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Implications of the Supply-Side Revolution in Consumer Lending

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IMPLICATIONS OF THE SUPPLY-SIDE REVOLUTION IN CONSUMER LENDING

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ABSTRACT

Profound changes have taken place in consumer finance over the past twenty-five years. The availability of credit has expanded considerably, while the aggregate use of consumer and mortgage credit also continues to increase. But the downside of wider availability and use of consumer credit appears to be the related trend of dramatically higher rates of personal bankruptcy and credit losses to lenders. How concerned should analysts be about the changes in the credit environment? The authors argue that these consumer finance trends can be properly interpreted as a supply-side revolution in the provision of consumer credit. Five elements of this revolution are outlined. The implication is that higher bankruptcy rates and credit losses are likely to be a part of the landscape for the foreseeable future.

I. INTRODUCTION

Economic commentators periodically remark on the long-term changes that have taken place in the landscape of consumer finance. Compared to historical precedents, it seems that new ground is constantly being broken in terms of the levels of household debt, the types of households with access to credit, the types of credit available, and the terms under which credit is offered. Because new financial practices depart from familiar norms, concerns are often raised about how the new practices will affect consumers and lenders. Does increased indebtedness mark progress in the nation's financial development, or does it represent a dangerous increase in risk that could leave many consumers and their lenders in financial peril? That seems to be the perpetual question on the minds of analysts and researchers in this area.

Perhaps the most profound—and the most worrisome—trend of the past twenty-five years in consumer finance is the large secular increase in annual

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personal bankruptcy filings. The number of U.S. personal bankruptcy filings jumped from less than 350,000 in 1985 to almost 1.4 million in 1998, both years being well within U.S. economic expansions.[1] Measured per thousand persons, the rate of personal bankruptcy filings nearly quadrupled, from 1.43 to 5.17, during this interval.[2] The implications are far-reaching. During each of the past eight years, more than one million households have incurred the short-term and long-term adverse consequences of a bankruptcy filing.[3] Similarly, lenders have been forced to write off billions of dollars worth of unsecured consumer loan receivables each year, a substantial portion of which is owed by bankrupt households.[4]

But exactly why this trend has occurred continues to be widely debated. Causes that have been advanced by various researchers fall into four classes: 1) economic and social factors, 2) legal factors, 3) consumer behavior and decision making, and 4) changes in financial practices that have resulted in a wider availability of consumer credit. Each of these viewpoints has considerable literature supporting it, and it would be impossible to argue that each of these factors has not played some role in driving the increase in bankruptcy filings. But correctly identifying the *primary* cause of the increase in personal bankruptcy filings has important implications for credit risk management as well as for public policy. If the increase is the result of economic and/or social factors, it is likely that improvement in those

1. AMERICAN BANKRUPTCY INSTITUTE, U.S. BANKRUPTCY FILINGS 1980–2003, *at* http://www.abiworld.org/ContentManagement/ContentDisplay.cfm?ContentID=13743. There were 341,233 non-business filings in 1985 and 1,398,182 non-business filings in 1998. *Id.* The National Bureau of Economic Research dates U.S. business cycles. The bureau determined that the economy was expanding between November 1982 and July 1990, and between March 1991 and March 2001. NATIONAL BUREAU OF ECONOMIC RESEARCH, BUSINESS CYCLE EXPANSIONS AND CONTRACTIONS, *at* http://www.nber.org/cycles/cyclesmain.html (last visited April 18, 2005).

2. The population was 237,924,000 in July 1985 and 270,248,000 in July 1998. U.S. CENSUS BUREAU, TOTAL MONTHLY POPULATION ESTIMATES, 1980 TO 2000, *at* http://www.census.gov/popest/archives/1990s/nat-total.txt (last visited April 18, 2005). The rate of personal bankruptcy filings per thousand population was 1.43 in 1985 and 5.17 in 1998. These figures are derived by using non-business filings found at AMERICAN BANKING INSTITUTE, *supra* note 1.

3. *See* AMERICAN BANKRUPTCY INSTITUTE, *supra* note 1 (non-business filings have numbered more than one million each year since 1996).

4. Experts estimate that 40% of all credit card loan chargeoffs result directly from bankruptcy. MARK FURLETTI, PAYMENT CARDS CENTER, FEDERAL RESERVE BANK OF PHILADELPHIA, MEASURING CREDIT CARD INDUSTRY CHARGEOFFS: A REVIEW OF SOURCES AND METHODS 1, 3 (2003), *at* http://www.phil.frb.org/pcc/discussion/measuring_chargeoffs.pdf (last visited April 18, 2005); *The Bankruptcy Abuse Prevention and Consumer Protection Act of 2005: Hearing on S. 256 Before the Senate Judiciary Committee,* 109th Cong. (2005) (testimony of Kenneth Beine, Presdient and CEO, Shoreline Credit Union), *available at* http://judiciary.senate.gov/testimony.cfm?id=1381&wit_id=3990.

conditions could reduce the bankruptcy rate. If legal factors explain the rise in bankruptcies, then clearly the legal changes that caused the problem could be reversed. Similarly, if the primary cause is a change in consumer behavior or decision-making, there is always the possibility that the behavior could change again (or even revert back to what it was before) and move the rate of bankruptcy filing back down. However, we argue that the fourth category of factors—changes in financial practices leading to the wider availability of credit—is qualitatively different than the other three. Because these supply-side factors relate mainly to new technologies and financial market practices, there is little reason to believe that the marketplace will reverse these developments absent the imposition of significant new regulation. Therefore, if changes in financial market practices represent the primary cause behind the surge in bankruptcy filings, the resulting high-loss consumer credit environment could remain in place over the long run.

We argue that the evidence does indeed point to changes in financial practices and a wider availability of household credit as the primary causes for the dramatic increase in U.S. personal bankruptcy filings over the past twenty-five years. These changes are outlined under what we call the five elements of the "consumer lending revolution." The implication of this conclusion is that the higher bankruptcy and loan loss environment of recent years may well persist for the foreseeable future. If this is indeed the case, risk managers will have to continue to structure their models to anticipate high credit losses, while policymakers will need to carefully consider the welfare implications of these changes in the marketplace.

II. YARDSTICKS FOR THE FINANCIAL CONDITION OF U.S. HOUSEHOLDS

It is not uncommon to read accounts in the popular press and by commentators of an impending day of reckoning for U.S. consumers. These accounts often cite lagging income growth for lower-income Americans and excessive indebtedness for households all along the income spectrum.[5] The source of concern in these accounts is often the fact that a familiar indicator for indebtedness, such as some absolute dollar amount of debt outstanding or some maximum ratio of debt to income, has been surmounted. Certainly, developments in credit practices and borrowing habits have tended to change over time in a way that has led the gross amount of household debt to increase.[6] But what yardsticks should be applied to assess these changes?

5. *See, e.g.*, TAMARA DRAUT & JAVIER SILVA, DEMOS, BORROWING TO MAKE ENDS MEET: THE GROWTH OF CREDIT CARD DEBT IN THE '90s, 10, 12, 19, 21–22, 28–29 (2003), *available at* http://www.demos-usa.org/pubs/borrowing_to_make_ends_meet.pdf; Daniel McGinn, *Maxed Out!*, NEWSWEEK, Aug. 27, 2001, at 34.

6. *See*, *e.g*., Governor Mark W. Olson, Federal Reserve Board, Remarks at the America's Community Bankers 2003 National Compliance and Attorney's Conference and Marketplace

This section outlines some basic measures of household income, indebtedness, credit use, and bankruptcy filings in an attempt to objectively define a set of yardsticks that can be used to evaluate the long-term changes taking place in household financial services. We find that while it is hard to argue that U.S. households are becoming poorer over time, it is clear that by some measures they are becoming more indebted. Moreover, the growth in household indebtedness is concentrated among lower-income households and other households that previously did not have access to consumer and mortgage credit. Finally, we find that the incidence of household financial distress, as measured by per capita personal bankruptcy filings, has risen dramatically since the mid-1980s.

A. U.S. Households Have, in General, Grown Richer—not Poorer—Over Time

An initial yardstick for the financial well-being of households would simply be household income. In Figure 1, we show that total disposable (after-tax) personal incomes, adjusted for inflation and population growth, have grown steadily over the past forty years. By 2003, real per capita disposable income had more than doubled from its 1960 level, representing an approximate doubling in the purchasing power of the average American. The average compound annual increase in real per capita disposable incomes over this period was 1.9%.[7] But even as U.S. disposable incomes have risen over time, household net worth has risen even faster—particularly after 1984. Figure 2 shows that despite a recent decline in household net worth resulting from the sharp drop in equity prices after 2000, total household net worth as of 2003 remained at almost 538% of disposable income, compared to just 422% in 1984. Adjusted for inflation, the average annual increase in household incomes since 1984 has been 2.4%, while household net worth has risen by an average of 3.7% annually.

Still, these top-line numbers fail to express changes in the distribution of incomes and wealth that could convey a sense of financial distress among households. There is ample evidence that the distribution of income has become more uneven over the past forty years. Figure 3 shows that the top 20% of U.S. families raised their share of aggregate income from 41% to 48% between 1980 and 2001. This increase in the share of national income came at the expense of every other income group, but primarily from the second and

(Sept. 22, 2003), http://www.federalreserve.gov/boarddocs/speeches/2003/20030922/default.htm. *See also*, McGinn, *supra* note 5.

7. Calculation based on data from the Federal Reserve Board, *Flow of Funds*, Table B. 100 (Disposable Incomes); Bureau of Census, Current Population Survey (Total Resident Population); and Bureau of Labor Statistics (Consumer Price Index).

third quintiles, which lost share by 1.9 and 2.2 percentage points, respectively.[8] However, while the lower income quintiles lost in relative terms, they gained in absolute terms. Adjusted for inflation, average compound annual growth in disposable income during this period ranged from 1.3% for those in the lowest income quintile to 3.2% for those in the highest quintile. Thus, while higher income families may have seen greater gains in income, families all throughout the income distribution have enjoyed income growth in recent decades.

Increases in family net worth have also been higher for households in the top fifth of the income distribution. Data published by the Federal Reserve Board show that the total net worth of the U.S. household sector grew at a compound annual rate of 4.1% annually between 1992 and 2001.[9] However, the top quintile of income earners saw their net worth rise by 7.1% annually compared to only 0.9% for the second quintile.[10] Nonetheless, despite disparities in the rate of growth in wealth and incomes, the data clearly show a pattern of progress in the financial resources available to U.S. households across the income spectrum.

B. U.S. Households Have Generally Grown More Indebted Over Time

Time series data also show a consistent pattern of rising indebtedness among U.S. households that has accelerated since the mid-1980s. Figure 4 shows total mortgage and consumer debt owed by U.S. households as a percent of annual disposable income.[11] The chart depicts a near doubling of the total ratio of household debt to income since 1960 (from 55% to 104%) with much of the gain having occurred since 1984. Mortgage obligations led this twenty-year increase in household debt. While the ratio of consumer debt to disposable income has risen from 18% to 25% since 1984, the ratio of mortgage debt to income has risen from 42% to 80%. Furthermore, there has been a clear substitution of revolving credit (mostly made up of credit card lines) for nonrevolving debt (including car loans and other loans secured by

8. U.S. CENSUS BUREAU, HISTORICAL INCOME TABLES – FAMILIES, http://www.census.gov/hhes/income/histinc/f02.html.

9. Total household sector net worth is derived from Table B.100, FEDERAL RESERVE BOARD OF GOVERNORS, FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, Tbl. B.100 (March 10, 2005) [hereinafter FLOW OF FUNDS], *available at* http://www.federalreserve.gov/releases/z1/current/default.htm (last visited April 18, 2005).

10. Median family net worth by income quintile is derived from Ana M. Aizcorbe et al., *Recent Changes in U.S. Family Finances: Evidence from the 1998 and 2001 Survey of Consumer Finances*, FED. RES. BULL. 1, 7 tbl.3 (Jan. 2003).

11. Mortgage debt includes all debt owed by households that is secured by residential properties. BARRON'S DICTIONARY OF BUSINESS TERMS 436–37 (3d ed. 2000). Consumer credit, used generically, refers to debt secured by cars, boats, and other assets other than residential real estate, plus unsecured personal loans and lines of credit, including credit card receivables. *See Consumer Credit*, *at* http://www.investorwords.com/1056/consumer_credit.html (last visited April 18, 2005).

assets other than residential real estate). Since 1980, revolving loans have more than doubled as a share of total consumer credit outstanding, from 16% to 38%.

In part, the increase in mortgage indebtedness and the rise in revolving credit reflect what has been called the "democratization" of consumer credit.[12] Liberalization of lending standards and new programs to extend credit to new classes of household borrowers have resulted in an expansion in the percent of households that hold credit cards as well as an increase in the percent of households that own their own home.[13] There were two additional reasons that homeowner households may have wanted to shift towards the use of mortgage debt since the mid-1980s. One was the Tax Reform Act of 1986, which removed the deductibility of interest paid on consumer debt.[14] After 1986, mortgage indebtedness was clearly a tax-preferred source of borrowing for households that itemized their tax deductions.[15] At the same time, fixed conventional mortgage rates were undergoing a large, long-run decline from an average of 12.4% in 1985 to an average of 5.8% in 2003.[16] As the price of mortgage debt declined in both absolute terms and relative terms when compared to other forms of household debt on an after-tax basis, it was natural that households would choose to shift their borrowing toward mortgage products.

The shift towards mortgage debt and the decline in mortgage interest rates has helped keep total household monthly debt service payments at levels comparable to their historical levels, despite a large increase in total

12. The phrase "democratization of consumer credit" has been widely attributed to former Federal Reserve Board member Lawrence Lindsey. Olson, *supra* note 6.

13. DRAUT & SILVA, *supra* note 5, at 33–34, 37; McGinn, *supra* note 5, at 36–37. The Bureau of the Census reports that the rate of U.S. home ownership rose from 64% in 1994 to 68% in 2003, reflecting the addition of 11.5 million additional new homeowner households over this period. Governor Edward M. Gramlich, Remarks at the Financial Services Roundtable Annual Housing Policy Meeting (May 21, 2004), http://www.federalreserve.gov/ boarddocs/speeches/ 2004/20040521/default.htm tbl.1, tbl.2 (citing the source of the data in Table 1 as MORTGAGE STATISTICAL ANNUAL (March 2004), and citing the source of the data in Table 2 as the U.S. Census Bureau). Similarly, the percent of households holding at least one credit card has been estimated to have increased from 64% in 1983 to 75% in 1995. Peter S. Yoo, *Still Charging: The Growth of Credit Debt Between 1992 and 1995*, REVIEW, Jan.–Feb. 1998, at 19, 21 tbl.2, *available at* http://research.stlouisfed.org/publications/review/98/01/9801py.pdf.

14. 26 U.S.C. § 163(h) (1988). *See* UNITED STATES DEPARTMENT OF THE TREASURY, FACT SHEET: TAXES: HISTORY OF THE U.S. TAX SYSTEM, *available at* http://www.treas.gov/education/ fact-sheets/taxes/ustax.shtml.

15. See 26 U.S.C. § 163(h)(3) for information on personal interest deductions available for home acquisition and home equity indebtedness.

16. FREDDIE MAC, 30-YEAR FIXED-RATE MORTGAGES SINCE 1971, *at* http://www.freddiemac.com/pmms/pmms30.htm (last visited April 18, 2005). The total decline in mortgage rates between 1985 and 2003 would have been enough to reduce the monthly principal and interest payment on a $100,000 thirty-year conventional loan from $1,060 to $587.

indebtedness. Figure 5 depicts the average total monthly debt service obligations of homeowners (including both their consumer debt and their mortgage debt with related insurance and tax obligations) since 1980. The chart shows that the monthly financial obligations of U.S. homeowners have risen only modestly over the past twenty-five years. Monthly financial obligations have increased by only about 2% of income since 1980, even as the amount of mortgage and consumer debt owed by households has approximately tripled over that interval. So despite a large increase in the indebtedness of U.S. households over the past twenty years, the monthly payments required to service that debt have not, in aggregate, greatly outpaced growth in incomes.

C. Credit is Being Increasingly Extended to New Classes of Household Borrowers

We have described above how the total indebtedness of U.S. households has risen dramatically over time even as the monthly cost of servicing that debt has risen only modestly. But as was the case with the income and wealth data, it may be misleading to look at the growth in indebtedness in aggregate terms alone. Beneath the figures for total growth in household indebtedness, we see signs that access to credit and total indebtedness is rising fastest for households in the lowest income strata. For example, only 26% of households in the lowest income quintile held credit cards in 1983, compared to 94% of households in the highest quintile.[17] But by 1995, the percentage of credit card holders had increased to 38% of households in the lowest quintile (an increase of almost one-third), versus 98% of households in the top quintile.[18]

New classes of borrowers also have begun to make use of more mortgage debt. The expansion of mortgage indebtedness downward through the income distribution was accompanied by a climbing homeownership rate. Both were fueled, in turn, by the introduction and rapid growth of subprime lending in the 1990s.[19] "Subprime" is the term applied to borrowers who cannot qualify for "prime" conventional mortgages because of blemished or limited credit histories.[20] Because these are riskier borrowers, they were generally denied credit under more traditional lending models. However, annual originations of subprime mortgages rose nearly ten-fold between 1994 and 2003, when $332

17. Yoo, *supra* note 13, at 21 tbl.2.

18. *Id*.

19. JOINT CTR. FOR HOUSING STUDIES OF HARVARD UNIV., THE STATE OF THE NATION'S HOUSING 2004 16 (2004), *available at* http://www.jchs.harvard.edu/publications/markets/son2004.pdf. *See also* Gramlich, *supra* note 13.

20. Kathy R. Kalser & Debra L. Novak, *Subprime Lending: A Time For Caution*, FDIC REGIONAL OUTLOOK 3, 4 (1997), *available at* http://www.fdic.gov/bank/analytical/regional/ro19973q/pdf/roa19973.pdf.

billion subprime mortgages were closed.[21] Note that while subprime loans tend to make up a higher percentage of loans to lower-income borrowers than to higher-income borrowers, this is not exclusively the case.[22]

Overall, the expanding use of credit cards and other types of credit instruments by new segments of the population means that households now face fewer liquidity constraints. While all households have been finding it easier to secure the total amount of money that they wish to borrow, historically credit-constrained households, such as black households and low-income households, have enjoyed particularly large gains in credit access. Research demonstrates that the difference between desired borrowings and actual borrowings, termed the "borrowing gap," declined by nearly 13% overall between 1983 and 1998.[23] Some groups of households saw much more appreciative reductions in this gap than others. Households with incomes below $25,000 and between $25,000 and $49,999 saw reductions of 14% and 23%, respectively.[24] This means that while the lowest income households, those with income levels below $25,000, were only able to obtain 48% of the amount of debt that they desired in 1983, by 1998 they could get nearly 62% of the total money they wished to borrow.[25] In contrast, the borrowing gap rose by only 2% for households with income level between $50,000 and $99,999.[26] Similarly, access to credit was increased more substantially for black households than for white households; the borrowing gap reductions were 17% and 13%, respectively.[27]

But the opportunity to borrow large amounts of money can leave low-income households with particularly high debt service burdens. In the past, families in the lowest income quintiles have been shown to have the highest debt burdens of any income group.[28] Moreover, there are indications that the debt service burdens of lower-income households rose faster than those of other households during the 1990s. Data from the Federal Reserve Survey of Consumer Finances show that the percent of families who devoted more than 40% of income to debt service rose between 1989 and 1998 for households across the income spectrum; however, the largest increases took place among households with incomes between $10,000 and $25,000 (rising from 15% to

21. Gramlich, *supra* note 13 (citing MORTGAGE MARKET STATISTICAL ANNUAL (2004)).

22. *See*. i*d*. Governor Gramlich presents data showing that subprime mortgages made up 9% of purchase mortgage loans made in 2002 to borrowers who earned at least 120% of the median family income in their metropolitan area. *Id.*

23. Angela C. Lyons, *How Credit Access has Changed Over Time for U.S. Households*, 37 J. CONSUMER AFFAIRS 231, 248 tbl.6 (2003).

24. *Id.* at 249 tbl.7.

25. *Id*. at 249.

26. *Id*. at 250.

27. *Id*. at 251 tbl.9.

28. Aizcorbe et al., *supra* note 10, at 28 tbl.14.

almost 20%) and those with incomes between $25,000 and $50,000 (rising from 9.1% to 13.8%).[29]

D. A Dramatic Rise in Personal Bankruptcy Filings Demonstrates a Rising Incidence of Serious Financial Distress

The most striking change in consumer finances over the past twenty-five years has been the tremendous increase in U.S. personal bankruptcy filings. Figure 6 shows that per capita non-business bankruptcy filings quadrupled between 1985 and 1998 to approximately 5.0 per thousand population.[30] The total number of non-business bankruptcy filings rose during this period from less than 350,000 to more than 1.3 million per year.[31]

Importantly, the rise in personal bankruptcy filings took place in a fairly uniform manner across the nation. In 1998, as in 1985, there were marked differences across the states in terms of the ratio of personal bankruptcy filings per thousand population. For example, in both 1985 and 1998 the states of Tennessee, Alabama, Nevada and Georgia represented four of the five states with the highest rates of personal bankruptcy filings per capita. Similarly, six of the ten states with the lowest bankruptcy filing rates in 1985 continued to enjoy that distinction in 1998.[32] The state with the highest bankruptcy filing rate in both periods (Tennessee) saw its ratio increase 3.3 times while the ratio for the entire U.S. rose by a factor of 4.0.[33] The relative uniformity of the increases measured across the U.S. strongly suggests the influence of factors operating at a national level over time. The following section evaluates various factors that have been suggested as causes for the large increase in personal bankruptcy filings during this period.

29. Arthur B. Kennickell et. al., *Recent Changes in U.S. Family Finances: Results from the 1998 Survey of Consumer Finances*, FED. RES. BULL. 25 tbl.14, 26 (Jan. 2000), *available at* http://www.federalreserve.gov/pubs/bulletin/2000/0100lead.pdf (last visited April 18, 2005).

30. *See supra* note 2 and accompanying text.

31. AMERICAN BANKRUPTCY INSTITUTE, *supra* note 1.

32. *See supra* notes 1–2. The six states that ranked among the ten lowest bankruptcy filing rates in both 1985 and 1998 were Alaska, Massachusetts, Maine, South Dakota, and Vermont.

33. Based on bankruptcy data from the Administrative Office of the U.S. Court and population data from the Bureau of the Census.

III. EXPLANATIONS OFFERED FOR THE INCREASE IN PERSONAL BANKRUPTCY FILINGS

The reasons for rising bankruptcies can be grouped into four general areas: 1) economic and social factors, 2) legal factors, 3) consumer behavior and decision making, and 4) a wider availability of consumer credit. To generally characterize these causes, it can be said that the first two relate to exogenous factors, the third relates to cognitive challenges on the part of borrowers, and the fourth relates to technical progress in the provision of consumer credit. Researchers have examined each of these explanations; some of their most notable studies are summarized below.

A. Economic and Social Factors

The role of economic and social factors as the proximate causes of personal bankruptcy has been well documented. These are circumstances from outside of the household that can affect family finances or the propensity to borrow. It is certainly reasonable to hypothesize that economic and labor market conditions, as well as prevailing social conventions, will influence an individual's tendency to file bankruptcy.

Any type of increase in financial distress can result in bankruptcy. For example, the national employment situation is clearly linked to many borrowers' abilities to maintain income and meet their financial obligations. Employment related income interruption is such an important trigger event that up to 68% of bankruptcy filings involve a "job problem" during the two years before the filing.[34] Escalating medical costs also have been shown to trigger bankruptcy in a large number of individual cases; a recent survey shows that as many as one half of all bankruptcies may be the result of mounting medical bills or other health-related costs.[35] Divorce is another often-cited reason for bankruptcy since it frequently results in income interruption.[36] Increased reliance on debt can prove to be problematic as well. Recent research argues that the expansion in the use of credit card debt is "a way to fill the growing gap between household earnings and the cost of essential goods and services," implying a deepening financial vulnerability.[37]

34. Elizabeth Warren, *Financial Collapse and Class Status: Who Goes Bankrupt?,* 41 OSGOODE HALL L.J. 115, 127 (2003).

35. David U. Himmelstein et al., *Market Watch: Illness and Injury as Contributors to Bankruptcy*, HEALTH AFFAIRS Feb. 2, 2005 at W5-63, http://content.healthaffairs.org/cgi/content/full/hlthaff.w5.63/DC1 (last visited April 18, 2005).

36. *See, e.g.*, TERESA A. SULLIVAN ET AL., THE FRAGILE MIDDLE CLASS: AMERICANS IN DEBT 197 (2000); ELIZABETH WARREN & AMELIA WARREN TYAGI, THE TWO-INCOME TRAP: WHY MIDDLE CLASS MOTHERS AND FATHERS ARE GOING BROKE 81 (2003).

37. DRAUT & SILVA, *supra* note 5, at 9.

In their popular and much-discussed book, *The Two-Income Trap*, Elizabeth Warren and Amelia Warren Tyagi expand the trigger event argument to incorporate social factors along with economic circumstances.[38] Their writings suggest that societal pressures to have the "right" house in the "right" neighborhood and the "right" school district lead families to commit increasingly greater portions of their income to mortgage and consumer debt as they stretch to reach these goals.[39] They describe a new set of social norms that could leave household balances sheets weaker and make families even more susceptible to economic trigger events.

Another social issue that contributes to bankruptcy is gambling. A study by the National Gambling Commission found that 19% of pathological gamblers file bankruptcy, compared to 5.5% of low-risk gamblers and 4.2% of non-gamblers.[40] Meanwhile, expenditures on gambling increased rapidly during recent decades. Gambling in many forms is much more common today than it was twenty-five years ago; for instance, lottery sales per capita rose from $35 in 1973 to $150 in 1997, and tribal gambling revenues jumped from $212 million in 1988 to $6.7 billion in 1997.[41] Social acceptance of these and other gambling activities makes it easier for individuals to participate in gambling, which ultimately can lead to financial hardship for some.

While economic and social factors clearly impact individual filing decisions, the case for these causes as drivers of the large time series increase in bankruptcy filings is not as well established. Consider that during the period of the steepest increase in bankruptcy filings, the aggregate U.S. unemployment rate and divorce rate were both in decline.[42] Specifically, although the bankruptcy filing rate more than quadrupled between 1985 and 1998, the unemployment rate in 1998 (4.5%) was lower than the rate for 1985 (7.2%), as was the rate for each of the twelve years in between.[43] Moreover, although medical costs certainly rose during that period (the medical cost consumer price index more than doubled),[44] the increase was offset by a rise in

38. WARREN & TYAGI, *supra* note 36, at 80–81.

39. *Id.* at 20–21, 28.

40. NATIONAL GAMBLING IMPACT STUDY COMMISSION FINAL REPORT 7-16 (1999), *available at* http://govinfo.library.unt.edu/ngisc/reports/7.pdf (last visited April 18, 2005).

41. *Id*. at 2-1, 2-9.

42. Todd Zywicki, *An Economic Analysis of the Consumer Bankruptcy Crisis*, 39–48 (George Mason Law & Economics Research Paper No. 04-35, 2004) (forthcoming 2005, NW. U. L. REV), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=587901.

43. *Supra* note 2 and accompanying text; BUREAU OF LABOR STATISTICS, EMPLOYMENT STATUS OF THE CIVILIAN NONINSTITUTIONAL POPULATION, 1940 TO DATE, http://www.bls.gov/cps/cpsaat1.pdf.

44. The seasonally-adjusted consumer price index for medical care rose from 113.5 in 1985 to 242.1 in 1998. Economic Report of the President: 2000 Report Spreadsheet Tables, Table B–58: Consumer Price Indexes for Major Expenditure Classes, 1958–99, *at* http://www.gpoaccess.gov/usbudget/fy01/sheets/b_58xls (last visited April 18, 2005).

income and a decline in the price of other goods. Overall, then, such factors seem not to have left families worse off.[45] The suggestion that the gap between the costs of goods and family incomes is also inconsistent with the data; recall that inflation adjusted incomes and net worth have been climbing for every income group, especially since the mid 1980s. In fact, some research suggests that, paradoxically, wealth gains themselves may be a factor contributing to credit quality problems. Because rising net worth drives up demand for credit, it was perhaps increases, not decreases, in wealth that accounted for mounting indebtedness and higher defaults during the past two decades.[46] The implication is that weak economic conditions may not have precipitated the surge in bankruptcy filings.

Other analysts concur that economic and social factors on their own are insufficient to explain the growth in personal bankruptcies. David Gross and Nicholas Souleles estimate a credit card default model that controls for the risk of borrowers and economic fundamentals. The model finds that after controlling for these factors, the propensity to default rose markedly during the 1995–1997 period.[47] The results suggest the presence of a time-varying default factor that is not captured in the model, or any models of this sort.[48] Paul Bishop made a similar finding with respect to the existence of a time varying factor that was pushing the bankruptcy rate to higher levels over time that standard models could explain. His basic model found that 69% of the time-series variation in the bankruptcy filing rate between 1960 and 1996 could be explained in terms of economic variables, changes in the aggregate consumer and mortgage debt service burdens of the household sector and job growth.[49] However, after splitting the sample for the model and conducting an out-of-sample test for the period 1986–1996 (when bankruptcy filing rate more than tripled) the model began to significantly underpredict the bankruptcy rate after 1991.[50] By 1996, the model was underpredicting the bankruptcy rate by 40%.[51] A related paper shows that the rank order of state filing rates was invariant over the 1980s and early 1990s, even during that period's rolling regional recession, which might have been expected to play a large role in

45. *Supra* notes 6–10 and accompanying text (documenting the rise in income and net worth seen by U.S. households in the 1980s and 1990s).

46. Donald P. Morgan & Ian Toll, *Bad Debt Rising*, 3 CURRENT ISSUES IN ECON. & FIN. 4 (1997), *available at* http://www.newyorkfed.org/research/current_issues/ci3-4.pdf.

47. DAVID B. GROSS & NICHOLAS S. SOULELES, THE WHARTON FINANCIAL INSTITUTIONS CENTER, AN EMPIRICAL ANALYSIS OF PERSONAL BANKRUPTCY AND DELINQUENCY 5, *available at* http://fic.wharton.upenn.edu/fic/papers/98/9828.pdf.

48. *See id*.

49. PAUL C. BISHOP, DIVISION OF INSURANCE, FEDERAL DEPOSIT INSURANCE CORPORATION, BANK TRENDS, A TIME SERIES MODEL OF U.S. BANKRUPTCY RATES 6 tbl.4 (1998), *at* http://www.fdic.gov/bank/analytical/bank/bt_9801.pdf.

50. *Id*. at 7.

51. *Id*.

bankruptcy filings.[52] While there is evidence of the recessions' economic effects when state differences and the U.S. trend are controlled for, these effects are extremely weak.[53]

Throughout the literature, these types of models convey a sense of structural change in the relationship between risk factors, economic factors, and the rate of bankruptcy filings during the mid 1990s. If economic changes themselves are not the root cause of the upswing in filings, the question remains however as to whether this structural change can best be explained by legal factors, behavioral change or a wider availability of credit

B. Legal Factors

The legal environment has been given special consideration as an important driver behind the change in filing rates. One reason legal factors have been advanced as a possible cause is that federal asset exemptions were established in 1978 and expanded in 1994.[54] However, more than two-thirds of states opted out of the federal exemptions and established their own exemptions that were higher or lower than the federal limits.[55] Beyond asset exemptions, it is not clear that there were significant enough changes in the legal environment to explain the large upsurge in filings between 1985 and 1998.

Researchers agree that legal stipulations such as asset exemptions, wage garnishment, nonjudicial foreclosure, and auto insurance requirements can affect the incentive of debtors to seek bankruptcy protection and the economic benefits of doing so.[56] This is important in explaining the differences in filing rates across states. However, researchers have failed to find a systematic case for legal factors in the steep ascent of bankruptcy filings nationwide. Wage garnishment is the one factor that appears to be most closely related to higher

52. RICHARD A BROWN, DIVISION OF INSURANCE, FEDERAL DEPOSIT INSURANCE CORPORATION, BANK TRENDS, TIME SERIES ANALYSIS OF STATE-LEVEL PERSONAL BANKRUPTCY RATES, 1970–1996 4–5 (1998), *at* http://www.fdic.gov/bank/analytical/bank/bt_9802.pdf (last visited April 18, 2005). Texas, Louisiana and Oklahoma experienced an economic boom in the early 1980s followed by a several year downturn in the mid 1980s; Indiana, Ohio and Michigan suffered dual recessions between 1980 and 1982 followed by more prosperous times in the mid 1990s; and New England experienced an economic boom in the late 1980s followed by a downturn in the early 1990s. *Id.* at 4–5 chts.5–8.

53. *Id.* at 5.

54. DIANE ELLIS, DIVISION OF INSURANCE, FEDERAL DEPOSIT INSURANCE CORPORATION, BANK TRENDS, THE INFLUENCE OF LEGAL FACTORS ON PERSONAL BANKRUPTCY FILINGS 2, 3 (1998), *available at* http://www.fdic.gov/bank/analytical/bank/bt_9803.pdf (last visited April 18, 2005).

55. *Id.* at 3.

56. *See* Reint Gropp et al., *Personal Bankruptcy and Credit Supply and Demand*, 112 Q. J. ECON. 217, 220, 222 (1997); ELLIS, *supra* note 54, at 3.

state filing rates.[57] But while differences in state provisions may help explain why relative state filing rates have remained stable, over time there is no evidence that systematic changes in wage garnishment laws have driven up filing rates across the country.

Some papers look at differences in bankruptcy filings across states as a function of differences in state law. Although in selected cases legal influences do explain the difference between individual state rates, the differences do not appear to be systematic.[58] One important reason is that lenders can alter the availability of credit in response to any change in legal protections enjoyed by borrowers in various states and will simply constrain credit in areas where bankruptcy law is too consumer-friendly.[59]

Canadian data provide further evidence that legal factors are not instrumental in changing bankruptcy patterns. Canada's personal bankruptcy rate rose largely in step with the U.S. filing rate after 1978, when U.S. interest rates were effectively deregulated.[60] Both countries were operating in similar economic and interest rate environments, but the U.S. saw significant bankruptcy law reform while Canadian law was essentially unchanged.[61] The legal changes in the U.S. may not have been the primary reason for the rise in bankruptcies, since Canadian bankruptcies increased similarly, even in the absence of legal reform.[62]

C. Consumer Behavior and Decision Making

Another branch of the literature looks to possible changes in consumer decision-making as an explanation for higher bankruptcy filings. One of the most prominent researchers along these lines, Lawrence Ausubel, argues that the credit card market is uncompetitive and that lenders with market power can make credit available on less favorable terms for some consumers.[63] However, he also asserts that borrowers will only agree to such terms if they underestimate the chance that they will carry balances and actually be

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57. ELLIS, *supra* note 54, at 4–6, 9; Amanda E. Dawsey & Lawrence M. Ausubel, *Informal Bankruptcy* at 3, 8 (2002), *available at* http://www.ausubel.com/creditcard-papers/informal-bankruptcy.pdf.

58. *See* ELLIS, *supra* note 54, at 9; Gropp et al., *supra* note 56, at 227.

59. Mark M. Zandi, *Easy Credit, Profligate Borrowing, Tough Lessons*, REG'L FIN. REV., Jan. 1997, at 16, 19. *Cf.* Gropp et al., *supra* note 56, at 232, 234.

60. DIANE ELLIS, DIVISION OF INSURANCE, FEDERAL DEPOSIT INSURANCE CORPORATION, BANK TRENDS, THE EFFECT OF CONSUMER INTEREST RATE DEREGULATION ON CREDIT CARD VOLUMES, CHARGE-OFFS, AND THE PERSONAL BANKRUPTCY RATE 5, 10 (1998), *at* http://www.fdic.gov/bank/analytical/bank/bt_9805.pdf (last visited April 18, 2005); Zandi *supra* note 60 at 16.

61. ELLIS, *supra* note 60, at 10; Zandi *supra* note 60, at 16.

62. ELLIS, *supra* note 60, at 10; Zandi *supra* note 60, at 16.

63. Lawrence M. Ausubel, *The Failure of Competition in the Credit Card Market*, 81 AM. ECON. REV. 50, 69–71 (1991).

subjected to interest rates and other charges.[64] Thus consumer irrationality is a fundamental factor in Ausubel's theory of debt use and bankruptcy.[65]

Limitations on borrowers' cognitive decision-making abilities are cited by a number of other researchers as well. One line that follows Ausubel's argument is termed by Richard Hynes the "over optimism hypothesis."[66] This refers to the tendency of uninformed consumers to borrow more than they would have had they properly understood the risks and costs.[67] Similarly, households may take on more debt than they know is wise as an extreme reaction to economic or social distress.[68] The consumers' choice to use credit can also be unduly influenced by media blitzes and peer pressure; debt taken on under these circumstances may be marked by denial and regret and is not seen as the result of reasoned decision-making.[69] Still, sometimes suboptimal decisions can lead some consumers to borrow too little, not too much. For instance, Hynes' discussion of the over optimism theory argues that such optimism can conceivably lead consumers to borrow less than they otherwise would.[70] Thus, irrationality can work both to increase and decrease borrowings and the ultimate influence is unclear.

Finally, there is the concept of stigma as it relates to consumer behavior. It has long been argued that the social stigma associated with bankruptcy has eased in recent decades, becoming a much less important factor in households' decisions to file. Even the Federal Reserve cites its changing influence.[71] Perhaps social stigma is the unidentified "Factor X" suggested by Bishop and Gross and Souleles.[72] One reason that the propensity to default has risen, even after controlling for economic factors, is that borrowers perceive that the cost of default has fallen. This could conceivably have come about because the social stigma associated with bankruptcy declined during the period.

64. *Id*. at 76.

65. *Id*. at 71–72, 76.

66. Richard M. Hynes, *Overoptimism and Overborrowing*, 2004 BYU L. REV. 127, 131 (2004).

67. *Id*. at 135.

68. See *supra* notes 34–36 and accompanying text. *See also* WARREN & TYAGI, *supra* note 36, at 130–32.

69. ROBERT D. MANNING, CREDIT CARD NATION: THE CONSEQUENCES OF AMERICA'S ADDICTION TO CREDIT 8-11 (2001); SULLIVAN ET AL., *supra* note 36, at 133, 135–37.

70. Hynes, *supra* note 66, at 145.

71. Govenor Susan Schmidt Bies, Remarks at the Economic Growth and Regulatory Paperwork Reduction Act Banker Outreach Meeting, (April 22, 2004), http://www.federalreserve.gov/boarddocs/speeches/2004/20040422/default.htm. Governor Bies said, "The Bankruptcy Reform Act of 1978 made bankruptcy a more attractive option for most households by increasing the amount of wealth that households could retain after bankruptcy. Other factors that have likely contributed to the upward trend are the decrease in the social stigma of filing for bankruptcy and the growing access to credit in the United States." *Id.*

72. *See* BISHOP, *supra* note 49, at 1; Gross & Souleles, *supra* note 47, at 1.

However, some researchers contend that stigma is still prevalent, weighing on household decisions.[73] Embarrassment continues to make filers reluctant to admit what they have done. When surveyed, only half of those who have filed for bankruptcy acknowledge that they have done so.[74] Filing bankruptcy is a difficult choice with unpleasant emotional and financial consequences.[75] And while post-bankruptcy credit may be available to filers sooner today than it was in the past, thanks to subprime lenders, it is relatively expensive, so there is still a financial cost exacted on bankrupt households for years after filing occurs.

It is particularly difficult to evaluate arguments related to decision processes and stigma because they are not easily quantified. It is important to note that even if such factors have shaped bankruptcy trends to date, consumer behavior could change again at any point in the future and could even revert to older ways. Thus, it could be ineffective to base policy recommendations simply on the basis of changing consumer behavior.

D. Wider Availability of Credit

Lastly, several researchers have attributed the changes in consumer credit performance directly to the expansion in credit availability. The explanation is that credit card issuers changed their practices, relaxed their standards and extended credit to more and riskier borrowers during recent decades, ultimately leading to the surge in bankruptcy filings.[76] As usury ceilings and other restrictions on lenders' pricing powers were eliminated, lenders gained a new ability to raise risk premia and could afford to offer credit to riskier, potentially more costly borrowers. Because this means that borrowers were more numerous and had a greater probability of defaulting on their obligations, the expansion of credit is a sufficient condition for a rise in bankruptcy rates.[77]

Low-income consumers formed a large part of the group of new borrowers. Indeed, the survey of consumer finances documents that while the number of low-income borrowers fell between 1983 and 1992, their aggregate debt rose as creditors granted them new access to credit.[78] At the same time, mortgage and home equity lending were increasing, contributing to an adverse selection problem for unsecured credit card lenders.[79] The less risky borrowers

73. SULLIVAN ET AL., *supra* note 36, at 32–34.

74. Himmelstein et al., *supra* note 35, at W5-64.

75. See for example, SULLIVAN ET AL., *supra* note 36, at 32–34.

76. Joanna Stavins, *Credit Card Borrowing, Delinquency, and Personal Bankruptcy*, NEW ENG. ECON. REV., July–August 2000 at 15, 30, *available at* http://www.bos.frb.org/economic/neer/neer2000/neer400b.pdf.

77. ELLIS, *supra* note 60, at 1.

78. David A. Moss & Gibbs A. Johnson, *The Rise of Consumer Bankruptcy: Evolution, Revolution or Both?*, 73 AM. BANKR. L. J. 311, 334 tbl.1 (1999).

79. Moss & Johnson, *supra* note 78, at 340 & n.112.

were better positioned to pledge their homes and take advantage of new mortgage industry innovations, leaving unsecured consumer lenders with a worse pool of credits from which to draw. Credit card and similar lenders had no choice but to turn towards new classes of borrowers. The resulting redistribution of credit, especially unsecured debt, towards lower income groups has been set forth as an important contributor to the rise in personal bankruptcy.[80]

There is little doubt that the statistical case for wider availability of credit as the cause of the surge in bankruptcies is circumstantial. The dramatic changes in the consumer finance environment and upswing in personal bankruptcy filings can be regarded as a one-time nationwide experiment. While we can, in selected cases, compare to other countries, such as Canada,[81] we cannot run a controlled time series experiment, thus we must rely on other analytics to dissect the root causes. Researchers have hypothesized about economic and social factors, the legal environment, consumer behavior, and credit availability, and we have considered each in turn. We have argued against economic and social factors because they leave too much of the trends in bankruptcy data unexplained. Legal factors explain differences across states—which are important—but do not appear to explain the large national upward surge in filings. Mass changes in behavior or a reduction in stigma cannot be ruled in or out, but the inability to quantify or measure these factors leaves these theories in this area to rely largely on conjecture. That leaves the circumstantial link between an expansion in credit to lower-income and riskier households and the surge in bankruptcy filings. We conclude that this is the best case. We expand by outlining the regulatory and technological elements of what we see as the consumer lending revolution.

IV. ELEMENTS OF THE SUPPLY SIDE REVOLUTION

A number of trends coalesced during the 1990s and profoundly altered the consumer lending environment. These important institutional changes were deregulation, the rise of the general-purpose credit card, credit scoring, risk-based pricing, and securitization.[82] Together, these factors provide the economic rationale for the supply side revolution. These forces have widely expanded the availability of credit and given consumers unprecedented command over economic resources. However, these trends also have contributed to the historic increases in personal bankruptcy filings and

80. *Id*. at 340.

81. *See* ELLIS, *supra* note 60, at 1, 9; Zandi, *supra* note 60, at 16.

82. For a basic introduction to the elements of the consumer lending revolution, see SUSAN BURHOUSE, FEDERAL DEPOSIT INSURANCE CORPORATION, FYI: EVALUATING THE CONSUMER LENDING REVOLUTION (2003), *at* http://www.fdic.gov/bank/analytical/fyi/2003/091703fyi.html (last visited April 18, 2005).

consumer loan losses seen in recent years. In many ways, the supply side revolution has brought about a riskier consumer lending environment. While the potential profits for lenders are high, the losses may be high too, raising the importance of adequate risk management practices. In order to benefit from this revolution while minimizing its downside, consumers, lenders and policymakers must each consider the factors that have contributed to the new environment.

A. Deregulation

The banking industry has undergone significant competitive deregulation during the past thirty years. Indeed, the financial services industry was affected by more legislative and regulatory changes in the period between 1980 and 1994 than at any other time since the 1930s.[83] These measures included provisions to relax branching restrictions, to permit banks to make new investments and engage in new activities and to loosen restrictions on interest rates paid on both deposits and loans.

While each of these changes was important in redefining the business of banking, it was interest rate deregulation that most directly precipitated the supply side consumer lending revolution. In the 1970s and early 1980s nominal interest rates were high and volatile, and inflation was increasing.[84] This made state usury ceilings binding, and ultimately provided the rationale for deregulation. Because banks' ability to raise the interest rates charged on loans was limited by usury ceilings, it was very costly for banks to run nationwide operations.[85] The environment was so restrictive that thirty-seven states had some kind of ceiling on credit card interest charges by the end of the 1970s.[86] Consequently, overall credit card lender earnings declined, as many lenders suffered outright losses.[87] Lenders had incentives to grant credit only to high-income, low-risk customers that offered stable banking relationships. Lenders needed the ability to charge higher interest rates to compensate for this risk of lending to a broader spectrum of borrowers.

83. FEDERAL DEPOSIT INSURANCE CORPORATION, HISTORY OF THE 80'S — LESSONS FOR THE FUTURE, VOLUME I: AN EXAMINATION OF THE BANKING CRISIS OF THE BANKING CRISIS OF THE 1980S AND EARLY 1990S 87 (1997), *available at* http://www.fdic.gov/bank/historical/history/87_136.pdf.

84. Historical interest rate data are available from the Board of Governors of the Federal Reserve. FEDERAL RESERVE, SELECTED INTEREST RATES tbl.H.15, *at* http://www.federalreserve.gov/releases/H15/data.htm. Data on inflation, as measured by the Consumer Price Index (CPI) is available from the Bureau of Labor Statistics of the U.S. Department of Labor at http://www.bls.gov/cpi/.

85. ELLIS, *supra* note 60, at 4–5.

86. *Id.* at 5.

87. *Id.* at 4.

The landscape changed dramatically in 1978, when a Supreme Court ruling in the case of *Marquette National Bank of Minneapolis v. First Omaha Service Corp*. ("Marquette") effectively eliminated state usury ceilings on consumer loans.[88] This was undoubtedly a landmark development, permitting rates to be governed by laws prevailing in the lender's home state, regardless of the residency of the borrower.[89] Some states, like South Dakota[90] and Delaware,[91] relaxed their usury limits almost immediately to attract banking business. Banks and consumer lenders who were located in states with liberal rules could now export their rates to consumers in other states with more restrictive usury laws.

The implications were particularly significant for credit card lenders, since the credit card business could be accomplished entirely by mail and did not require the borrower and lender to live in close proximity to one another or to have face-to-face meetings. High interest rates were essential to this type of remote business model. Lenders were taking on more risk by doing business with consumers who they knew little about, and needed to price products accordingly. Once lenders were granted the ability to charge appropriate interest rates, the credit card by mail business model flourished. Indeed, Citibank was one large national bank, which quickly moved its operations and set up credit card processing centers in the deregulated states.[92] Other states were then pressured to relax their own usury laws for fear that major banks would move their business out of states that maintained strict limits.[93] The changed regulatory environment allowed banks to expand their credit card lines of business through the 1980s, and credit card receivables increased by nearly five-fold over that decade.[94] Consumer and credit card loans were not the only product lines affected by deregulatory forces. The Depository Institutions Deregulation Act of 1980 ("DIDA") deregulated mortgage rates by eliminating state maximums for residential real estate loans.[95]

In addition to eliminating the cap on loan rates, the trend toward deregulation also touched the other side of the balance sheet by removing the

88. *Marquette National Bank of Minneapolis v. First Omaha Service Corp.*, 439 U.S. 299, 318–19 (1978).

89. *Id*. at 301.

90. ELLIS, *supra* note 60, at 5 (citing William J. Janklow, *South Dakota and Financial Deregulation*, BANKERS MAG., Sept.-Oct. 1985, at 32).

91. ELLIS, *supra* note 60, at 5.

92. Janklow, *supra* note 90, at 32.

93. ELLIS, *supra* note 60, at 5.

94. Credit card loans totaled 29 billion in 1980 and were over 133 billion in 1990. *See* Federal Deposit Insurance Corporation Historical Statistics on Banking, Table CB13 Loans to Individuals, *available at* http://www2.fdic.gov/hsob/SelectRpt.asp?EntryTyp=10. *See also*, ELLIS, *supra* note 60, at 5-6.

95. 12 U.S.C.§ 3501 (1982).

limit on deposit rates that a bank could pay.[96] Another provision of DIDA was to phase out deposit rate ceilings.[97] Prior to that time, Regulation Q mandated the maximum rate that banks and thrifts could offer on deposit accounts.[98] This had effectively stifled competition and made it difficult for banks to raise funds when they were most needed. Now banks can attract deposits in all credit environments, reducing the likelihood of a credit crunch in high interest rate periods.

In many ways, deregulation has resulted in a more competitive banking environment. The removal of deposit rate regulation and the subsequent creation of other competing deposit-like investments that paid market interest rates led banks to pay market rates on their deposits as well. This was a costly change for banks, which lost their monopsony power in the deposit market and were no longer able to acquire funds at below market prices.[99] In 1979 banks had enjoyed interest expenses that were 5.48 percentage points less than the average one-year Treasury rate for that year.[100] By the time interest rate deregulation was complete in 1986, bank interest expenses were only 1.32 percentage points below the Treasury rate.[101] In addition, as some of the legal distinctions between banking activities and other types of commerce have been erased, banks have faced increasing competition from nonbank entities. Overall, the unregulated banking environment is characterized by both competition and consolidation, as fewer, larger banks have emerged to dominate the industry battle over new customers. Credit card lending under deregulation offered the potential for high fees and high margins, helping banks cope with a suddenly much more competitive business environment.

B. The General Purpose Credit Card

Credit card lenders were among the first to react to deregulated consumer interest rates and extend new offerings to consumers with potentially riskier borrower profiles.[102] Thus, the credit card instrument itself can be considered another important element of the changing consumer credit landscape. The novelty of the credit card is that it can be used at any time, for any purpose, giving consumers great flexibility and autonomy over their purchasing and borrowing and contributing to profound changes in the psychology of consumer spending. The introduction of unsecured, revolving credit meant

96. *Id*. 3501(a)(2).

97. *Id*. 3501(b).

98. Regulation Q: Prohibition Against the Payment of Interest on Demand Deposits, 12 C.F.R. § 217.1 (1986).

99. Allen Berger et al., *The Transformation of the U.S. Banking Industry: What a Long, Strange Trip It's Been*, 1995 BROOKINGS PAPERS ON ECONOMIC ACTIVITY 55, 60–61, 79 (1995).

100. *Id*. at 79.

101. *Id*.

102. ELLIS, *supra* note 60, at 5–6.

that consumers no longer had to rely on personal loans, retail installment loans, or layaway plans to make specific purchases. It also meant that lenders would have no assets to repossess in a default, just losses to charge off. The rapid increase in debt use since the introduction of the credit card has had both costs and benefits for consumers and lenders, which must be thoroughly understood when analyzing the risks associated with revolving credit.

The rapid growth in credit card lending began with the *Marquette* decision and continues today. One indication of the pervasiveness of credit cards in today's society is the frequency of credit card solicitations; consumers received nearly 4.3 billion solicitations per household in the mail in 2003, nearly four times more than households received in 1990.[103] Although the number of offers has moderated somewhat after peaking at five billion in 2001, experts are projecting a record high number of mailings in 2004.[104] Concurrent with the proliferation of credit card offers, the percent of families holding bank credit cards increased across all income groups during the 1990s, meaning that more and more families obtained access to unsecured, revolving credit lines.[105] The increase was especially pronounced for lower income households. In 2001, 44% of families in the lowest income quintile had at least one bank credit card, up from 30% in 1989, while the percentage of households in the second income quintile that carried one or more bank credit cards climbed to 70% from 56% over the same period.[106] Not surprisingly, increasing access to this type of credit has brought about increases in utilization of credit, a change that is again especially pronounced for families in lower income brackets. The percent of families in the lowest income quintile holding credit card debt doubled from 15% to 30% between 1989 and 2001, while households in the highest two income quintiles actually became less likely to carry outstanding balances.[107]

Not only low-income borrowers, but also younger, less wealthy, and other higher credit risk consumers are benefiting from this important lending option. The mix of credit card holders has changed in recent years to include borrowers that have higher debt to income ratios, work in low-skilled jobs, are

103. Synovate, Press Release: Credit Card Companies Mail Fewer Offers for Second Consecutive Year, *at* http://www.synovate.com/en/news/press_details.php?id=48 (Mar. 29, 2004).

104. Synovate, Press Release: U.S. Households Receive Record 1394.8 million Credit Card offers Reports Synovate's Mail Monitor, *at* http://www.synovate.com/en/news/press_details.php?id=61 (Sept. 30, 2004).

105. DRAUT & SILVA, *supra* note 5, at 46 app.B.

106. *Id*.

107. Aizcorbe et al., *supra* note 10, at 23 tbl.11; Arthur Kennickell & Janice Shack-Marquez, *Changes in Family Finances From 1983 to 1989: Evidence from the Survey of Consumer Finances*, FED. RES. BULL. 1, 13 tbl.9 (Jan. 1992), *available at* http://www.federalreserve.gov/pubs/oss/oss2/89/bull0192.pdf.

single, are renters, have less seniority at their jobs, and are more willing to borrow for a variety of reasons.[108] Notably, the changes in occupation, job tenure, marital status and debt loads have been directly associated with increased risk of default.[109] Although they are necessarily charged higher rates, these new credit card holders now have the choice to access their credit lines and finance current consumption as they see fit.

In addition to this democratization of credit access, increases in credit availability and utilization among households that already owned credit cards also was an important factor in the increase in aggregate revolving debt in the 1980s. By one estimate, changes in average balances and credit card ownership among households in the top half of the income distribution accounted for most of the rise in total household credit card debt, while the increase in the number of households holding a credit card was responsible for just over one-tenth of the growth in debt between 1983 and 1989.[110]

Many researchers link the increase in credit card debt, apart from all other forms of consumer debt, directly to a decline in credit quality and the uncharacteristic rise in bankruptcies that took place between the mid-1980s and late 1990s.[111] There exist several supply side explanations that, while differing sharply over whether blame lies with consumers or lenders, all center around the increasing availability of credit cards to explain what is seen as irresponsibly high use of credit. The theories are similar to the larger body of work, discussed earlier, that cites the democratization of credit as a cause of bankruptcy, but in these cases credit cards specifically are seen as the culprit. For instance, in his well-known book *Credit Card Nation*, Robert Manning faults, in part, aggressive marketing by credit card companies for the dissolution of the cognitive link between earning and savings and spending and borrowing that had once governed consumer finance.[112] This leaves consumers seeking immediate gratification while feeling that credit is "free" money and thus fundamentally changes attitudes toward spending and debt.[113] Ausubel's consumer behavior models also implicate credit cards. He hypothesizes that consumers make suboptimal choices about credit card debt in

108. SANDRA E. BLACK & DONALD P. MORGAN, RISK AND THE DEMOCRATIZATION OF CREDIT CARDS 2 (1998), *available at* http://www.newyorkfed.org/research/staff_reports/research_papers/9815.pdf.

109. *Id*.

110. Peter S. Yoo, *Charging Up a Mountain of Debt: Accounting for the Growth of Credit Card Debt*, REVIEW, Mar.-Apr. 1997, at 6-7, 13 tbl.5, *available at* http://research.stlouisfed.org/publications/review/97/03/9703py.pdf (last visited April 18, 2005).

111. *See* Lawrence M. Ausubel, *Credit Card Defaults, Credit Card Profits and Bankruptcy*, 71 AM. BANKR. L. J. 249, 249 (1997); Moss & Johnson, *supra* note 78.

112. MANNING, *supra* note 69, at 2–3.

113. *Id*.

particular because they underestimate its use.[114] This allows credit card lenders to earn high, even abnormal, profits and, in turn, solicit more new borrowers with credit offers.[115]

Other theories incorporate the role of the credit card instrument into models of financial distress as an enabling factor that increases vulnerability. David Moss and Gibbs Johnson argue, for example, that bankruptcy filings have risen during the past two decades due to a redistribution of types of credit, with lower-income households taking on more credit card debt and high-income households increasingly holding concentrations of secured (mainly mortgage) debt.[116] They contend that because credit card debt is a better predictor of bankruptcy than secured debt, and that vulnerable low-income borrowers have been loaned more credit card debt, rising bankruptcies are a logical result.[117] Similarly, Sandra Black and Donald Morgan point out that increases in unsecured credit are weakening borrowers' financial positions.[118] They contend that increased debt burdens carried by borrowers since the proliferation of credit card lending made income disruptions of any kind much more worrisome for many individuals.[119] Todd Zywicki also sees credit less as the immediate cause of bankruptcy and more as a facilitator. He purports that consumers see credit cards as "credit lines of last resort."[120] Borrowers often tend to accumulate large amounts of credit card debt immediately prior to filing bankruptcy in what may be last-minute attempts to maintain financial solvency, or strategic moves to run up dischargeable debt.[121] In either case, credit card availability allows these borrowers to spend beyond their means.

Survey results show that borrowers themselves have realized increased credit card availability can have adverse effects; 88% think that too much credit is available via credit cards, and 40% think consumers would be better off without bank cards.[122] These negative attitudes have changed dramatically as credit cards became more prevalent; in 2000, 42% of those surveyed said that credit card use was bad, compared to only 14% who responded that way in 1977.[123]

114. Ausubel, *supra* note 111, at 261–62.

115. *See id*. at 263.

116. Moss & Johnson, *supra* note 78, at 333, 340–41.

117. *Id.* at 342.

118. Sandra E. Black & Donald P. Morgan, *Meet the New Borrowers*, 5 CURRENT ISSUES IN ECON. & FIN. 1, 5 (1999).

119. *See id*. at 1–2.

120. Zywicki, *supra* note 42, at 32.

121. *Id.* at 34 (citing Gross and Souleles' documentation of the rise in credit card debt during the time before bankruptcy).

122. Thomas A. Durkin, *Credit Cards: Use and Consumer Attitudes, 1970-2000*, FED. RES. BULL. 623, 628–29 (Sept. 2000).

123. *Id*. at 627.

Interestingly, though, these same surveys reveal that while consumers may see overuse of credit as harmful to society, they are comfortable with the role that credit plays in their own lives. Ninety percent of consumers were satisfied with their credit card companies, and the same number say that bank credit cards perform a useful service.[124] Indeed, compared to older forms of consumer credit, the bank-issued, general purpose credit card instrument has presented consumers with a much greater degree of convenience and unprecedented flexibility in determining how they want to use debt and when they choose to repay. Notably, to the extent that the increase in aggregate credit card debt is associated with convenience use rather than with the revolving credit feature, households are not made more financially vulnerable. Research shows that convenience use of credit cards may have risen as fast as 15% per year between 1992 and 2001, and that if growth had stayed at 1992 levels, outstanding credit card debt would have been 7.5% percent lower by 2001.[125] This demonstrates that consumers do recognize, and are taking advantage of, the convenience features of the credit card instrument.

More generally, once all of the benefits are weighed against the costs of using credit cards versus other payment methods, credit cards have been shown to be the most beneficial for consumers in many cases.[126] While this does not imply that all parties to a transaction are going to benefit economically from a shift towards credit card use, consumers as a group are likely to see gains. Finally, consumers are frequently attracted to credit cards over other types of debt because they represent a less expensive payment option than the alternatives.[127] Zywicki cites this logic when arguing that consumer use of high interest rate credit card debt has not in fact had an impact on debt service burdens, since it represents a substitution away from even more costly forms of debt.[128] In many instances, then, the use of credit cards is not an indication of consumer gullibility or lack of savvy at the hands of sophisticated lenders, but rather a rational and legitimate choice.

Thus, while the flexibility and choice offered by the credit card instrument have undoubtedly raised the overall economic welfare of consumers and increased the efficiency of consumer credit markets, there are compelling

124. *Id*. at 628.

125. KATHLEEN W. JOHNSON, DIVISIONS OF RESEARCH & STATISTICS AND MONETARY AFFAIRS, FEDERAL RESERVE BOARD, CONVENIENCE OR NECESSITY? UNDERSTANDING THE RECENT RISE IN CREDIT CARD DEBT 16, http://www.federal reserve.gov/pubs/feds/2004/200447/200447pap.pdf.

126. Daniel D. Garcia Swartz et al., AEI-BROOKINGS JOINT CENTER FOR REGULATORY STUDIES, THE MOVE TOWARD A CASHLESS SOCIETY: A CLOSER LOOK AT PAYMENT INSTRUMENT ECONOMICS 25 (Working Paper No. 04-20, 2004), http://www.aei-brookings.org/admin/authorpdfs/page.php?id=1060.

127. Zywicki, *supra* note 42, at 28–29.

128. *Id*. at 34.

arguments demonstrating the adverse consequences felt by millions of households. The social policy implications and appropriate remedies are still under debate. From a risk management perspective, however, the credit card has truly and irreversibly revolutionized the fundamentals of consumer finance.

C. Credit Scoring

Credit scoring allows for the quantification of a borrower's likelihood to repay a loan, based on historical outcomes of loans made to borrowers with similar characteristics.[129] Although mathematical analysis of credit applications was introduced as far back as the 1950s, it was not until the 1990s that advances in communications and information technology made it possible to fully automate the business of granting consumer credit.[130] Now, credit bureaus have created sophisticated statistical models that use low-cost, standardized information on household credit use and credit performance to generate credit scores. While many details of the credit scoring methodologies are still proprietary, Fair Isaac & Co. revealed in 2000 that about 35% of the score is based on the borrowers' history of repayment, 30% is based on how much of available lines of credit a borrower has drawn down, 15% depends on the length of the credit history, 10% relates to the types of credit used, and the final 10% is based on the pattern of credit used.[131] This modeling technology is now widely use by credit card, mortgage, home equity, auto and other consumer lenders. The credit scores, in turn, are used by the financial marketplace to target customers, underwrite loans, and estimate the value of asset-backed securities based on consumer and mortgage loans.

The 2001 recession offered the first test of the new credit scoring technology during an economic downturn. While no model claims perfect predictive power, today's models for prime loans generally demonstrate a high degree of correlation between predicted and actual performance. Subprime lenders, however, discovered that their models had a troubling tendency to underestimate losses during the downturn.[132] For example, a January 2002 Federal Reserve survey found that more than 66% of senior loan officers felt that actual subprime consumer loan performance over the previous year had

129. Loretta J. Mester, *What's the Point of Credit Scoring?*, BUS. REV. 3, 4 (1997), *available at* http://www.phil.frb.org/files/br/brso97lm.pdf.

130. *Id*. at 3–12.

131. FAIR ISAAC CORP., UNDERSTANDING YOUR CREDIT SCORE 8 (2003), *at* http://www.fairisaac.com/NR/rdonlyres/6F127C6D-E5D2-4EB3-B0CC-A0V03FE00D94/0/understandcreditscorebooklet.pdf.

132. BURHOUSE, *supra* note 82; FEDERAL RESERVE SYSTEM, JANUARY 2002 SENIOR LOAN OFFICER OPINION SURVEY ON BANK LENDING PRACTICES, 2002 [hereinafter LOAN OFFICER SURVEY], *available at* http://www.federalreserve.gov/boarddocs/SnLoanSurvey/200202/default.htm (last visited April 18, 2005).

been worse then they had been expecting based on their models' predictions.[133] In comparison, only 39% felt their models had underpredicted problems with standard consumer loan performance.[134] This is problematic because lenders that significantly overestimate credit performance have found themselves sustaining losses that sometimes lead to failure.[135] Lenders with inaccurate models have had to reevaluate not only the models themselves, but also their business strategies. Only with models that provide a reliable estimate of credit losses at all points in the business cycle can consumer lenders ensure profitability over the longer term.

Credit scoring and quantification have other potential downsides as well. Rapid changes in how consumer data are collected and disseminated are raising important issues associated with data accuracy, information security, and privacy. Even though data collection techniques have become much more refined in recent years, there still may be issues of accuracy, timeliness, consistency, and completeness. For example, a Federal Reserve report found that on over 33% of credit reports studied, at least one credit account credit limit was not reported.[136] In over 13% of these cases, the inclusion of this information would have had a major upward impact (greater than ten points) on the individual's credit score.[137] It is interesting to note that these types of data anomalies impact specific classes of borrowers differently. Thirty-eight percent of borrowers with credit scores below 600 would have seen a major increase in their credit scores if the unreported credit limit were corrected, but only 10% of those with credit scores above 660 would have their scores similarly affected.[138] It is clear, then, that consumers will need to be better educated and more proactive in monitoring and verifying their credit files on an ongoing basis.

Other drawbacks of massive credit data collection include an increased incidence of financial fraud and identity theft, in which thieves secure mortgages against property they do not own, or manufacture identifying information for a non-existent borrower. These cases remind banks and credit bureaus that they must be vigilant about protecting consumer information. The Fair and Accurate Credit Transaction Act of 2003 provides numerous provisions about information security, many of which will be implemented by credit bureaus themselves.[139] The industry will have to remain alert to the fact

133. LOAN OFFICER SURVEY, *supra* note 132.

134. *Id*.

135. BURHOUSE, *supra* note 82.

136. Robert B. Avery et al., *Credit Report Accuracy and Access to Credit*, FED. RES. BULL., Summer 2004, at 297, 306.

137. *Id*. at 314 tbl.3.

138. *Id*. at 316 tbl.4.

139. See Fair and Accurate Credit Transactions Act of 2003, Pub. L. No. 108–159, 117 Stat. 1952 (2003).

that fraudulent borrowers may learn how to beat the automated credit scores and underwriting systems.[140] Finally, lenders must recognize that current data limitations mean that credit models cannot control for changes in local economic circumstances and individual trigger events. This reduces their effectiveness in certain cases and suggests an area for further refinement.[141]

That said, the elements of the consumer lending revolution would not have been able to evolve as they have in the absence of enhanced quantitative analysis. Strong modeling capabilities clearly improve the quality and flow of information between borrower and lender, and even between third parties, thereby enhancing market efficiency. Credit scoring also leads to quicker loan approval decisions, while reducing costs by increasing productivity, as loan officers need only manually review cases that are less than clear-cut. In sum, widespread credit scoring has lowered the barriers to entry, enhanced competition among lenders, and encouraged the increase in lending that is key to the supply side revolution.[142]

D. Risk-Based Pricing

Improvements in the availability and accuracy of data that describe the creditworthiness of potential borrowers have been instrumental in allowing consumer and mortgage lenders to overcome the most important consequence of asymmetric information in credit markets—the problem of adverse selection. In the context of credit markets, adverse selection arises when lenders know less than borrowers about their true probability of default.[143] Without the ability to precisely quantify that probability, the lender can only offer to make loans at a rate that reflects the average risk of borrowers.[144] But at such a price, lower-risk borrowers will tend to decline the offer while higher-risk borrowers will tend to accept, thereby raising the average risk of borrowers who accept offers of credit.[145] Even where interest rates are unregulated, there may not be an equilibrium interest rate high enough to allow lenders to charge for the average risk of borrowers who accept their offer. In such a case, an alternative strategy is to set the interest rate at some pre-determined level and then to screen borrowers according to their estimated level of risk, in a process known as *credit rationing*.

140. Christine Pratt, *Consumer Credit: Risky Business? The Sequel*, Tower Group Research Notes, 2004, at 10 (on file with author).

141. Avery et al., *supra* note 136, at 321–22.

142. Mester, *supra* note 129, at 3, 11–13.

143. This theoretical description of adverse selection as a rationale for credit rationing in credit markets was outlined by Joseph E. Stiglitz and Andrew Weiss in *Credit Rationing in Markets with Imperfect Information*, 71 AM. ECON. REV., 393, 393 (1981).

144. *Id*.

145. *Id*.

Under this theoretical process, it is natural for lenders to exclude borrowers that they perceive to be too risky to lend to at the prevailing rate of interest. This process represents the rationale under which certain classes of risky borrowers traditionally have been excluded from bank lending programs. However, two factors can, in principal, counteract the adverse selection problem and make credit available to more (and riskier) borrowers. One is the ability to charge a higher interest rate. While there may be borrowers who are deemed too risky at any reasonable rate of interest, the proportion of borrowers screened out by the lender declines with a higher absolute rate of interest. This is the rationale behind the conclusion that the elimination of usury ceilings on credit card loans was in itself sufficient to bring about an expansion in the provision of credit to more (and riskier) borrowers.[146] The other factor that will clearly result in the provision of credit to more and riskier borrowers is the ability to more precisely estimate the probability of default for individual borrowers, enabling companies to offer different interest rates to safer and riskier borrowers, respectively.

As the quality of credit bureau data and the effectiveness of credit models have improved, it has become possible for lenders to identify lower-risk borrowers and to offer them a better deal on their credit cards. Mark Furletti has documented the decline in prime credit card interest rates in the 1990s and has attributed it in part to credit scoring and improvements in information.[147] As the marketplace has competed more intensively for the business of prime borrowers, it has been increasingly difficult to get prime borrowers to continue to accept the higher interest rates that they were offered when they were lumped in with riskier consumers, that is, when there was essentially one credit card rate offered to all potential borrowers.[148] As a consequence, the only way that credit can continue to be offered to riskier borrowers is at higher "subprime" rates of interest. As before, the rationale for profitability of any individual loan program is that the revenue earned from borrowers who repay their loans must more than compensate for the losses incurred on borrowers who fail to repay.[149] Therefore, as improvements in information and modeling allow low-risk borrowers to get a better deal, it stands to reason that high-risk borrowers will pay more for credit, even as more credit is made available to them.[150]

146. ELLIS, *supra* note 60.

147. MARK FURLETTI, PAYMENT CARDS CENTER, FEDERAL RESERVE BANK OF PHILADELPHIA, CREDIT CARD PRICING DEVELOPMENTS AND THEIR DISCLOSURE 2–3 (2003).

148. *Id*. at 3, 6–8.

149. *Id*. at 7.

150. See Wendy Edelberg, *Risk-Based Pricing of Interest Rates in Consumer Loan Markets* (2003), http://econpapers.repec.org/paper/fipfedgfe/2003-62.htm. Edelberg quantifies the extent to which risk premia increased as risk-based pricing became more common in the 1990s. She finds that as a borrower's probability of bankruptcy rises by 1%, the interest rate charged for a

These theoretical considerations are largely consistent with both the decline in interest rates offered to prime credit card customers and the emergence of subprime loan programs (particularly in the markets for loans secured by autos and residential real estate) that were observed in the 1990s.

E. Securitization

Improvements in information systems and the quantification of risk have also contributed to the successful application of the principles of *securitization* to the various classes of consumer loan receivables, including subprime consumer loans. Securitization represents one of the most important new techniques that have been applied to mortgage and consumer finance during the past fifty years. Compared to the traditional methods of financing loans by holding them on the balance sheets of financial intermediaries, securitization offers lenders a variety of benefits, including: 1) the opportunity to quickly access large amounts of investment capital on favorable terms, and 2) the ability to move assets and credit risks off their balance sheets, thereby minimizing the amount of capital the institution must hold. These benefits, in turn, allow lenders to make more credit available to mortgage and consumer borrowers and to do so more consistently as financial market conditions change over time.

Securitization refers to the issuance of debt securities that are secured by dedicated pools of cash-producing assets (most commonly loans and leases). This process, as we know it today, was originally introduced in the early 1970s by the U.S. government-sponsored enterprises (or "GSEs") involved with mortgage finance. In 1970, the Government National Mortgage Association ("GNMA" or "Ginnie Mae") issued the first mortgage-backed pass-through securities (or MBS).[151] The other mortgage-related GSEs, including the Federal National Mortgage Association ("FNMA" or "Fannie Mae") and the Federal Home Loan Mortgage Corporation ("FHLMC" or "Freddie Mac"), soon followed suit. MBS securities issued by these companies are backed by the cash flows derived from the underlying mortgage loans and are guaranteed by the issuing agency. The so-called "agency" MBS market grew quickly after its introduction, reaching $114 billion in outstanding obligations in 1980, $1.02

first mortgage loan will triple, the rate for an automobile loan will double, and the rate for a second mortgage will increase by a factor of six. *Id.* at 1. This pricing structure led low-risk borrowers to take advantage of their relatively lower rates and increase their borrowing the most of any risk group. *Id.* While high-risk borrowers found credit to be more available, the higher prices they faced led them to increase their borrowing less than the lower-risk groups, and sometime to even decrease borrowing. *Id.* Overall, between 25% and 75% of the growth in consumer debt outstanding can be attributed to risk-based pricing structures. *Id.* at 3.

151. James J. Clarke, *The New Arrival: The Asset-Backed Security*, BOTTOMLINE, Sept. 1988 at 50 (on file with author).

trillion in 1990, and $2.49 trillion in 2000.[152] An important variation on this process was introduced in the 1980s with the introduction of collateralized mortgage obligations ("CMOs"). Under the CMO structure, the securities issued differ in terms of the priority of the claims they hold on the proceeds of the mortgage pool. The benefit of this structure is that the securities issued can be separated into high-risk (or subordinate) and low-risk (or senior) *tranches* (or groups), allowing investors to choose the risk class that best suits their investment needs.[153] The existence of subordinate, or first-loss, tranches means that the senior tranches are made comparatively less risky. This method of *credit enhancement* facilitated the introduction of private-label MBS securities that do not benefit from being guaranteed by a government-sponsored enterprise. Privately-issued residential MBS were introduced in 1984, and quickly grew to $56 billion in 1990 and $474 billion in 2000.[154] Taken together, the total value of mortgage debt held by agency and private-label mortgage pools exceeded the mortgage debt held by FDIC-insured banks and savings institutions for the first time in 1987. By 2002, public and private mortgage pools held 65% more mortgage debt than FDIC-insured institutions.

A critical element in the development of mortgage securitization has been the development of standardized terms and documentation for loans placed into mortgage pools. As the agency MBS market developed, these standards were built around the notion of "conforming" loans that could be purchased and securitized by the mortgage GSEs under their loan purchase guidelines. During the 1990s, the mortgage GSEs went one step further by introducing automated underwriting systems (such as Freddie Mac's Loan Prospector system) that collect standardized data for each loan and borrower, and then calculate a credit score that determines the suitability of the loan for purchase, thereby reducing the cost of originating a mortgage loan by as much as $1,000.[155]

During the 1990s, automated underwriting and credit scoring models were similarly applied to the origination of various classes of non-mortgage consumer loans. The availability of standardized loan data and credit scoring helped to facilitate the application of securitization techniques to consumer

152. FLOW OF FUNDS, *supra* note 9, at tbl.L.126.

153. For a description of MBS credit enhancement, see Wayne Passmore et al., *GSEs, Mortgage Rates, and the Long-Run Effects of Mortgage Securitization*, (Federal Reserve Board Working Paper), *at* http://www.federalreserve.gov/pubs/feds/2001/200126/200126pap.pdf, p. 5 (December, 2001).

154. FLOW OF FUNDS, *supra* note 9, at tbl.L.127.

155. *See* Wayne Passmore & Roger W. Sparks, *Automated Underwriting and the Profitability of Mortgage Securitization*, 28 REAL EST. ECON., Summer 2000, at 286–87 n.4.

loans during the 1990s.[156] Figure 7 shows that the annual issuance of consumer-related asset-backed securities rose from less that $50 billion in 1990 to over half a trillion dollars in 2003. During this period, the total volume of consumer and home equity debt outstanding rose by 151% to $2.7 trillion.[157] The securitization process applied to consumer and home equity loans resembles that applied to CMOs to the extent that the credit ratings of the senior tranches of debt are enhanced by the creation of subordinate tranches that are in a first-loss position. However, asset-backed securities tend to be somewhat more complicated to structure than MBS because in many cases the underlying assets are non-amortizing, as in the case of credit card receivables.[158]

Advances in information technology have played an essential role in facilitating the growth in the securitization of mortgage and consumer loans.[159] Specific functions of the securitization process that require modern information technology systems include loan origination and underwriting, accounting and collection of payments, loan servicing and investor servicing.[160] Securitization was difficult, if not impossible, to implement before these capabilities were introduced. However, as depicted in Figure 8, the percentage of total mortgage debt held by mortgage pools, asset-backed issuers and GSEs grew rapidly in the 1970s and 1980s, followed by a similar pattern of growth in the securitization of consumer loans in the 1990s. These trends show the extent to which loan securitization has transformed the way mortgage and consumer loans are financed, making securitization an essential element in the consumer lending revolution.

F. How the Elements of the Consumer Lending Revolution Work Together

The five elements of the consumer lending revolution have worked together to transform the business models by which lenders approach this market. First, the increasing use of information technology has allowed the development of a global credit card network that can be operated at relatively low cost. Information technologies also have been applied to other aspects of

156. The importance of credit scoring to securitization is emphasized by Cynthia A. Glassman and Howard M. Wilkins, in *Credit Scoring: Probabilities and Pitfalls*, J. RETAIL BANK. SERVICE, Summer 1997, at 54–55.

157. FLOW OF FUNDS, *supra* note 9, *at* tbls.L.218 & 100.

158. In such cases, revolving loans may be securitized using a "controlled amortization" structure that resembles a sinking fund. *See About MBS/ABS*, The Bond Market Association, InvestinginBonds.com, *at* http://www.investingbonds.com/learnmore.asp?catid=11 (last visited April 18, 2005).

159. *See* e.g., Nigel A.L. Brooks, *Systems and Securitization*, BANKING MANAGEMENT, March 1990, at 32; Caroline Wilson, *Automated Underwriting Goes Mainstream*, 7 AMER. COMMUNITY BANK., April 1998, at 36–39.

160. Brooks, *supra* note 159 at 32.

the business, including the mass marketing techniques employed by nationwide lenders. Just as important, information technologies permit the quantification of consumer data, enabling lenders to more precisely evaluate the probability of default for individual borrowers. Using quantitative data for individual customers and pools of loans, lenders are able to apply credit modeling techniques to better price their offerings according to risk. As described above, the ability to price according to risk helps lenders overcome the adverse selection problem that tends to arise in one-price credit markets. This allows lenders to make loans to a wider spectrum of borrowers with varying levels of default risk. But this ability to offer higher-risk borrowers credit at higher rates has only been able to take place within a deregulated interest rate environment. Quantification also gives lenders the ability to measure the risk associated with pools of consumer and mortgage loans, thereby allowing them to structure securitization trusts that can meet their obligations even under higher-than-expected default levels. Only with the transparency offered by risk quantification can investors be persuaded to buy the bonds issued against securitization trusts, thereby providing a large portion of the trillions of dollars per year that flow annually through the consumer and mortgage credit markets.

V. IMPLICATIONS OF THE SUPPLY-SIDE REVOLUTION IN CONSUMER LENDING

Associating the rising indicators of household financial distress with the supply-side revolution in consumer lending leads to important policy implications. First, this conclusion suggests that a reduction in personal bankruptcy filings and problem consumer loans is unlikely to occur as a result of either an improvement in the performance of the economy or a change in consumer behavior. It also argues against the case that a significant reduction in household credit distress can be achieved by altering the legal framework of bankruptcy. Our conclusion instead suggests that the current high-loss household credit environment is largely the result of changes in the delivery of household credit that are being driven by new technologies and competitive forces in the marketplace, assisted by the deregulation of interest rates on consumer loans and deposit rates. As such, these conditions can be expected to remain in place indefinitely. To the extent that these changes are responsible for a rising incidence of financial distress, it should also be recognized that they are associated with an expansion in the availability of household credit, greater operational efficiency in providing this credit, and a greater ability to manage risks in retail lending. Therefore, regulatory changes that might be designed to reduce household financial distress by rolling back these marketplace changes are likely to have negative side effects for both borrowers and lenders.

The idea that a consumer lending revolution underlies the observed increases in household financial distress also has implications for how other key yardsticks of household well-being should be interpreted. The changes associated with the consumer lending revolution are fully consistent with higher observed levels of household indebtedness and an expansion in the availability of credit to new classes of borrowers—particularly those at the lower end of the income spectrum.[161] Moreover, we cite evidence that these changes are primarily responsible for the increasing incidence of household financial distress over the last 20 years.[162] However, these observations leave unanswered the question of how the net welfare of households has been affected by these changes. Would U.S. households (or certain segments of the population) have been better off if the consumer lending revolution had not taken place? Would a world of less-available credit and lower levels of bankruptcies be a better world for those households? While these questions remain open to debate, it is difficult to argue that expanding the menu of financial choices available to U.S. households has reduced their welfare. To do so appears to require one to argue that expanding the menu of financial choices somehow reduces the ability of households to make good financial decisions, resulting in higher financial distress without offsetting benefits resulting from the greater availability of credit. However, this is exactly the type of argument that has been made by a number of researchers to explain what is apparently non-rational behavior on the part of household borrowers in certain contexts.[163] To the extent that these market failures lead to sub-optimal outcomes in financial markets, then it remains possible that consumer welfare could be enhanced by regulatory changes that help households make better financial decisions.

Clearly, additional research is needed to explore how changes in the financial marketplace may be affecting the ability of households to make sound financial decisions. But until clear marketplace failures are identified and understood, new regulations intended to improve consumer welfare should be approached warily, for they are as likely to do harm as to do good. In the meantime, a more effective means of promoting better financial decision-making by households would be to expand the financial education efforts currently being undertaken by regulators, financial institutions, schools, and community groups.[164] There is already clear evidence that financial education efforts have been effective in facilitating effective decision-making by households.[165] These efforts represent an unambiguously positive policy

161. *See infra* Parts II.B, II.C.

162. *See infra* Part III.D.

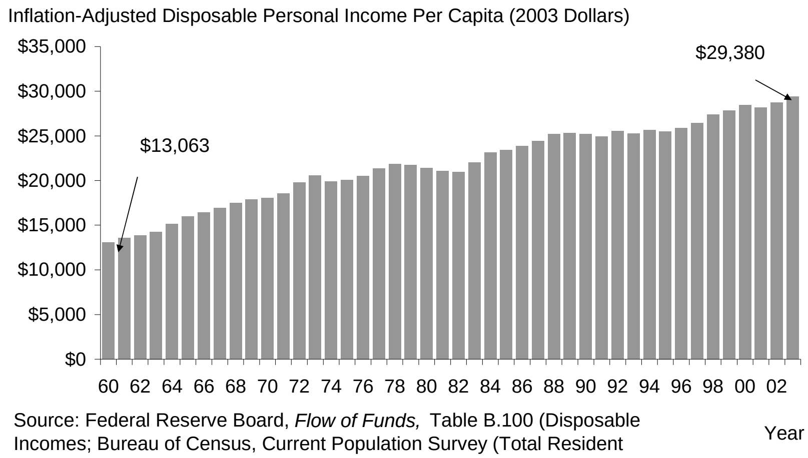
163. *See infra* Part III.C.

164. Susan Burhouse, Federal Deposit Insurance Corporation, FYI: Delivery Systems for Financial Education in Theory and Practice (2004), *available at* http://www.fdic.gov/bank/analytical/fyi/2004/092204fyi.html (last visited April 18, 2005).

165. *Id.*

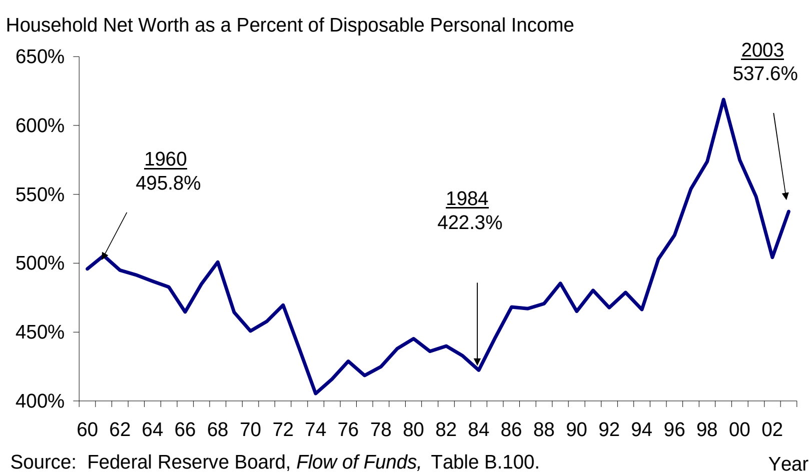
response to the changes that continue to add both opportunity and complexity to the financial marketplace.

Figure 1
Real per capita incomes have risen in each of the past four decades, although the rate of growth has slowed.



Source: Federal Reserve Board, *Flow of Funds,* Table B.100 (Disposable Incomes; Bureau of Census, Current Population Survey (Total Resident Population); Bureau of Labor Statistics (Consumer Price Index).

Figure 2
Despite stock market downturn, household net worth-to-income was higher in 2003 than at any point prior to 1997.

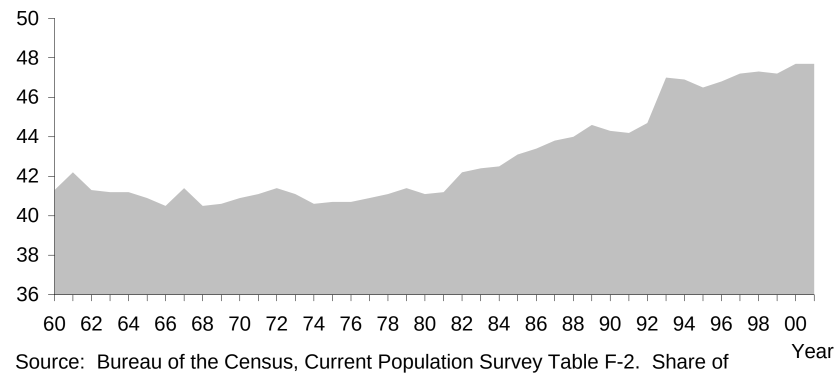


Source: Federal Reserve Board, *Flow of Funds,* Table B.100.
http://www.federalreserve.gov/releases/z1/

Figure 3

The share of income received by the top 20 percent of families has grown since 1980.

Share of Aggregate Income Received by The Top 20 Percent of U.S. Families, Ranked by Income (Percent)

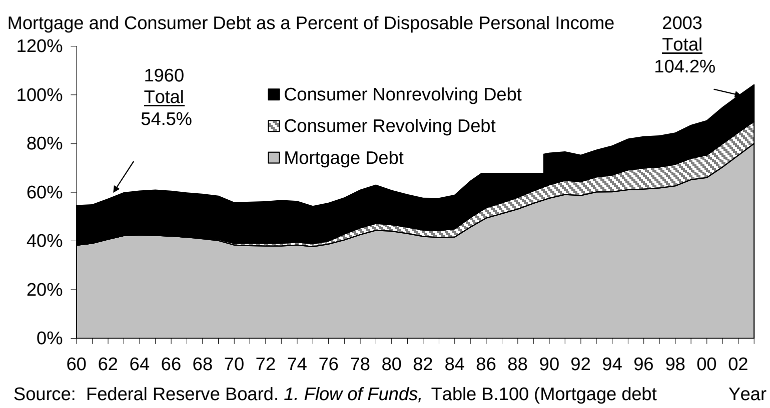


Source: Bureau of the Census, Current Population Survey Table F-2. Share of Aggregate Income Received by Each Fifth and Top 5 Percent of Families (All Races): 1947 to 2001. http://www.census.gov/hhes/income/histinc/f02.html

Figure 4

Household indebtedness has surged as a percent of income since the mid-1980s on the strength of mortgage debt and credit card lines.

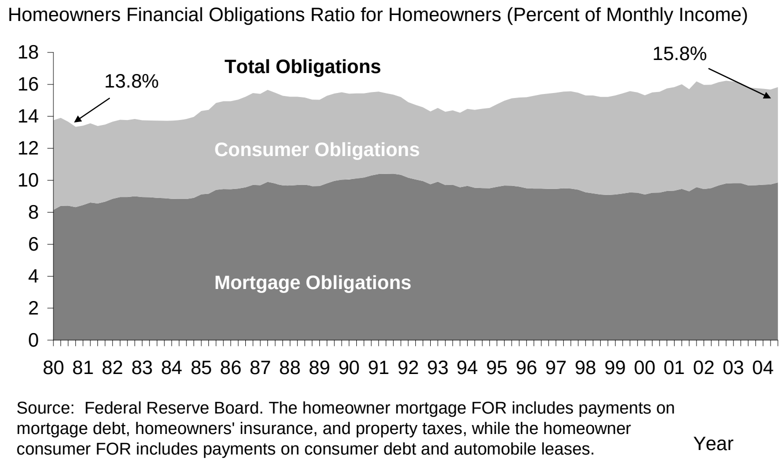
Mortgage and Consumer Debt as a Percent of Disposable Personal Income



Source: Federal Reserve Board. *1. Flow of Funds,* Table B.100 (Mortgage debt and disposable personal income); 2. Series G.19, Revolving and Non-revolving Consumer Credit, http://www.federalreserve.gov/releases/g19/Current/

Figure 5

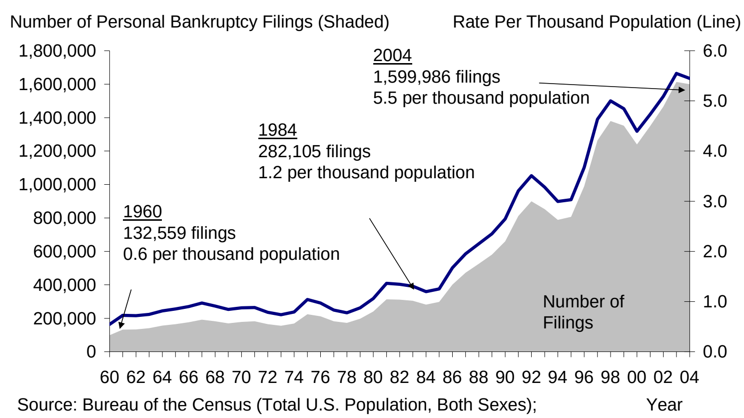
A shift toward mortgage debt and declining mortgage rates have helped keep household monthly debt service manageable.



Source: Federal Reserve Board. The homeowner mortgage FOR includes payments on mortgage debt, homeowners' insurance, and property taxes, while the homeowner consumer FOR includes payments on consumer debt and automobile leases.

Figure 6

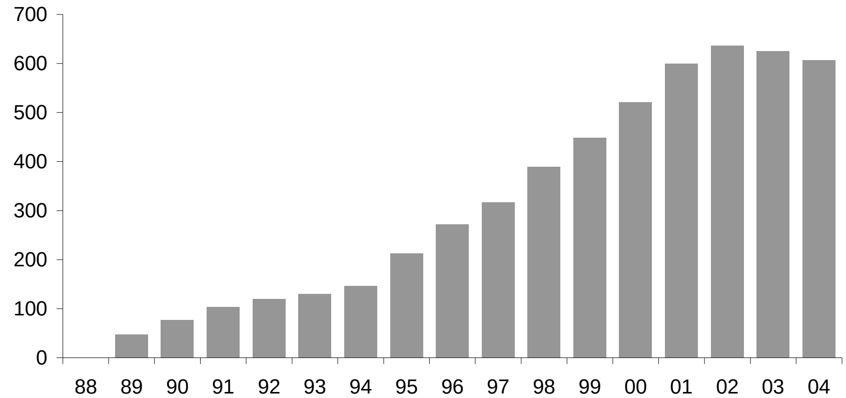
Annual per capita personal bankruptcy filings rose more than four-fold between 1984 and 1998.



Source: Bureau of the Census (Total U.S. Population, Both Sexes); Administrative Office of the U.S. Court (U.S. Non-business Bankruptcy Filings).

Figure 7
The outstanding volume of securitized consumer loans quadrupled between 1994 and 2002.

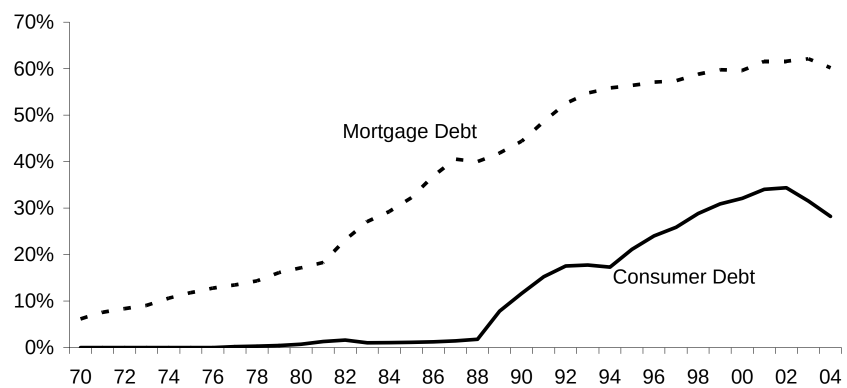
Total Consumer Loans Held by Issuers of Asset-Backed Securities (ABS), Dollars in Billions



Source: Federal Reserve, *Flow of Funds*, Series L.127

Figure 8
Securitization of consumer loans grew rapidly in the 1990s, following the earlier trend of mortgage loan securitization.

Percent of Oustanding Mortgage and Consumer Debt Held by Mortgage Securitization Pools, Government-Sponsored Enterprises, and Asset-Backed Security Issuers



Source: Authors' calculations based of data from Federal Reserve Board, *Flow of Funds*, Series L.218 (Mortgage Debt) and L.222 (Consumer Debt).