* = 2/[R(1+\delta)]$ and $c_2^* = 2\delta/(1+\delta)$. The optimal amount of smoothing is driven by the interest rate *R* and the discount rate δ.

If future income is *risky,* lenders can also provide a form of insurance along with credit. Suppose half of households will earn income next period equal to 1 while the other half earn income equal to 3 (so median income equals 2). If household income is freely observable, a strong assumption, debt payments can be tied to future income: p_1 and p_3. The optimal contract $\{b,p_1,p_3\}$ maximizes household's expected utility subject to lenders covering their cost of funds. The first-order conditions for the optimal contract imply (Appendix A.1):

$$U'(b)/R = \delta U'(1- p_1) = \delta U'(3- p_3) \quad (1)$$

Notice that the optimal debt payments are increasing in income: $p_3 > p_1$. Borrowers *prefer* income-indexing payments to a fixed payment contract where $p_3 = p_1$ because of the insurance provided. Note that lenders can provide these credit-insurance contracts at the same price per unit as ordinary credit. Credit-insurance costs the same because 1) lenders can diversify the income risk and 2) the insurance does not invite any moral hazard or adverse selection, i.e., households are not able to influence or hide future income.

The means test under BAPCPA is one step toward income-indexed debt contracts. In effect, the means test says households with income below the median for their state qualify for discharge, but households with sufficient means must repay debt over time.

If means testing is preferable to borrowers, the puzzle is why lenders did not offer income indexed debt contracts on their own, before BAPCPA.[4] High contracting costs are one obvious answer: if debt payments are tied to income, some borrowers will be motivated to conceal income to minimize their debt payments.[5] However we model it, the potential to cheat will limit the contracts lenders can feasibly offer households.

Imagine there are *Thruthies* (*T*) and *Falsies (F). T* cannot tell a lie. *F* lie when worthwhile. The gain from lying equals the difference in debt payments in income states 1 and 3: $U(3 - p_1) - U(3- p_3)$. The cost of lying equals $f \geq 0$. Think of *f* as the accounting costs of hiding income, plus any stigma falsies suffer from faking bankruptcy. Lenders cannot tell *T* from *F ex ante* or *ex post,* all they know is the proportion of *T* and *F* at large: *T*, *1- T*. Keeping *F* honest requires $U(3 - p_1) - U(3- p_3) \leq f$. Lenders can only collect income, not flesh, so they are bound by $p_1 \leq 1$.

The optimal contract maximizes welfare for Truthies subject to 1) lenders breaking even, 2) Falsies tell the truth, and 3) the boundary condition.[6] The FOC for this problem can be written (Appendix A.2):

$$(2) \qquad U'(b)/R = \delta U'(1- p_1) - IU'(3-p_1)2/T + B2/T = \delta U'(3- p_3)\{1 + I2/T\delta\}.$$

where *I* and *B* represent the shadow value of the incentive compatibility constraint and the boundary condition. If the incentive and boundary constraints do not bind, then $B= I =0$, and (2) is the same as (1). In that unconstrained case, truthies (and falsies) get maximum feasible consumption smoothing and insurance. They demand b^* and pay p_1^* and p_3^* as their income dictates.

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[4] In fact, consumer lenders have tried to sell unemployment-credit insurance, wherein borrowers' debt payments are reduced or forgiven in the event the borrower becomes unemployed, but demand for the product has not seemed high, perhaps because it is expensive, or perhaps because borrowers realize that bankruptcy provides implicit insurance.

[5] Standard, non-income contingent debt contracts tend to dominate income-indexed contracts when income verification costs are high (Townsend 1979).

[6] The *revelation principle,* an important theorem in game theory, justifies our focus on contracts where falsies do not lie in equilibrium, i.e., incentive compatible contracts. The revelation principle says we can derive general properties of all equilibria with asymmetric information by analyzing the set of incentive-compatible contracts. For further discussion see Meyerson (1979) or his website: http://home.uchicago.edu/~rmyerson/research/revnprl.pdf

If the incentive constraint binds, $I > 0$, borrowers wind up with less insurance against income risk. Lenders must lower p_3 and raise p_1 relative to p_3* and p_1*, hence: $\delta RU'(3- p_3) < U'(b^*) < \delta RU'(1- p_1)$.

This model illustrates three points. First, when functioning perfectly, credit markets allow consumption smoothing over time *and* across events, i.e., credit markets can provide insurance. In other words, when designed correctly, the bankruptcy option increases welfare. Second, the moral hazard invited by credit insurance degrades both credit market functions, so households' standard of living fluctuates more over time and across events. Third, the mere existence of falsies, strategic filers in other words, reduces welfare for truthies *and* falsies.[7] Falsies are hoist by their own petard. It follows that everyone loses when the cost of falsifying declines, due to decreased stigma, for example. Conversely, everyone gains when falsification costs increase. The extra reporting requirements under BAPCPA increase falsification costs.

If harder bankruptcy laws benefit all, why are laws ever too soft? Franks and Sussman (2005) argue that bankruptcy judges and lawyers who administer bankruptcy proceedings may be biased toward soft laws because soft laws increase demand for bankruptcy.[8]

II.2 Opposing Forces

Bankruptcy is about dividing a fixed pie of income and assets. The proceedings are zero-sum so naturally interests are bound to conflict. All else the same, creditors prefer harder bankruptcy rules. Debtors obviously prefer softer rules, especially *ex post*. The state may have an interest if there are external, social, costs associated with bankruptcy not borne by individual creditors and debtors.[9]

David Skeel (2001) catalogues the opposing forces that have shaped U.S. bankruptcy law since the 18th century. The bankruptcy bar--the lawyers, trustees, and judges who administer bankruptcy proceedings in the U.S.—was and is an important

[7] If falsies could promise not to lie, and keep their promise, everyone would be better off. Absent an entire population of promise keepers, however, lenders can only sell contracts that keep falsies honest.
[8] Franks and Sussman (2005)is more about commercial credit and bankruptcy, but many of the principles seem to extend to consumer contracts.
[9] The state justified intervention in corporate bankruptcy proceedings in the 19th century on the grounds that hard nosed creditors pushing for liquidation of bankrupt railroads ignored the "going concern" value of

force. The bar's main interest, according to Steel, is to insure its own existence by resisting repeated efforts to shift routine bankruptcy proceedings from courts to an administrative branch of the government, as in most countries. Harvard law professor Elizabeth Warren is an ardent opponent of BABCPA. Her survey findings that up to half of filers cite medical emergencies as the cause of their filing (Himmelstein et al. 2005) has made her an influential advocate of the accidents model of bankruptcy demand. The *law and economics* school of legal analysis, associated with University of Chicago law professor, Richard Posner, emphasizes efficiency over fairness and equity as the guiding principle in legal design. Law-econ scholars are more sympathetic to the strategic model of bankruptcy demand, and tend to applaud BAPCPA.[10]

U.S. personal bankruptcy law has evolved fitfully. Congress passed laws in 1800, 1841, and 1867, but repealed each shortly after. The first, lasting law was passed in 1898. The first substantive change, the Chandler Act of 1938, provided for partial repayment over time by adding Chapter13. Congress left the choice between Chapter 7 or 13 to filers and the trustees overseeing bankruptcy.

The first overall reform in U.S. personal bankruptcy law was BRA 1978 (Bankruptcy Reform Act of 1978). BRA 1978 was motivated by a rise in personal filing rates over the 1970s that barely registers on the scale of filings these days. Creditors lobbied Congress for relief in two ways: a means test to determine eligibility for debt discharge and limits on homestead and property exemptions. Congress voted against a means test. They did pass a uniform federal exemption, but they made it non-binding on states (Steel 2001).

Steel (p. 156) summarizes the reforms embodied in the BRA 1978 as "mildly pro-debtor." Casual facts bear that out. Households did not rush-to-file before BRA 1978 took effect (unlike with BAPCPA), nor did filings decrease after, they accelerated.[11]

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those enterprises to society at large (Franks and Sussman 2005). The *fresh start* concept in personal bankruptcy has a similar rationale.

[10] See the Becker-Posner blog for a law-econ view of BAPCPA

[11] In hindsight, 1978 was not an auspicious time to tighten bankruptcy rules, for two reasons. For one, disinflation in the early 1980s, to the extent it was unanticipated, was an undeserved transfer of wealth from debtors to creditors. Were creditor protections increased, the transfer would have been larger, and the disruptions to fortunes in the farming states even more severe. For another, deregulation of credit card interest rates in 1978 made credit cards and revolving credit increasingly available to the middle and lower

Has U.S. consumer bankruptcy law cycled, as hypothesized in Franks and Sussman (2005)? The Chandler Act of 1938 and BRA 1978 both gave personal filers other options, Chapter 13 and uniform exemption, respectively.[12] Additional options should not make people worse off, so both reforms can be seen as steps toward softer laws. BAPCPA, by contrast, takes options away with the means test. Those three observations, though noisy (because other things changed with each reform), are consistent with the cyclical hypothesis.

U.S. personal bankruptcy law is certainly softer than in most E.U. nations, even after the hardening of laws here and softening that has occurred abroad in recent years (Armour and Cumming 2006). After BAPCPA, filers with sufficient means must continue paying debt for five years before any remaining debt is discharged. Spain and Italy never allow discharge. Germany softened its laws in 1999 to allow discharge after seven years. The U.K. shortened time-to-discharge from three years to one year in 2004.

The homestead and other exemptions in the U.S. are also relatively generous. Six states allow unlimited homestead exemptions.[13] By contrast, filers in most other industrial nations keep only "personal effects, tools of her trade, and a subsistence allowance."

III. Household Bankruptcy Demand and the Supply of Credit

A variety of studies find evidence consistent with the view that softer laws, measured usually by differences in exemptions, tend to increase the demand for bankruptcy. We review a number of such studies below sorted by the fineness of their data: household, county, etc. Household level studies are relatively rare owing to the paucity of data collected on individual filers. In our review, we focus on findings for or against the two competing models of bankruptcy demand: strategic versus accidents.

Fay, Hurst, and White (2002) study PSID (Panel Study of Income Dynamics) data from 1996. Their data included 254 filers. They compared that sample of filers to a much

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income households. Tightening bankruptcy rules at the same time might have made those novice borrowers easy marks for lenders intent on manipulation.

[12] Chapter 13 is a valuable option to wealthy filers with high non-exempt assets. Congress expected ordinary filers might prefer Chapter 13 (to avoid any extra stigma from a discharge)but few do: Chapter 7 filings outnumber Chapter 13 by more than 2 to 1.

[13] Homestead exemptions are unlimited in Texas , South Dakota, Oklahoma, Florida, Iowa, and Kansas.

larger sample of non-filers to identify determinants of bankruptcy demand. Consistent with the strategic model, they find that differences in the *net benefit* of filing, computed based on individual debt, income, assets, and exemptions (as determined by residence), played a major role in the decision to file. Individual filing probabilities were are also increasing in the aggregate filing rate in the individual's district, suggesting that rising aggregate bankruptcy is reducing the stigma cost of filing.[14] Both those results are consistent with the strategic model. By contrast, they find that unemployment, unemployment, divorce, and medical problems were not significant determinants, contrary to the accidents model.

Gross and Souleles (2002) study a unique dataset of credit card accounts comprising 1000s of cardholders who ultimately went bankrupt. Consistent with the accidents model, they find that the probability of bankruptcy is increasing with unemployment and the lack of insurance. However, changes in those sorts of risk explain only a small fraction of the rise in bankruptcy observed over their sample period (1995-1997). They conclude, like Fay et al (2002) that declining stigma has increased the demand for bankruptcy. Domowitz and Sartain (1999) combine data from the Survey of Consumer Finances and a survey of filers conducted by the U.S. General Accounting Office. The two major determinants of the probability of filing, they conclude, are high credit card debt, and high medical debt (above two percent of filer income).

Elul and Subramanian (2002) use PSID data to test for "forum shopping," i.e. whether people with a propensity toward bankruptcy move to states with high bankruptcy exemptions.[15] They estimate a statistically significant, but economically small effect: of 1.6 million moves to high exemption states: perhaps 17,000 are motivated by the additional bankruptcy benefit.

Using county data, Edmiston (2006) uncovers many bankruptcy correlates, including gambling (Chart 2 and Chart 3) Given quite a long list of controls for economic and health conditions and other variables that might influence bankruptcy rates (and casino locations), he estimates that filing rates in counties with a Casino are about 4

[14] Feedback between individual and aggregate behavior can cause unstable, "tipping point" dynamics: if higher aggregate filings lower individual stigma, and if lower individual stigma increases aggregate filings, steady-state filings may expand until all households for whom filing would be financially beneficial—18 percent of households by Fay et al, (2002) calculations--will file.

percent higher than in counties that are 100 miles away from a Casino.[16] Filing rates are also higher in counties in states with higher bankruptcy exemptions, consistent with the strategic model. Consistent with the accidents model, on the other hand, he also finds that filing rates are higher in counties with higher rates of disability and lower rates of insurance coverage.

Himmelstein et al (2005) provide what may be the most influential evidence for the accidents model of bankruptcy demand. From their survey of over 1600 filers, they find that medical expenses are cited as the reason for filing in anywhere from 25 percent to 50 percent of filings. Deaths, births, and illness are especially common reasons given by filers for their bankruptcies.[17]

While there is disagreement over the relative role of strategy versus accidents in determining bankruptcy demand, there is more unanimity that soft bankruptcy laws reduce the supply of credit to consumers and entrepreneurs. Households in states with unlimited homestead exemptions borrow less and pay more for credit (Gropp et al 1996).[18] Small firms in unlimited exemption states pay higher interest rates, borrow less, and are more likely to report being turned down for credit (Berkowitz and White 2004). Households in states with "debtor-friendly" limits on home foreclosure wind up with substantially smaller mortgages (Pence 2003). In an international study covering 129 countries, Dyzankov et al. (2005) establish that higher *creditor* protection (implying less debtor protection) is associated with higher ratios of private credit to GDP.[19]

We take three points from these empirical studies of bankruptcy demand. First, bankruptcy demand is partly strategic *and* partly accidental, not just one or the other.

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[15] O.J. Simpson, for example.

[16] Bankruptcy with discharge gives borrowers a put option on their own (non-exempt) assets. Option values increase with risk, as any smart gambler knows. Gambling addictions, incidentally, are counted as a medical condition in Himmelstein et al. (2005).

[17] The descriptive statistics analyzed by Himmelstein et al (2005) do not let them identify the *marginal* impact of medical debt on the probability of filing. Zywicki (2005) looks askance at Himmelstein et al. (2005)

[18] An ancillary finding in Gropp et al. (1996) suggests that high exemptions cause credit to be relocated toward wealthier households. At the margin, raising already high exemptions provides only additional protection for wealthy households that had some unprotected assets at the old exemption level, so demand from wealthy households increases with the level of exemptions.

[19] For a set of 21 countries that *changed* creditor protections over the studies sample period, they estimate that increasing their creditor rights index by 1 (on a scale of 1-4) increases the average annual growth rate of private credit/GDP by 16.5 percentage points in the three years after the reform relative to the three years preceding reform.

Second, the demand for bankruptcy has increased as stigma costs have fallen. The relative importance of strategy, bad luck, and declining stigma is debatable. Third, softer bankruptcy laws reduce the supply of credit.[20]

IV. Differences in the Rush-to-File across States

Chapter 7 filing rates spiked just before BAPCPA took effect last October (Chart 1). Differences in the rush-to-file across states provide some indication of who expect to lose the most from the tighter bankruptcy provisions under BAPCPA. To investigate, we regressed the percentage change in Chapter 7 filings per household between 2005:Q4 and 2005:Q3 for each state and Washington D.C. on state bankruptcy exemptions, economic conditions, and proxies for the health risks emphasized in the accidents model. We find evidence consistent with both models.[21]

Definitions and summary statistics for the regression variables are reported in Table 1. RUSH, the dependent variable in all regressions, equals the percentage change in Chapter 7 filings between 2005:Q4 and 2005:Q3. EXEMPTION equals the mortgage exemption for married couples in each state. UNLIMITED equals one for states with unlimited exemptions and zero for other states. FICO equals the average FICO across the state. Higher FICO implies higher risk.

Some limitations of the data should be noted. First, the data are measured at the state, not individual, level. Averaging does not matter for exemptions as that variable is the same across all individuals within a state, but for variables that vary across individuals within a state, averaging induces measurement error that bias estimates of that variables impact on RUSH downward. Second, several variables were observed before 2005, another potential measurement error. Lastly, the provenance of the FICO variable is uncertain as that variable was obtained from a poorly documented website.

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[20] In recent work, Dick and Lehnert (2006) find that at least some of the rise in bankruptcy can be attributed to the increase in credit market competition following banking deregulation in the 1980s and early 90s. With the removal of banking restrictions and the ensuing use of enhanced risk-screening technologies, consumers, and in particular those in higher risk classes, have had greater access to credit. This is especially interesting since the rising trend in consumer bankruptcy is usually associated with greater economic distress, or even consumer fraud, as mentioned earlier.

[21] State asset exemptions only apply under Chapter 7. The means test under BACPA limits access to chapter 7. Thus, BACPA effectively limits the value of exemptions for households with adequate means.

Table 2 reports regressions of RUSH on the exemption variables and controls for state economic conditions. Given economic conditions, Model (1) indicates that RUSH is *not* significantly correlated with either exemption variable or FICO. Model (2), by contrast, indicates that RUSH was significantly higher in states with high exemption *and* low FICO scores. Model (2) makes more sense than model (1); we would only expect BAPCPA to increase (current) demand for bankruptcy for high risk (low FICO) households who *also* live in states with high exemptions. We would not expect low risk households to file regardless of exemptions.[22] Models (3) and (4), where the sample is split at the median FICO (684), make the same point; the exemption coefficients are much larger and more nearly significant in low FICO states than in high FICO states.

Somewhat surprisingly, RUSH was higher in states with higher median income.[23] That might reflect that credit demand (and the potential for bankruptcy) is increasing in income, or, that households (mistakenly) thought that the means tests would be based on national, not state, median income. RUSH is also higher in states with higher poverty rates. Both of those "income effects" are larger in low FICO states.

Table 3 reports regressions that include various health risks. RUSH is higher in states with higher rates of ABORTION and PREMATURE births (Model 1). One standard deviation increase in PREMATURE (about 1.4 %) increases RUSH by about 6.4 percentage points, a sizable effect. PREMATURE births are a costly medical emergency that require intensive care to save the infant, so the link between RUSH and PREMATURE may be consistent with the accidents model of bankruptcy.[24] However, both those results change when we split the sample at the median FICO score (model 2 an model 3): RUSH is correlated with PREMATURE only in high FICO states. ABORTION is correlated with RUSH only in low FICO states.[25]

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[22] Symmetrically, Model 2 also implies that the marginal effect of FICO on RUSH was lower in higher exemption states. State asset exemptions only apply under Chapter 7. The means test under BAPCPA limits access to chapter 7. Thus, BACPA effectively limits the value of exemptions for households with adequate means.

[23] Edmiston (2006) finds that county filing rates are increasing in (county level) income.

[24] According to http://www.marchofdimes.com/aboutus/14458_15365.asp, the average cost of a premature baby (to employers) is $46,610 versus $2,830 for a healthy, full-term baby. Mother's of premature babies averaged 29.1 days out-of-office in the first six months after delivery, versus 18.9 days for mothers of full-term babies.

[25] The correlation between RUSH and ABORTION (or lawyers per capital, or population density) is insignificant if the regression excludes D.C. None of the other reported results change substantively with

RUSH was *not* higher in states with higher rates of self employment (Table 3: models 4-6). If anything, RUSH was negatively correlated with SELPEMPLOYMENT.[26] That finding may provide some assurance to those worried that BAPCPA will reduce entrepreneurship.

In sum, our decomposition of the rush-to-file before BAPCPA took effect in 2005 shows that RUSH was significantly higher in states with more generous bankruptcy exemptions. That finding obviously squares with the *strategic* view of bankruptcy demand. On the other hand, rush was higher in states with higher rates a premature births, a costly medical emergency. That finding may square with the *accidents* view of bankruptcy demand, though we have to wonder why the link between RUSH and PREMATURE was not higher in states with more high risk (low FICO) households, as one would naturally expect.

Credit Supply Side Effects of BAPCPA.

We look for credit supply effects of BAPCPA at a number of stages in the supply chain, from the credit card banks who originate loans, to the credit card backed securities the loans get transformed into, to the third party debt collectors who buy discharged credit card loans. The events studies in the next section show that while the passage of BAPCPA was a nonevent for credit card companies, the reform is associated with positive stock price reactions for debt collectors. We also document that credit card spreads and APRs have not fallen yet

V.1 Credit Card Lenders and Debt Collectors

We estimate a market model using stock prices for 435 publicly-listed banks and BHCs (bank holding companies). Following standard procedure, we estimate each bank's beta using daily stock prices over 2004, the year before BAPCPA was introduced in Congress.[27] For the actual event study, we use daily market-adjusted returns over 82

D.C. excluded. Excluding Louisiana (where hurricane Katrina struck in 2005) does not change any of the main results we discuss in the paper.

[26] RUSH was not correlated with the gender of the trustee overseeing bankruptcy petitions.

[27] Specifically, we estimate a CAPM of bank returns on SP500 market returns, which we then use to obtain predicted bank returns for 2005, and thereby abnormal bank returns. We use the latter as our dependent variable in the event study. Event study researchers usually assume that abnormal returns are independent across firms. The independence assumption is inappropriate here because bankruptcy reform (potentially) affected *all* banks. Following the portfolio methodology in Jaffe (1974) and Brown and Warner (1980, 1985), we take the average actual bank returns for each trading day and estimate this average return as a

trading days throughout January and April of 2005. To allow for information leakages occurring before any event, and lagged reactions, we use various event windows around each date.

Table 4 reports the cumulative abnormal returns (CARs) around each of six dates that our research identified as dates where news on prospects for BAPCPA might have reached the market.[28] Some events were positive and some negative, but the overall effect was not significantly different from zero. For the average (publicly traded) bank, in other words, BAPCPA was a "non-event."

Table 4 also reports cumulative abnormal returns for the four publicly-traded TPDC (third party debt collectors) identified in DeLaney (2005). TPDC buy charged-off credit card loans from credit card banks at deep discounts. The TDPC gets to keep any funds it collects from borrower. If a borrower files bankruptcy, all creditors, the TDPC included, must cease collection efforts. If the higher costs of filing under BAPCPA reduces borrowers' "demand" for bankruptcy, or forces them to postpone filing, then all else the same, TDPC collections per account should rise. Consistent with the hypothesis, we find that with the window of -1 day/+5 days, abnormal returns for debt collectors were (17.1%) and significant at the 3 percent level.

Table 5A reports regressions of CAR on bank size (assets) and loan portfolio shares (credit cards and mortgages).[29] Note that our regressions alternatively contain an indicator variable for whether the bank has any credit card loans, since about half of the banks in our sample fall in such category. We also include the charge-off levels for the loan portfolio.

The impact of the reform on credit card banks stock returns depends on whether MBNA enters the regressions. With MBNA included, stock returns of credit card banks were lower than for other banks as BAPCPA wound through Congress. With MBNA excluded, stock returns for credit card banks were higher than for other banks while

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function of the market return. We use the estimated beta to calculate abnormal returns for the bank portfolio we used in our event study.

[28] On January 24, 2005 there was a news release of the potential introduction of the Bill in the house, as reports surfaced that Senator Grassley planned to bring the bill up once again. The following day, an *American Banker* article documents the troubles the bill had had in the past but suggests that the current political environment could be more favorable to passage this time around.

[29] The dependent variable equals the sum of the abnormal returns across all event days, where abnormal returns are calculated from a bank-specific market model

BAPCPA was in play.[30] In particular, a one standard deviation increase in the credit card loan share increases abnormal returns in the amount of 0.8%.[31] However, there appears to be no difference between credit banks and the rest when we replace the credit card loan share for the indicator variable which takes on the value of one if the bank has any credit card loans, and zero otherwise. Moreover, when we rerun the event study on credit card banks alone (those with any credit card loans), the reform continues to be a nonevent even for this subsample.

V.2 Credit Card Asset-Backed Securities (CCABS)

CCABS are a by product of the credit card securitization process. Credit card issuers pool card accounts, then sell them to a trust. The trust finances the purchase by selling CCABS to investors. The trust earns the interest and fees paid by card holders and inter-change-fees. Charge-offs of problem accounts count as an expense for the trust.[32]

The rush-to-file last year caused high charge-offs in prime and sub-prime CCABS markets, but since then, charge-offs have been at historic lows (Chart 6) The cumulative decline in charge-offs since January 2006 more than compensates for the higher charge-

[30] MBNA credit card loans (as a share of assets) was 34%, compared to 6.4% for Simmons First National, 5.6% for Citigroup, 5.3% for JPMorganChase, and 4.6% for Bank of America. According to Wikipedia, MBNA was one of the major contributors to BAPCPA.

[31] The negative association between abnormal returns and the credit card loan share when we include MBNA could reflect contaminating events. MBNA was reported to miss its earning estimates for the first quarter of 2005, an event that can cause sharp drops in stock prices (Stable Value Credit Update, Standish Mellon, March 2006). Rumors of MBNAs acquisition by Bank of America, officially announced in June, 2005, may have been circulating by the first quarter of 2005, the same time Congress was debating BAPCPA. Buyout rumors, and their denials, can cause sharp fluctuations in stock prices for the rumored target.

[32] CCABS issued by the trust are almost always rated by the rating agencies, as they are typically placed with investors facing investment mandates. The rating agencies simulate the cash flows of the trust using baseline assumptions about key inputs (portfolio yield, monthly payment rate, charge-offs, and purchase rate), and then check to be sure that investors in are paid interest and principal in full when these inputs are stressed. In order to attain a higher rating, the trust must meet these obligations during more highly-stressed conditions. The trust uses several features to attain the desired credit rating for a particular instrument: tranching the cash flows from collateral (adding subordination), over-collateralizing the portfolio (selling receivables at a discount of par, creating an equity tranche for the issuer), trapping excess spread in an account, creating of a cash collateral account (loan from third party that provides collateralized insurance), or purchasing of credit insurance (unfunded insurance sold by a third party). Investors are also protected from loss by covenants that trigger early or rapid amortization. These events can be triggered by the performance of the seller/servicer (default, failure to transfer new receivables when needed), or can be triggered by the performance of the collateral (excess spread, seller participation, par value of portfolio relative to par value of tranches). The most common performance trigger is a restriction that the three-month average excess spread must not fall below zero, implying that this is an important figure followed by investors and reported by the rating agencies.

offs caused by the rush-to-file, suggesting that BAPCPA will permanently reduce bankruptcy demand.

The difference between trust income and expenses is called *excess spread*. Excess spread is escrowed as a cushion against future losses for trust investors, but is eventually returned to the issuer as profit. The rush-to-file last year caused excess spreads to fall as charge-offs rose, but low chargeoffs since then have pushed excess spread to historic highs (Chart 7). The fact that excess spreads remain high even after the rush to file suggests that credit card issuers have not yet passed any benefit from reform on to borrowers in the form of lower interest rates.

VI. The Ambiguous Impact of Means Testing In Simulations.

Even if soft bankruptcy laws reduce the supply of credit, harder bankruptcy laws are not necessarily better for the average person. Perhaps the extra insurance provided by debtor-friendly bankruptcy laws is worth the loss of credit? Economists have simulated models that compute that tradeoff. The models are more fully articulated versions of the credit model we discussed in section II: risk averse households demand credit supplied by perfectly competitive lenders. Household income fluctuates over time so credit helps households smooth their consumption. Households are strategic: they demand credit with the bankruptcy option in mind. The benefit of bankruptcy depends on the rules embedded into the model, but the main benefit is a discharge of unpaid debts. The cost of bankruptcy is temporary exclusion from credit markets and stigma. Once calibrated with numerical values, one can compute how a hardening in laws changes borrowing, interest rates, and household welfare.[33] These simulations strike us as the best, if not only, way to answer the question of how means testing affects welfare for the typical household. Unfortunately, if not surprisingly, the answer depends on the model.

Table 6 summarizes results from four recent studies. All models predict that means testing would increase the supply of credit, so interest rates fall and borrowing by the typical household increases. The extra borrowing helps households maintain their standard of living (consumption) as their income fluctuates over time. The downside is that if borrowers have a very large drop in income, bankruptcy will be harder. In

Chatterjee et al. (2005) and Athreya (2002), the benefit from lower interest rates forever-after more than compensates for the cost of losing the option of immediate discharge. Thus, the average household is expected to be better off with a means testing rule than without, i.e., they would agree, ex ante, to submit to means testing.[34]

More recent, extended models conclude that means testing would *lower* welfare. Li and Sartre (2006) add labor and capital to the basic model. They predict that a means test would lower production for two reasons. First, bankrupt people would be less likely to work if their future wages were "taxed" to repay debts. Second, increased consumer borrowing (due to increased supply) would crowd out business investment, thus lowering worker productivity. They figure the loss utility from lower production, plus the loss of bankruptcy insurance, more than offsets the gain from increased consumer credit supply.[35]

Livshits et al. (2006) consider an entirely different risk for households: expense shocks that drain income. They estimate the expense and probability of three major expenses—uncovered medical bills, divorce, and unplanned, unwanted pregnancies—from vital statistics, then simulate how a means test works when households face those risks, plus income fluctuations.[36] Welfare is "marginally" higher (p. 21) under softer bankruptcy rules because the extra insurance against the expense shocks more than offsets the reduced supply of credit.

What is the bottom line from these simulation studies? First, the upside of benefits derived from a harder bankruptcy law—increased credit supply—offsets the narrow downside—less insurance against random (exogenous) income fluctuations. But the

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[33] The number of parameters in the models varies between 10 and 15 or so. Stigma is usually a free parameter determined by the condition that the filing rate predicted by the model equals the filing rate observed in fact.

[34] In Athreya (2002), the welfare gains from removing the bankruptcy option mostly result from lower deadweight costs: legal fees and household stigma. Some may be dubious of that, since 1) stigma has been falling, and 2) BAPCPA may increase legal costs.

[35] Li and Sartre (2006) assume a close economy, so the extra borrowing by households when discharge is eliminated crowds out business borrowing. The consequent reduction in business capital lowers labor productivity, reduces labor demand, and lowers output. Their model predicts that a tightening of exemption levels leads to lower interest rates and higher debt/income ratios, contrary to the facts in Gropp et al. (1996). See Han and Li (2004) for estimates of the labor supply effects of bankruptcy before BAPCPA..

[36] A divorce shock in their model costs $36,558. An unplanned, unwanted birth costs $24,000. A medical shock costs $102,462. Given these estimates, they compare household welfare under a forgiving

downside of harder bankruptcy laws may be broader than that—harder laws may reduce labor supply and productivity, and they also reduce insurance against expensive accidents, like medical shocks, divorce, unwanted, or premature births. With those knock-on effects considered, the downside may outweigh the upside.

VII. Credit Card Competition and Future Credit Card Spreads.

All the models just discussed assume perfect competition in consumer credit markets. This section discusses reasons to doubt that assumption. Those doubts notwithstanding, we predict that reduced demand for bankruptcy under BAPCPA will lead to lower credit card interest rates.

VI.1 Doubts About Credit Card Competition[37]

Ausubel (1991) argues that a particular type of adverse selection hinders competition among credit card lenders. In his model, credit card lenders who lower rates may attract the wrong kind of customers, namely the interest sensitive borrowers who expect to main large balances.[38] Persistently high--"sticky"--credit card APRs throughout the 1980s (despite falling market interest rates), high profits for credit card banks, and evidence that some households do in fact underestimate their own demand for credit card loans.[39]

Ausubel's (1991) adverse selection explanation for sticky credit card rates does not seem to apply when lenders costs are falling because of reduced bankruptcy demand. Ausubel (1991) was out to explain why credit card rates remained high even as the cost of funds to lenders had fallen. But BAPCPA lowers bankruptcy risk. Strict application of Ausubel (1991) here implies a contradiction: lenders cannot lower spreads as

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bankruptcy system with an unconditional discharge (as in the U.S. before BAPCPA) versus a very strict system with no discharge (as in some E.U. countries).

[37] Credit card lending has become more concentrated: in 1997, the top four credit card companies earned 42 percent of industry revenues. In 2005, the top four companies earned 66 percent of industry revenues (Nader 2005). *Visa* and *Mastercard* clearly dominate the one aspect of the market and face constant threat of suit for anti-competitive behavior by the Department of Justice.

[38] Lenders *want* to attract the "accidental" revolvers who do not expect to carry balances on their card but who wind up with positive (but not excessively risky) balances. Accidental borrowers, by definition, are relatively insensitive to interest rates.

[39] Calem and Mester (1995) provide corroborating evidence: credit card borrowers with high balances are more likely to report being turned down when trying to transfer balances to a new card. Calem, Gordy, and Mester (2005) reaffirm that result. They (nevertheless) suggest several reasons why informational frictions, though still present, may be less of hang up today than in the 1980s. Increasingly accurate credit scoring models help lenders distinguish between low risk and high risk borrowers, thus guarding against adverse selection.

bankruptcy demand declines because they are worried that lower spreads will *increase* bankruptcy demand (due to adverse selection).[40] It is also worth noting that credit scoring and other technological innovations since the in the last 15 years have made credit card lenders increasingly adept at *favorable* (as opposed to adverse) selection (Calem, Gordy, and Mester 2006). These points incline us to suspend our doubts about credit card competition.

VII.1. Future Credit Card Rates

Chart 8 shows plots the spreads and charge-offs on actual credit cards (as opposed the to credit card backed securities discussed above). The spread equals the credit card APR minus interest rate on a 6 month Treasury bill. It appears that credit card spreads do rise and fall with charge-offs. Note that charge-offs in 2006:1 were lower than at any time since the early 1990s.

Chart 9 plots the impulse responses from a VAR (vector auto regression) comprising the 6-month Treasury bill rate, credit card spread (APR – T-bill rate), and credit card charge-offs (xoffs). The variables entered the VAR in that order.

Consistent with Ausubel (1991), the left, middle row panel shows that a positive shock to the T-bill rate cause spreads on credit card to fall substantially. Credit card *rates,* in other words, are sticky with respect to the cost of funds.

The bottom, left panel shows that higher chargeoffs cause higher spreads. The pass from chargeoffs to spreads is not immediate, or complete, but neither is it trivial: a 50 basis points increase in chargeoffs causes spreads to rise by about 25 basis points.[41] Chargeoffs in February 2006 were about 120 basis points lower than in August 2005, before the rush-to-file. If nothing else changes, we predict credit card spreads will eventually fall from pre-BAPCPA levels.

VIII. Conclusions and Policy Implications

Given sufficient competition, the upside from the hardening of personal bankruptcy laws under BAPCPA is predictable: increased consumer credit supply. By

[40] Were the opposite true, why would not have observed that borrowers in states with lower exemptions pay lower interest rates (Gropp et al. 2002). This reasoning implies an ancillary test of Ausubel's (1991) theory: interest rates on unsecured credit should be more persistent as market rates fall in countries or states with less creditor protection.

making it tougher to discharge debt, demand for bankruptcy will fall, and losses (to lenders) in the event of bankruptcy should fall. Both effects act to lower costs to lenders. Reducing bankruptcy demand will have a knock on effect; as filing becomes less commonplace, the stigma from filing will increase which further reduces demand. If competitive forces are strong enough in the credit card market, these savings should be passed on to consumers via lower rates and greater access to credit. Notwithstanding the doubts we raised about credit card competition, we predict that lower demand for bankruptcy under BACPA will eventually lead to lower credit card rates. The downside of harder laws is reduced insurance against uninsured illness, divorce, and unwanted or premature births. Thus, even if the average household is better off with BAPCPA, the one to two percent of households at risk of bankruptcy may be worse off.[42]

We see two implications for policymakers. First, if adverse selection *ala* Ausubel (1991) appears to be holding up credit card rates, policymakers could consider a coordinated lowering of rates that would avoid adverse selection. Second, if BAPCPA is associated with more hard luck cases of bankruptcy due to accidents, policymakers might consider ways to improve explicit insurance against those risks.

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[41] The results are robust to alternative orderings. Adding more lags does not change the response of spreads to charge-offs, but reduces significance.

[42] Hardening the law may also reduce entrepreneurship, though the evidence on that point is mixed

Appendix

A1. Optimal Contract with Random Income

The optimal contract (b,p_1,p_3) maximizes the Lagrangian

$$U(b) + .5\delta\{U(1- p_1) + U(3- p_3)\} + \beta[.5(p_1 +p_3) – Rb],$$

where β represents the shadow value on the lenders' breakeven constraints. The FOC (first-order conditions) for $\{b,p_1,p_3\}$ are:

FOC_b: $U'(b) = \beta R,$

FOC_p1: $\delta U'(1-p_1) = \beta,$

FOC_p3: $\delta U'(3-p_3) = \beta.$

Thus equation (1): $U'(b)/R = \delta U'(1- p_1) = \delta U'(3- p_3)$

A2. Optimal Contract with Truthies and Falsies.

The contract $\{b,p_1,p_3\}$ that maximizes welfare for Truthies maximizes the Lagrangian

$$T[U(b) + .5\delta\{U(1- p_1) + U(3- p_3)\}] + I[f + U(3 – p_3) - U(3- p_1)] + B[1- p_1] + \beta[.5(p_1 +p_3) –Rb],$$

where I and B represent the shadow value of the incentive compatibility constraint and the boundary condition. The FOC (first-order conditions) are

FOC_b: $TU'(b)= \beta R,$

FOC_p1: $U'(1-p_1)\ \delta T/2 + B - IU'(3-p_1) = \beta/2,$

FOC_p3: $U'(3-p_3)(\ \delta T/2 +I)= \beta/2.$

Proposition: If the boundary constraint binds, the incentive constraint also binds.

Proof: Suppose $p_1 = 1$, so $B > 0$, but $I = 0$. FOC_p1 and FOC_p3 imply sign B = sign $\{U'(3- p_3) - U'(0)\} < 0$, a contradiction (unless $p_3 = 3$).

The budget constraint always binds under perfect competition, so we can eliminate β and combine the FOC to obtain equation (2):

(2) $$U'(b)/R = \delta U'(1- p_1) - IU'(3-p_1)2/T + B2/T = \delta U'(3- p_3)\{1 + I2/T\delta\}.$$

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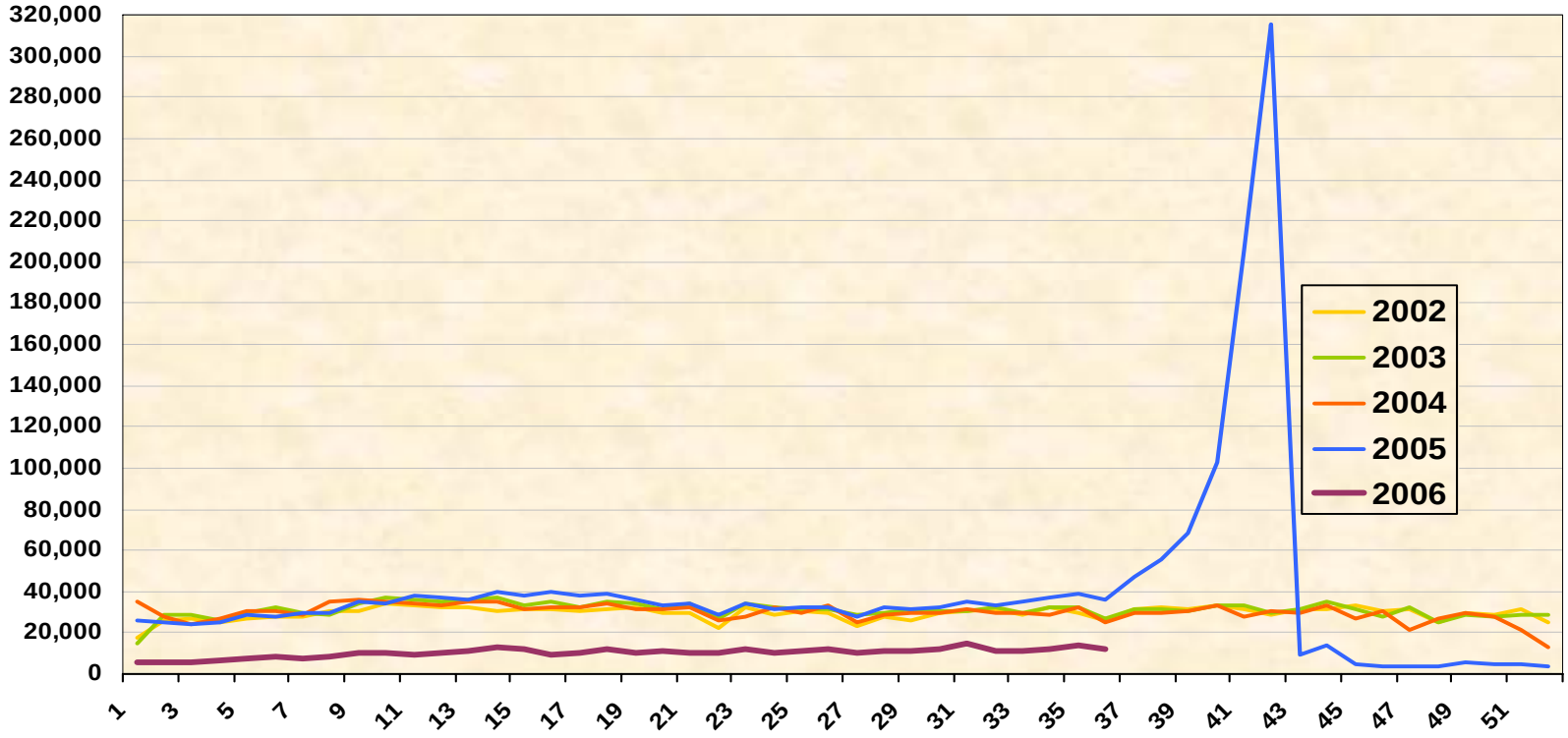
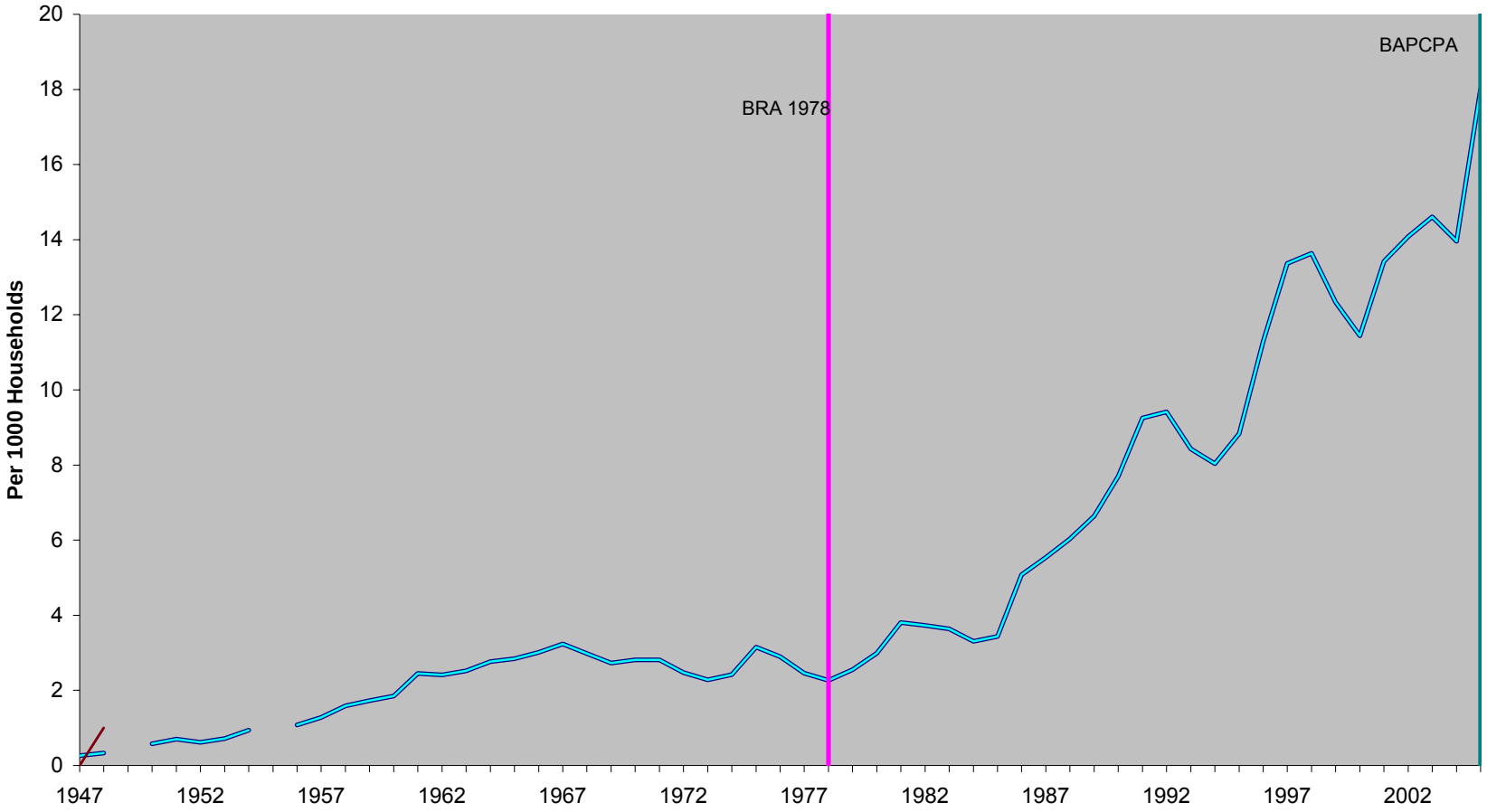
Chart 1: The Rush to File Before BAPCPA Took Effect in October, 2005
Plotted are number of filings per week each year.



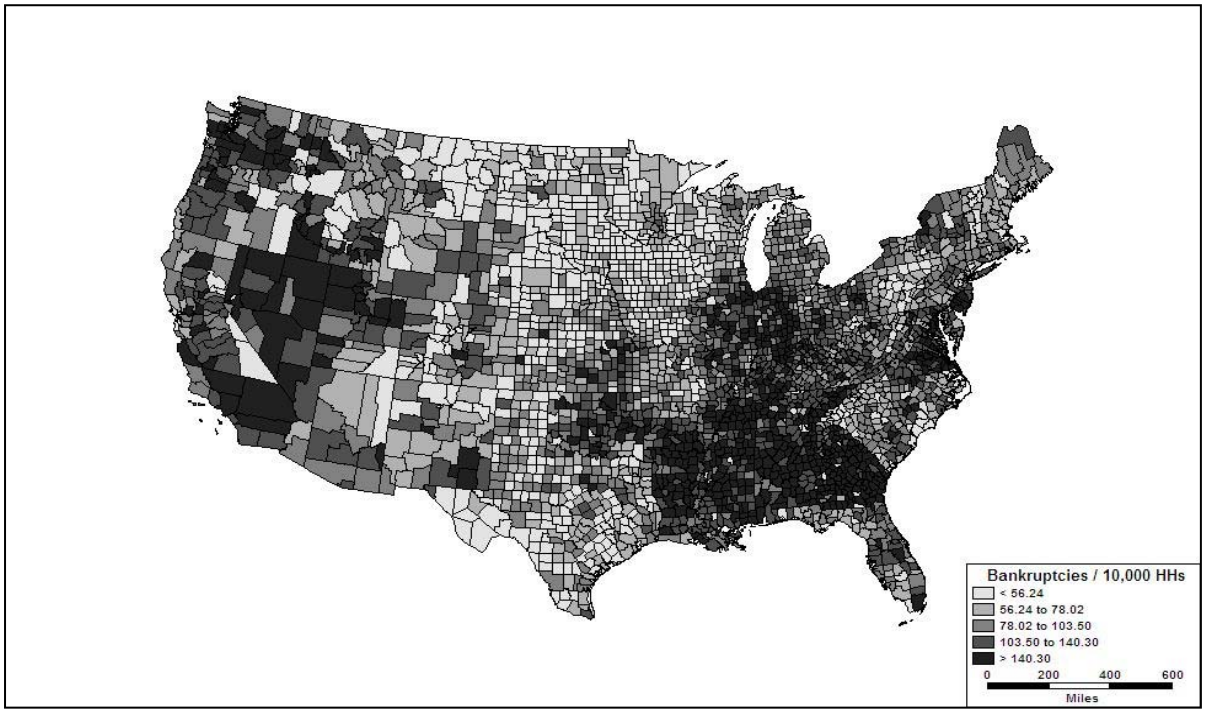
Source: NBKRC (National Bankruptcy Research Council) and Lundquist Consulting

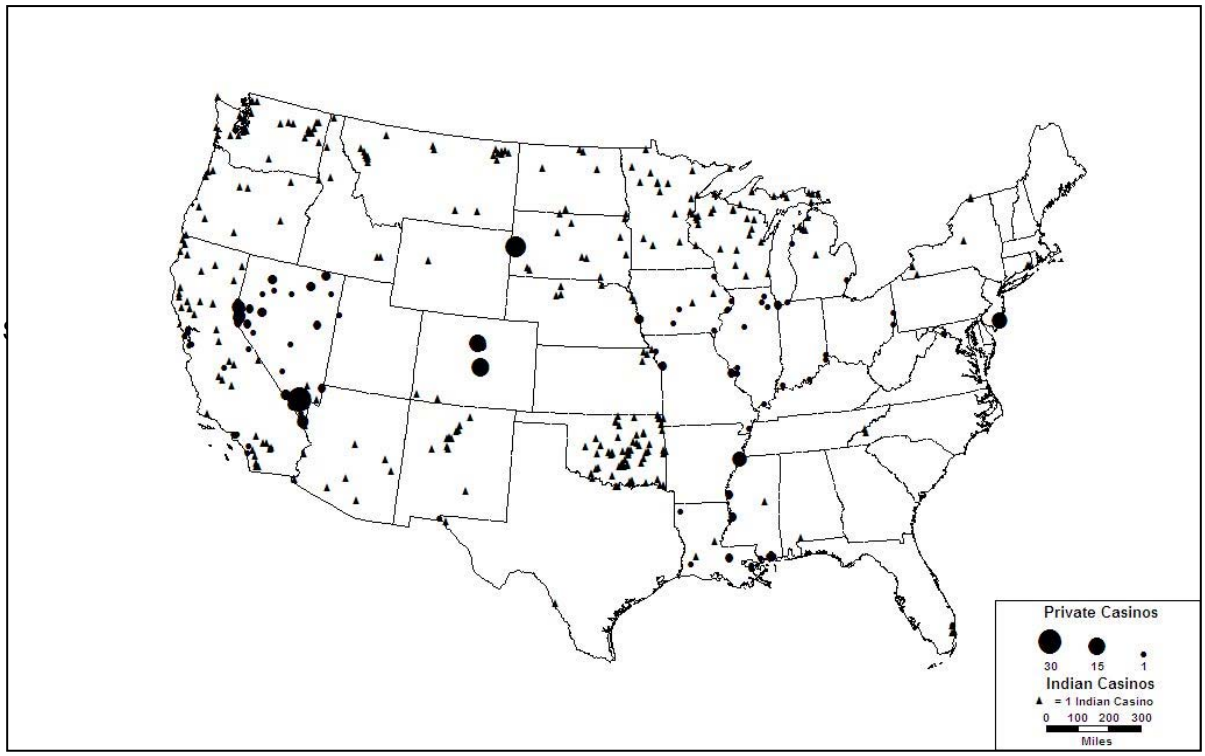
Chart 2: Annual Bankruptcy Filings (non-business) Per 1000 Households



Sources: Administrative Office of the U.S. Courts; American Bankruptcy Institute. Years measured July-June over 1947-1985 and January-December post 1985. Bankruptcy filings not available in 1949 and 1955.

Chart 3: Bankruptcy Filing Rates by County (top) and Casino Locations (bottom)





Source: Edmiston (2006)

Table 1: Variable Definitions and Summary Statistics

Statistics calculated over 50 States and Washington D.C .

Variable	Definition (units)	Mean	Std. Dev.	Min	Max
RUSH	Change in Chapter 7 filings between 2005:Q4 and 2005:Q3 (%)	32.17	17.36	-5.9	104.1
EXEMPTION	State homestead exemption ($1000)	78.63	83.82	0	463.1
UNLIMITED EXEMPTION	Indicator = 1 if no limit on homestead exemption (0 if limited)	0.12	0.33	0	1
FICO_2004	Average FICO (Fair Issacs) credit score in state	683.14	14.48	651	710
INCOME_2003	Median income in state (nominal $1000)	63.50	10.33	45.9	87.4
INCOME GROWTH_2005	Growth in state personal income over 2005 (%)	4.63	2.25	-9.1	7.5
POVERTY RATE_2003	Percent of state households with income below poverty level	9.51	3.13	5.1	18.5
UNINSURED RATE_2004	Percent of state residents without health insurance	14.44	3.33	8.9	25.0
ABORTION RATE_2000	Abortions per 1000 women aged 15-44	17.44	11.31	0.9	68.1
PREMATURE_2004	Underweight births (percent of all state births)	8.08	1.31	6.0	11.6
FILINGS_2005:Q3	Chapter 7 filings per 1000 persons in 2005:Q3	1.48	0.53	0.4	2.8
SELF EMPLOYED_2003	Self employed persons per capita in 2003	0.065	0.009	0.048	0.091

Sources: RUSH calculated by authors. Exemptions are from Gropp et al. Other variables are from Statistical Abstract of the United States

Table 2: Higher Rush to File in High Exemption States

Reported are regression coefficients (standard errors). Dependent variable is the percent change in Chapter 7 filings per household between 2005:Q3 and 2005:Q4. Coefficients estimated over 50 states and Washington, D.C. Low FICO and High FICO divided at median (684).

	FULL		LOW FICO	HIGH FICO
	(1)	(2)	(3)	(4)
EXEMPTION	0.011	2.181**	0.092	-0.021
	(0.033)	(0.880)	(0.064)	(0.028)
UNLIMITED EXEMPTION	0.374	782.655***	23.323**	-23.730*
	(6.956)	(232.168)	(8.561)	(12.804)
FICO_2004	-0.075	0.576*	0.350	-0.403
	(0.277)	(0.299)	(0.505)	(0.559)
EXEMPTION*FICO_2004		-0.003**		
		(0.001)		
UNLIMITED*FICO_2004		-1.146***		
		(0.340)		
INCOME_2003	1.150***	1.058**	2.312**	0.331
	(0.402)	(0.418)	(0.913)	(0.354)
INCOME GROWTH_2005	0.016	-0.529	-0.517	-0.307
	(1.194)	(1.165)	(0.968)	(1.461)
POVERTY_2003	4.125*	4.205*	7.357**	-0.070
	(2.334)	(2.461)	(2.899)	(2.063)
FILINGS_2004:Q3	-1.246	-1.495	4.478	-10.294
	(4.808)	(4.415)	(5.323)	(11.038)
CONSTANT	-28.197	-465.701**	-433.723	307.207
	(212.990)	(221.755)	(361.898)	(385.437)
Observations	51	51	25	26
R-squared	0.30	0.41	0.57	0.49

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3: Other Determinants of the Rush to File

OLS regression coefficients (robust standard errors). Dependent variable is the percent change in Chapter 7 filings per household between 2005:Q3 and 2005:Q4. Coefficients estimated over 50 states and Washington, D.C. Low FICO and High FICO states divided at median (684).

	FULL	LOW FICO	HIGH FICO	FULL	LOW FICO	HIGH FICO
	(1)	(2)	(3)	(4)	(5)	(6)
EXEMPTION	1.982***	0.073	-0.012	1.943***	0.064	-0.007
	(0.535)	(0.045)	(0.034)	(0.532)	(0.037)	(0.031)
UNLIMITED EXEMPTION	924.265***	18.998*	-29.333*	908.988***	19.627**	-26.598*
	(195.005)	(8.920)	(14.829)	(189.960)	(7.792)	(13.749)
FICO_2004	0.634**	0.058	0.409	0.717***	0.317	0.354
	(0.239)	(0.944)	(0.578)	(0.263)	(0.894)	(0.562)
EXEMPTION*FICO_2004	-0.003***			-0.003***		
	(0.001)			(0.001)		
UNLIMITED*FICO_2004	-1.354***			-1.330***		
	(0.284)			(0.276)		
INCOME_2003	0.056	1.408	-0.305	0.016	1.587**	-0.266
	(0.393)	(0.805)	(0.614)	(0.390)	(0.677)	(0.597)
INCOME GROWTH_2005	-1.342**	-1.110*	-2.099	-1.138*	-0.866	-1.802
	(0.553)	(0.615)	(1.414)	(0.596)	(0.576)	(1.628)
POVERTY_2003	0.447	4.37	-2.179	0.089	3.495	-1.675
	(1.347)	(2.569)	(3.427)	(1.354)	(2.268)	(3.066)
UNINSURED_2004	-0.605	-0.709	-0.126	-0.112	1.253	0.273
	(0.736)	(2.205)	(1.163)	(0.762)	(2.400)	(1.068)
ABORTION_2000	0.801***	0.650*	0.653	0.792***	0.716**	0.494
	(0.281)	(0.328)	(0.537)	(0.277)	(0.269)	(0.420)
PREMATURE_2004	5.024**	2.37	7.517**	5.737***	5.013	7.866**
	(1.987)	(3.728)	(3.370)	(1.838)	(3.755)	(3.339)
SELF EMPLOYED_2003				-321.072	-1,008.128**	-259.956
				(226.441)	(432.029)	(323.774)
FILINGS_2005:Q3	2.796	7.582	-2.077	2.495	9.369*	-5.364
	(3.802)	(5.071)	(6.915)	(3.825)	(4.659)	(8.489)
CONSTANT	-455.878***	-172.145	-265.782	-499.273***	-341.3	-219.633
	(160.177)	(646.577)	(367.337)	(173.607)	(602.773)	(372.634)
Observations	51	25	26	51	25	26
R-squared	0.63	0.71	0.61	0.65	0.79	0.63

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4: Cumulative Abnormal Returns on Stocks of Banks and Debt Collectors As BAPCPA Passes Through Congress

Reported around cumulative abnormal returns over various windows (in days) around each event

		Banks			Debt Collectors		
		Window:			*Window:*		
Date	**Event**	(-1/5)	(-1/3)	(-1/0)	(-1/5)	(-1/3)	(-1/0)
1/24/2006	News Bill Will Be Introduced	0.37 *	0.36 **	0.12 ***	-0.60	-2.18 **	-3.29 ***
2/1/2006	Introduced In Senate	0.38 *	0.35 *	0.47 ***	4.12 ***	3.59 ***	2.70 ***
2/17/2006	Passes Senate Judiciary Comm.	-0.37 **	-0.26 **	0.06	-1.14	-2.45 ***	-2.96 ***
3/10/2006	Passes Senate	0.65 ***	0.43 ***	-0.01	3.53 **	0.94	0.44
4/14/2006	Passes House	0.80 ***	0.02	-0.28 ***	5.67 ***	1.94 ***	1.31 ***
4/20/2006	Signed By President	-0.32 *	-0.04	-0.07	5.49 ***	6.43 ***	1.36 ***
	Total effect	1.51	0.86	0.28	17.08 **	8.26	0.45
Trading days = 82							
R-sq		0.31	0.24	0.12	0.34	0.3	0.12

* significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5A: Regression Model Relating Bank CAR to Bank Portfolio Shares

Dependent variable = CAR (%) from (-1/3) event window. Statistically significant results (5 percent or lower) in bold.

	With MBNA		Without MBNA		With MBNA		Without MBNA	
Assets (logs)	**-0.768**	***	**-0.970**	***	**-0.895**	***	**-0.864**	***
Credit card loan share	**-58.434**	***	**75.287**	**				
Positive credit card loans (=1)					-0.110		-0.211	
Real estate loan share	2.905		3.142		4.015		2.800	
Non-performing credit card loan share	3.184		3.306		2.070		2.472	
Non-performing real estate loan share	-38.444		-44.350		-40.094		-41.127	
Constant	**9.603**	**	**12.158**	***	**10.769**	***	**11.062**	***
N	409		408		409		408	
R-sq	0.09		0.07		0.07		0.06	

Table 5B: Regression Variable Summary Statistics

Variable	Mean	Std. Dev.
CAR (%)	-0.362	6.882
Assets (logs	14.301	1.618
Credit card l	0.003	0.018
Real estate l	0.498	0.150
Non-perforn	0.005	0.024
Non-perforn	0.007	0.011
State homes	53727	63446
Zero credit (	0.582	0.494

N = 409

Table 6: Impact of Means Test on Household Welfare: Summary of Simulation Studies

study	markets	reform simulated	market impact	change in welfare
Chatterjee et al. (2002)	credit	means test	interest rate ↓ borrowing ↑	↑
Arthreya (2002)	credit	means test	interest rate ↓ borrowing ↑	↑
Livshits et al. (2006)	credit	no discharge	interest rate ↓ borrowing ↑	marginally ↓
Li and Sartre (2006)	credit labor capital	means test	interest rate ↓ borrowing ↑ labor ↓ capital ↓	unchanged or ↓
		lower asset exemption	interest rate ↑ borrowing ↓ labor ↑ capital ↑	↑

Chart 4: Credit Card Chargeoffs Have Fallen, But Spreads Remain High
Plotted is speads on credit card asset backed securities (top line) and chargeoffs on same (bottom line)

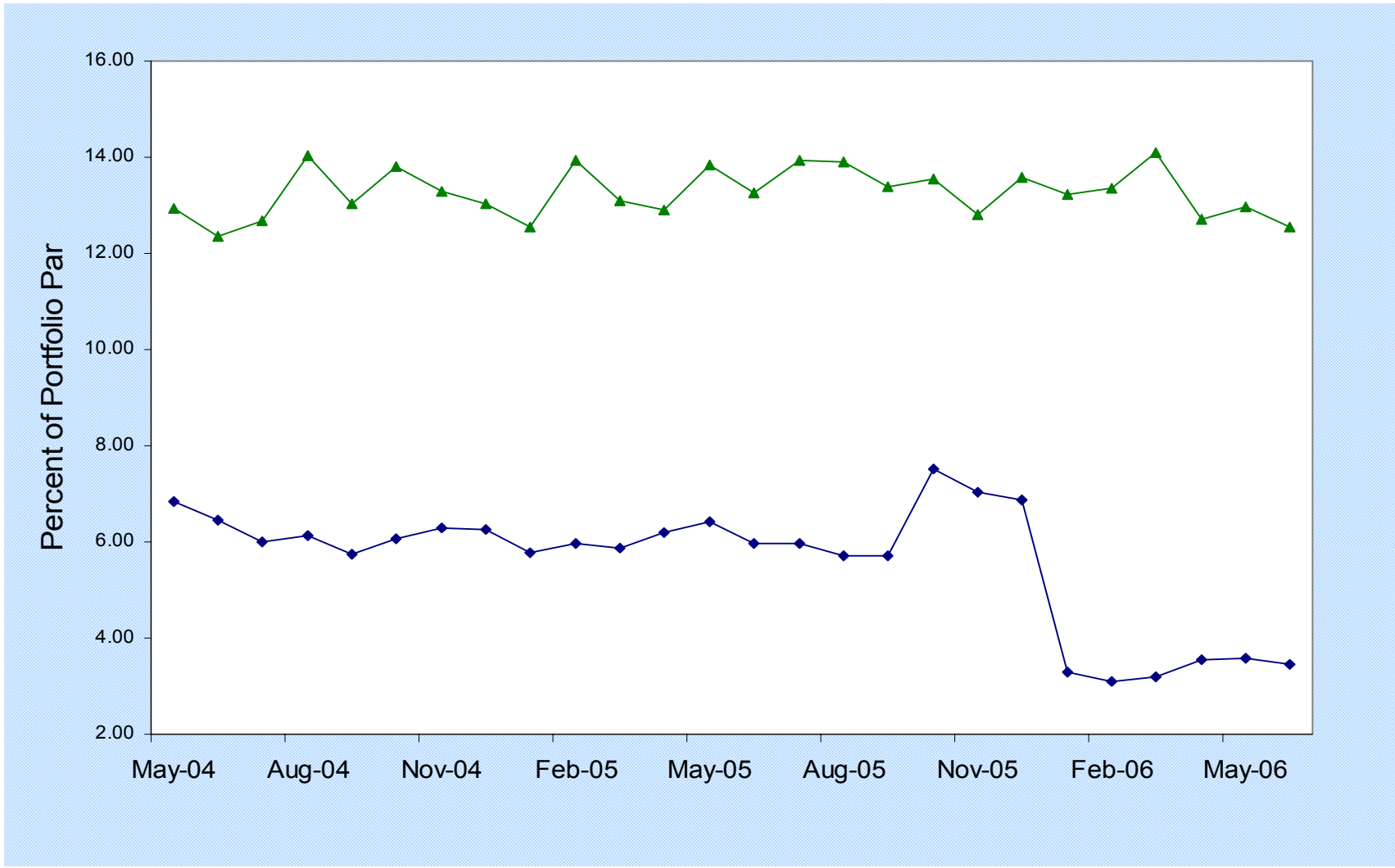


Chart 5

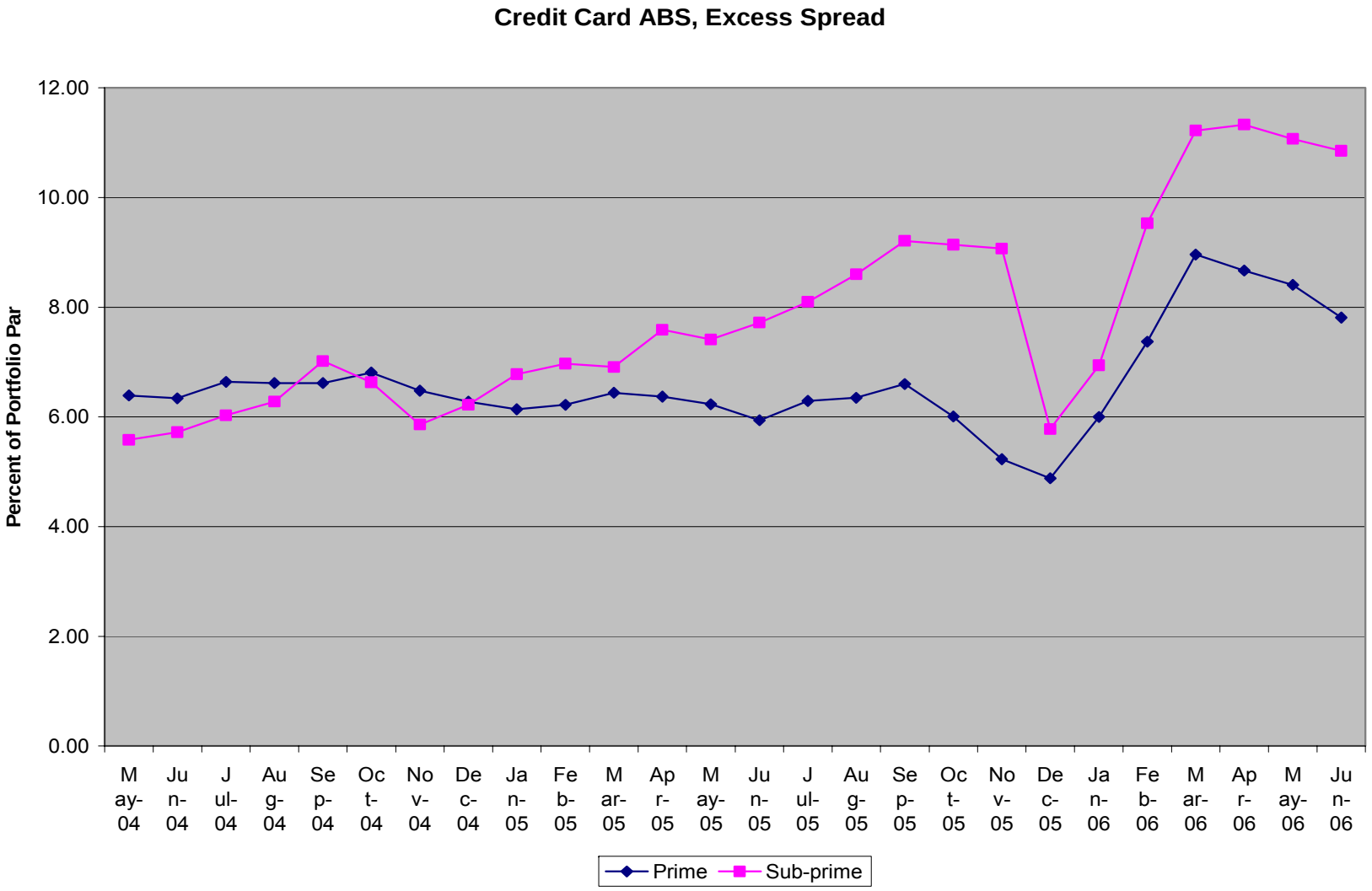
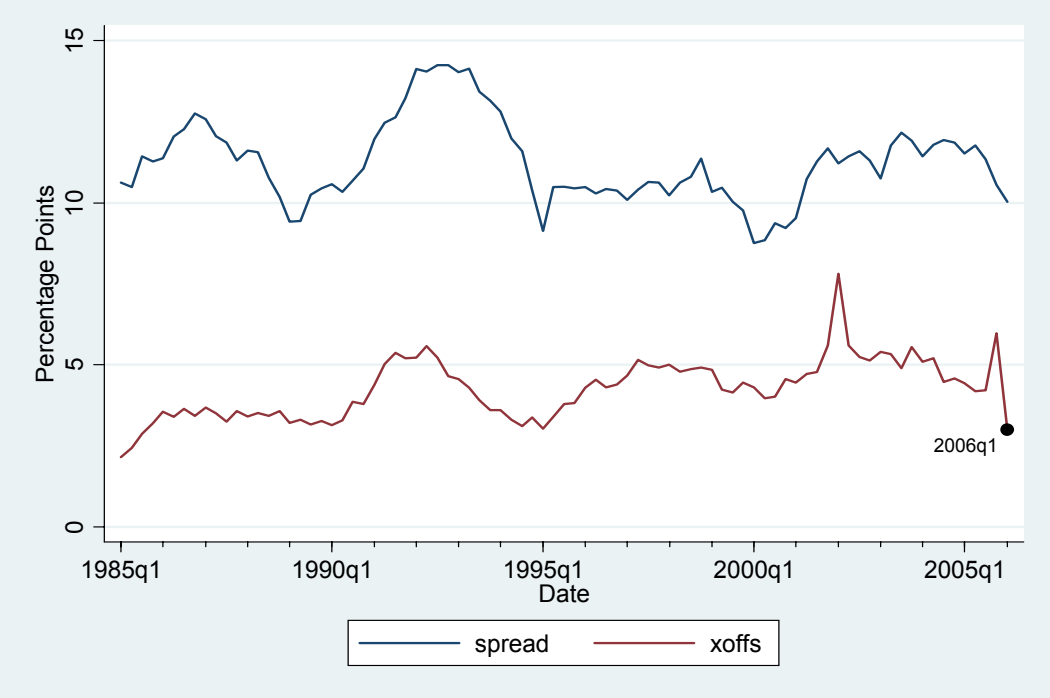

Credit Card ABS, Excess Spread
Percent of Portfolio Par
12.00
10.00
8.00
6.00
4.00
2.00
0.00
May-04
Jun-04
Jul-04
Aug-04
Sep-04
Oct-04
Nov-04
Dec-04
Jan-05
Feb-05
Mar-05
Apr-05
May-05
Jun-05
Jul-05
Aug-05
Sep-05
Oct-05
Nov-05
Dec-05
Jan-06
Feb-06
Mar-06
Apr-06
May-06
Jun-06
Prime
Sub-prime

Chart 6: Credit Card Spreads Rise and Fall with Credit Card Chargeoffs (xoffs)



Source: Federal Reserve Statistical Release G.19, Consumer Credit
Data are quartely, not seasonally adjusted, annual percentage rates (APR) Regulation Z. Credit Card rate before November 1994 is the stated APR averaged across all credit card accounts at all reporting banks. Thereafter, the rate represents the rate only on accounts assessed interest, which is the annualized ratio of total finance charges at all reporting banks to the total average daily balances against which the finance charges were assessed.

Chart 7: Lower Credit Card Chargeoffs Lead to Lower Credit Card Spreads

Plotted is each panel is response of second variable listed to impulse in first variable.
Responses estimated from VAR (vector autoregression) comprising Treasury Bill rate (6 month), credit card spread (APR - T bill rate), and credit card chargeoff (xoff) rate.
VAR estimated over 1985:Q1 - 2005:Q4
Shaded areas represent 95% confidence interval. Lower left panel shows that one standard deviation shock to XOFFS (about 50 basis points) leads to decline in SPREAD of about 25 basis.