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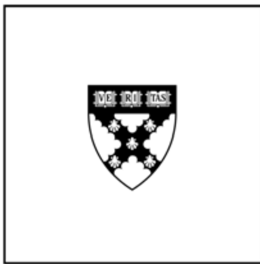

A Brief Postwar History of US Consumer Finance

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A Brief Postwar History of US Consumer Finance

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This article describes the consumer finance sector in the US since World War II. We first define the sector in terms of the functions delivered by firms (payments, savings/investing, borrowing, managing risk, and providing advice.) We provide time series evidence on major trends in consumption, savings, and borrowing. Examining consumer decisions, changes in regulation, and business practices, we identify four major themes that characterize the sector: (a) innovation that increased the choices available to consumer; (b) enhanced access in the form of broadening participation of consumers in financial activities, (c) do-it-yourself consumer finance, which allowed and forced consumers to take greater responsibility for their own financial lives, and (d) the resultant increase in household risk taking.

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Introduction

The postwar history of consumer finance in the United States has been a story of growth—in variety, in access, and in freedom of choice. Postwar consumerism followed increases in household income and wealth. These trends drove demand for many products and services, including financial products and services. Firms responded with innovations that offered consumers more choices, including electronic banking (i.e., direct deposit of paychecks and ATM transactions), credit and debit cards, thousands of mutual funds, and complex mortgages. The increasing variety of products accompanied broadening access. More people could get mortgages and purchase homes; more people could invest in low-cost portfolios through mutual funds and exchange-traded funds. This broadening partially reflected increasing income and wealth, but it also resulted from political and social movements in which previously excluded social groups fought for access to financial products. These expansions in the number and type of products and the share of the population with access to them gave American consumers unprecedented financial flexibility.

Milton Friedman's 1980 PBS TV series and subsequent book, "Free to Choose", reflected an inflection point in American politics, economics and consumer finance.[1] Friedman railed against the Consumer Product Safety Commission and other regulatory agencies for "taking away our freedom to choose." While this may have been true of other consumer products, in their financial affairs, consumers in the latter half of the postwar period were granted *more* freedom of choice. This manifested itself in a "do-it-yourself" style of consumer finance, by which consumers were not only *allowed* to make financial choices, but also frequently *forced* to make financial choices. Through revolving credit and new flexible forms of mortgages, consumers could fashion their own repayment plans. Rather than just hold cash in banks, they

[1] Milton Friedman, *Free to Choose: A Personal Statement* (New York, 1980).

could choose from a variety of money market mutual funds. Rather than work with a full-service broker, they could use online discount brokerages to trade stocks and bonds at will. Rather than getting a fixed pension, workers were allowed—and mostly required—to make their own retirement decisions as part of tax-exempt 401(k) plans. Rather than sit on previously illiquid assets, like pensions and houses, individuals could monetize these holdings by borrowing against their 40l(k) plans or home equity.

One consequence was that consumers took on increasing levels of risk—in their investment portfolios, their borrowing decisions, and even the way in which they purchased items. This risk taking, enabled by an increase in personal decision making and a growth in the complexity and flexibility of financial options, was not matched by a commensurate rise either in financial capabilities of consumers nor in financial advice provided by third parties.

We begin this paper by outlining the basic functions of household finance. We trace the rising demand for consumer finance products; new innovations in products and institutions that firms in the sector faced; and broadened accessibility of financial products to a growing number of households. We conclude by discussing the growing responsibility of individual consumers for making financial decisions, and the concurrent shift in risk away from institutional actors and toward households.

Five Functions of the Consumer Finance Sector

The number and variety of institutions and services in the consumer finance sector are large. The main actors are traditional financial institutions, including banks, mutual funds, insurance companies, and brokerage firms (including a host of new online firms); government bodies, including the postal service and social security administration; and informal personal

networks of friends and family. The roles of these actors have shifted and merged over time[2] but the core functions have remained the same:[3] (1) moving funds between consumers and other actors (payments); (2) moving funds forward in time (saving and investing); (3) moving funds backwards in time (borrowing and credit); (4) managing risk (insurance); and (5) providing information and advice about these decisions. This sparse list of functions brackets all consumer financial products and institutions, but usually not in a one-to-one mapping. A single product often embodies multiple functions: credit cards, for example, serve both payment and credit functions. Conversely, quite different institutions and products may serve the same functions.

The *payments function* is simultaneously delivered by banks (via checks, money orders, ATM services, debit and credit cards, and electronic payment services), governments (via modern national currencies, local currencies, postal money orders, and infrastructure services), and technology firms (e.g., PayPal). While all of these products can be used to pay for goods and services, the form of payments has been transformed by telecommunications and computer revolutions. At the end of World War II, nearly all payment activity in America was paper-based: essentially cash, checks and money orders. By 2008, 57% of consumer payment activity

[2] For a thorough historical review of money and financial services, including both institutional and consumer perspectives see Niall Ferguson, *The Ascent of Money: A Financial History of the World* (New York, 2008).

[3] See the following articles for further discussion of the functional perspective: Dwight B. Crane et al., eds., *The Global Financial System: a Functional Perspective* (Cambridge, MA, 1995), Robert C. Merton and Zvi Bodie, "A Conceptual Framework for Analyzing the Financial Environment," in *The Global Financial System: a Functional Perspective*, ed. Dwight B. Crane, et al. (Boston, MA, 1995).

was conducted via some sort of electronic product—up from 26% in 1999—representing $4.5 trillion dollars spread across 75 billion transactions.[4]

Consumers have come to rely heavily on charge cards, credit cards, debit cards, and prepaid cards, many of which operate over network platforms like Visa or MasterCard. So too have banks, for which the payments function generates over 33% of total US revenues (three quarters from consumer credit cards and transaction accounts).[5] The increasing digitization of payments shortened settlement times, requiring consumers to be more diligent about managing their accounts, but also providing ways to track and manage their own spending habits in detail. Since the launch of bank credit cards in the 1950s, payments increasingly blended with credit.

Savings and investing products are made available by a wide range of providers. Households can assemble portfolios on their own or engage others to invest on their behalf, either individually (through a full-service broker, trust department or separate account) or as part of an investment pool. Short-term low-risk investments can come from banks (i.e., savings accounts, money market demand accounts, and certificates of deposit), money market mutual funds, direct government obligations (i.e., treasury bills) or even corporate obligations (i.e., adjustable-rate notes). Consumers can gain exposure to stock and bond markets via a wide range of products: direct investments, mutual funds, annuity products sold by insurance companies, index-linked certificates of deposit (CDs) sold by banks, exchange-traded funds, futures contracts, and structured products offered by investment banks. While many of these products

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[4] The respective shares of each type of electronic payment as of 2008 are as follows: credit (26% of volume, 18% of transactions), debit (17%, 24%), prepaid (2%, 4%), and other preauthorized and remote payments (12%, 6%). The Nilson Report, Issue #939, December 2009 and Issue #729, December 2000.

[5] Vijay D'Silva, "Payments in Flux: Megatrends Reshape the Industry," in *Moving Money: The Future of Consumer Payments, Brooking Institution*, ed. Robert E Litan and Martin N Baily (Washington DC, 2009).

existed prior to World War II, some of the most popular investment innovations occurred in the postwar period. Those include money market funds (first offered in 1971), index funds (1976), index-linked CDs (1987) exchange-traded funds (1993) and a host of corporate securities aimed at retail investors.[6] (See **Table 1** for a postwar timeline of selected financial innovations.)

The way consumers *borrow* has changed as well. Most types of secured installment loans—including mortgage loans, auto loans and margin loans on securities—predated World War II, and remained popular throughout the postwar period, with roughly 50% of families holding some form of installment debt during this time.[7] Some older forms of credit, including pawn and open-book retail credit, declined in popularity. These were replaced by a range of new unsecured installment and revolving loans that became increasingly popular in the postwar period, including student loans, payday loans (a reinvention of the salary loan), credit cards, overdraft protection, and bank lines of credit. These household credit products were provided by many actors, including the government (i.e., student loans and government-sponsored mortgages), private companies (i.e., retailers, consumer finance companies, banks, non-bank alternative finance organizations), non-profit groups (e.g., credit unions), and a variety of hybrid financial organizations including person-to-person lending services and savings circles.

The *risk-management* function in household finance includes traditional private insurance (i.e., life, property and casualty, disability, health), plus government-sponsored social protection programs (i.e., Social Security, unemployment insurance, workers' compensation, Medicaid,

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[6] Peter Tufano, "Financial Innovation and First Mover Advantage," *Journal of Financial Economics* 25 (1989)., 213-240.

[7] In 1960, 48% of families had installment debt as compared to 50% in 1989 and 47% in 2007. Survey of Consumer Finances, 1960, 1989, 2007.

food stamps), precautionary savings, lines of credit, and social networks.[8] Two trends characterized postwar risk management. First, expanding from their Depression-era roots, government programs to manage individual risk grew in number and scope. The Social Security program, which already included survivors' insurance, was extended to include benefits for the disabled (1956).[9] Medicare (1965) introduced publicly financed health coverage for the elderly. The Employee Retirement Income Security Act (1974) guaranteed employer defined benefit retirement plans.[10] Second, and less dramatically, private life insurance plans increasingly blended death benefits with customized investment vehicles.

Finally, organizations that provided consumers with financial *advice* expanded. While informal social networks, investment clubs,[11] formal media, bankers, salesmen, and security brokers continued to provide information and advice, the later part of the postwar period saw an increase in new models of providing advice, including computerized models (such as Financial Engines), chat boards,[12] account aggregators (such as Mint.com), and product comparison sites.

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[8] See an excellent discussion of risk-management as it applies to both households and macro-economies in Robert Shiller, *The New Financial Order: Risk in the 21st Century* (Princeton, NJ, 2003).

[9] Later amendments expanded disability coverage further. See a chronology of the Social Security Administration at http://www.ssa.gov/history/chrono.html (accessed August 2010).

[10] David Moss, *When All Else Fails: Government as the Ultimate Risk Manager* (Cambridge, MA, 2002). p 215.

[11] Harrington, Brooke. *Pop Finance: Investment Clubs and the New Investor Populism*. Princeton, NJ, 2008.

[12] Sanjiv Das, Asis Martinez-Jerez, and Peter Tufano, "E-Information," *Financial Management* 34 (Autumn 2005).

Postwar Trends in Consumer Finance

While the basic functions of a consumer finance system remain the same over time, the ways in which these functions were delivered and used—the mix of clients, products and services, and institutions—has evolved. We identify four major trends from the past 65 years:

- More products: demand, innovation, and changing firm boundaries
- Greater access: broadening participation of consumers in the financial sector
- Do-it-Yourself: increases in consumer responsibility
- Greater risk: the aggregate impact of consumer decisions

More products: demand, innovation, and changing firm boundaries

Demand. Growth in demand for consumer finance products followed the postwar increase in income and consumption. Between 1950 and 2008, American per capita real disposable income grew from $12,374 to $34,946 (in 2008 dollars), for a compound annual growth rate of 1.81%. Growth in personal consumption followed the increase in income and wealth **(See Figure 1).** Per capita household expenditures increased from $11,320 in 1950 to $33,028 in 2008 (both in 2008 dollars), growing 1.86% per year.[13] While consumption rose in absolute terms, it remained remarkably stable when considered as a share of disposable income. **(See Figure 2.)** We consumed more, but largely because we earned more.

>>>Insert Figures 1 & 2 Here<<<

[13] Bureau of Economic Analysis, Personal Consumption Expenditures

The increase in American household consumption has been discussed at length by historians, political scientists, sociologists, and economists.[14] Efforts to make sense of American acquisitiveness, the phenomenon of consumerism, and the consumer culture it generated have been surprisingly contentious. Researchers disagree on how consumerism is defined, what drives it, what its effects are, and how these effects are to be judged.[15]

The historical context behind these perspectives is rather consistent, however. After the war, government policies and initiatives fostered new highway construction, federally-insured home mortgages, and liberal land-use planning. New roads and new suburbs created a commuter culture that drove demand for automobiles. New houses required furniture and appliances.

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[14] Hillel Black, *Buy Now, Pay Later* (New York, 1961), Lendol Calder, *Financing the American Dream: A Cultural History of Consumer Credit* (Princeton, 1999)., Lizabeth Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America* (New York, 2003)., Lizabeth Cohen, "From Town Center to Shopping Center: The Reconfiguration of Community Marketplaces in Postwar America," *The American Historical Review* 101, no. 4 (1996)., Rosa-Maria Gelpi and Francois Julian-Labruyere, *The History of Consumer Credit: Doctrine and Practices* (New York, 2000), Lawrence B. Glickman, ed., *Consumer Society in American History: A Reader* (Ithaca, New York, 1999), Brooke Harrington, *Pop Finance: Investment Clubs and the New Investor Populism* (Princeton, NJ, 2008)., Daniel Horowitz, *The Anxieties of Affluence: Critiques of American Consumer Culture 1939-1979* (Amherst, MA, 2004), Lewis Mandell, *The Credit Card Industry: A History* (Boston, 1990), Daniel J. Monti, *The American City: A Social and Cultural History* (Oxford., 1999)., Joseph Nocera, *A Piece of the Action* (New York, 1994), Juliet Schor, *The Overspent American: Why We Want What We Don't Need* (New York, 1999)., Michael Schudson, "Delectable Materialism: Second Thoughts on Consumer Culture," in *Consumer Society in American History: A Reader*, ed. Lawrence B. Glickman (Ithaca, NY, 1999), Eleanor Bernert Sheldon, “Family Economic Behavior: Problems and Prospects (Philadelphia, PA, 1961), David M. Tucker, *The Decline of Thrift in America: Our Cultural Shift from Saving to Spending* (New York, 1991)., Brett Williams, *Debt for Sale: A Social History of the Credit Trap* (Philadelphia, 2004).

[15] Lawrence B. Glickman, ed., *Consumer Society in American History: A Reader* (Ithaca, New York, 1999).

Furthermore, after the war, and coming off of savings rates as high as 26%, people were ready to begin spending again. Between 1941 and 1961, annual consumer spending for housing and cars more than tripled, from $718 to $2,513 per household in constant dollars.[16] To buy these goods, many households relied on credit. By 1949, 49% of new cars, 54% of used cars, 54% of refrigerators, and 46% of TVs were being sold on credit.[17]

How these patterns of economic activity developed into the phenomenon of consumerism, and what impact they had on the American way of life, is a matter of considerable debate. Some theorists emphasize the role of manufacturers and retailers intent on selling more products. Using clever marketing and advertising tools, they sent the message that their products not only were desirable, but also were necessary for achieving the American dream.[18] In this view, consumerism was a product of manipulative advertising, creating a 'false' consumer desire for consumer goods and a willingness to use credit to attain them.[19] This perspective emphasizes how consumer credit made it easier to afford things that had before been out of reach, allowing more different types of people to reflect their identities through material goods, and perhaps

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[16] Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America*. p. 195

[17] Federal Reserve Board, *Survey of Consumer Finances*, 1950.

[18] In short, capitalism needs consumers, and production-oriented institutions were poised to create demand however they could. Juliet B Schor and Douglas B Holt, "Introduction: Do American's Consume Too Much?," in *The Consumer Society Reader.*, ed. Juliet B Schor and Douglas B Holt (New York, 2000)., , Strasser, Susan. *Satisfaction Guaranteed: The Making of the American Mass Market* (New York, 1989).

[19] Bordo, Susan. "Hunger as Ideology," J. B. Schor and D. B. Holt, *The Consumer Society Reader.(* New York, 2000) , Galbraith, John Kenneth. "The Dependence Effect," J. B. Schor and D. B. Holt, *The Consumer Society Reader (* New York 2000), Klein, Lloyd. *It's in the Cards: Consumer Credit and the American Experience*. (Westport, CT, 1999).

secure higher social status.[20] While consumerism generated increased access to goods and services, this class of theorists have more commonly lamented the increasingly central role that material objects play in consumer's lives—the "commodification of daily life."[21]

Others reject the idea that consumerism is inherently problematic. Employing a cultural perspective, they emphasize the ways in which consumption brings people together—how the goods we buy reflect who we are individually as well as culturally.[22] Historian Gary Cross writes that postwar consumer goods "provided a valued balance between belonging and autonomy…Indeed much of the sociability of groups and neighbors was built around shared and compared display of goods."[23] Americans' consumer behavior facilitated social bonding.

[20] Klein, Lloyd. *It's in the Cards: Consumer Credit and the American Experience*., Logemann, Jan. "Different Paths to Mass Consumption: Consumer Credit in the United States and West Germany During the 1950s and 1960s." *Journal of Social History*, 2008, 41, pp. 525-59, Schor, *The Overspent American: Why We Want What We Don't Need*., Twitchell, James B. *Lead Us into Temptation: The Triumph of American Materialism*. New York, 1999. Much of the work is also related to Bourdieu, Pierre. *Distinction: A Social Critique of the Judgment of Taste*. (Cambridge, MA, 1984), Veblen, Thorstein. *The Theory of the Leisure Class*. (New York, 1973 (1899).

[21] Schor and Holt, "Introduction: Do American's Consume Too Much?."

[22] Monti, *The American City: A Social and Cultural History*..Calder, *Financing the American Dream: A Cultural History of Consumer Credit*.. Cross, Gary S. *An All-Consuming Century: Why Commericialism Won in Modern America* (New York, 2000). Martin, John Levi. "The Myth of the Consumption-Oriented Economy and the Rise of the Desiring Subject." *Theory and Society*, 1999, *28*(3), pp. 425-53, McCracken, Grant. *Culture and Consumption: New Approaches to the Symbolic Character of Consumer Goods and Activities* (Bloomington, IN 1988), Trentmann, Frank. "Beyond Consumerism: New Historical Perspectives on Consumption." *Journal of Contemporary History*, 2004, 39(3), pp. 373-401. See also Zelizer, Vivana. "Culture and Consumption," N. J. Smelser and R. Swedberg, *The Handbook of Economic Sociology*. Princeton, NJ: Princeton University Press, 2005, 331-54.

[23] Cross, Gary S. "Consumer History and the Dilemmas of Working-Class History." *Labour History Review*, 1997, 62(3), pp. 261-74.

Retailers seemed to understand this well. In the 1960s, shopping malls became an essential part of suburbanization. This made shopping a new experience, putting larger, more diverse, and less "local" retailers under one roof. If malls made shopping a more anonymous experience than it once had been at the corner store, they also attempted to foster an alternative community. Often constructed to look like an idealized main street, malls offered meeting places and "community events," much like would occur in a town center. This new way of consuming helped to reinforce the notion that individual consumption was inherently a community affair.[24]

Other researchers have emphasized the importance of inequality. Postwar consumer patterns shifted in ways that directly affected minorities and women—at first, leaving them behind, but then creating a context in which they were prompted to take action. By the early 1970s, women's groups and urban blacks had come to define access as a central front in the battle for full citizenship. Indeed, political and social movements among minorities and women gradually increased access to consumer goods and consumer credit.[25]

However consumerism is interpreted, it is clear that more and different types of people have been consuming more goods and services over the past 50 years, and that this trend drove growth and innovation in consumer financial services. The increase in car and home ownership

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[24] Cohen, "From Town Center to Shopping Center: The Reconfiguration of Community Marketplaces in Postwar America."pp. 1050-81. See also Monti, *The American City: A Social and Cultural History.*

[25] Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America.*, Ownby, Ted. *American Dreams in Mississippi: Consumers, Poverty, and Culture, 1830–1998.* . Chapel Hill, NC: University of North Carolina Press, 1999, Weems, Jr., Robert E. "The Revolution Will Be Marketed: American Corporations and Black Consumers During the 1960s," L. Glickman, B., *Consumer Society in American History: A Reader. (*Ithaca, NY, 1999)

(respectively from 51% and 51% in 1949 to 87% and 69% in 2007[26]) both depended on and supported demand for consumer financial products, such as auto and home insurance. With new mobility afforded by automobiles, consumers increasingly traveled outside of their own towns and states, creating demand for secure payment systems that bridged the highly fragmented national banking system. New hotel, gas, and travel and leisure cards all emerged to fill this payments gap. Higher demand for consumer goods also fostered an increasing emphasis on and need for consumer credit products, as consumers were increasingly willing and able to purchase cars and durable goods "on time."

Historian Lizabeth Cohen has emphasized the role of demand for new products in driving productivity and wage gains. With regular and rising salaries, the amount of household savings increased steadily from the end of the war through the mid-1980s,[27] creating opportunities for new classes of investment products that could be sold to households. As the workforce expanded, widening access to financial products helped to forge what Cohen has called the "mass middle-class."[28] Concurrent gains in income, wealth, and consumption supported an expanding consumer finance sector and innovation.

Innovation. The rapid innovation that Nobel Prize-winning economist Merton Miller described in corporate finance between the 1960s and 1980s was equally pronounced in postwar consumer finance.[29] The postwar period witnessed new products, new infrastructure, new

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[26] Survey of Consumer Finances, 1950 (car ownership in 1949), 1960 (home ownership in 1949), and 2007.

[27] Bureau of Economic Analysis. The savings rate, however, remained fairly steady during this time, averaging 8.90% between 1950 and 1986, after which it began to decline steadily.

[28] Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America*, Harrington, *Pop Finance: Investment Clubs and the New Investor Populism.*

[29] Merton Miller, *Financial Innovations and Market Volatility* (London, 1991).

strategies and new technologies for providing existing products, as well as new opportunities to mass market financial services.[30] (See Table 1.) Consumers from the 1950s would likely be surprised by the way in which consumers today pay for goods and services (e.g., cards and electronic payments), by how and where they invest (e.g., mutual funds, at work), and by how they borrow (e.g., revolving credit cards and innovative mortgages).

>>>Insert Table 1 Here<<<

Most innovations in consumer finance products and services relied on underlying process innovations, coupled with new channels by which products were marketed to, and adopted by, consumers. Many of these innovations were hidden from public view. For example, the automated clearing house (ACH) systems introduced in the 1970s established the first electronic

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[30] The old adage "There's nothing new under the sun," has a strong element of truth. Merton (1992) writes about an innovation spiral, in which one innovation creates the platform on which others build so that little is truly original. Tufano (2003) provides examples of this spiral, and of forgotten innovations from earlier times that are uncannily like the newest of financial products. For example, the appendix from the first edition of Graham and Dodd's investing classic, *Security Analysis,* lists over two hundred security innovations, many of which resemble the complex securities designed in the 1980s and 1990s. Robert C. Merton, "Financial Innovation and Economic Performance," *Journal of Applied Corporate Finance* 4, no. 4 (1992), Peter Tufano, "Financial Innovation," in *Handbook of the Economics of Finance*, ed. George Constantinides, Milton Harris, and Rene Stulz (Amsterdam, 2003). (Benjamin Graham and David Dodd, *Security Analysis*, 6th ed. (New York 2009 [1934]).) Ferguson (2008) likens developments in the financial sector to evolution in nature, where weaker institutions die out and new types of businesses, growing out of speculation as much as economic scale and scope, push their way in.

protocols for processing financial transactions.[31] Along with related process and software innovations, ACH transformed consumer payment. Rather than carrying extra cash in their pocketbooks, consumers could access cash and other payment options around the clock using automated teller machines (ATMs) that were first installed in the early 1970s.[32]

In the next decade, point-of-sale (POS) equipment was introduced, allowing consumers to use debit cards at retailers and making credit card use increasingly swift.[33] Rather than waiting in line to deposit checks, consumers now could use ATMs or authorize the direct deposit of their payroll.[34] Rather than writing and mailing checks, they now could use electronic bill payment services.[35] Rather than calling up a broker to get price quotes or to trade, they could conduct their own research on the internet using discount brokerage services. These technology-driven innovations changed the ways in which consumers conducted their financial business.

Innovations also were evident in the new investment products that consumers could access. From only 98 mutual funds available in the 1950s, American consumers in 2007 could select among 8,029 US-domiciled mutual funds offering every possible investment class and

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[31] The idea for an automated file transfer system came about in the early 1970s. The Federal Reserve helped to consolidate smaller programs into the nationwide clearinghouse, which formed in 1974. http://www.newyorkfed.org/aboutthefed/fedpoint/fed31.html

[32] W. Scott Frame and Lawrence J. White, "Technological Change, Financial Innovation, and Diffusion in Banking," *Federal Reserve Bank of Atlanta Working Paper* 2009-10 (2009).

[33] Ibid.

[34] "The Electronic Payments Network and the ACH: A History," (New York: Electronic Payments Network, unknown), Daniel D. Garcia-Swartz, Robert Hain, Anne Layne-Farrar, “The Move Toward A Cashless Society: A Closer Look at Payment Instrument Economics,” *Review of Network Economics*, 5, no. 2 (June 2006).

[35] "The Electronic Payments Network and the ACH: A History”

strategy.[36] During the same period, the number of stocks listed on the New York Stock Exchange grew from 1,057 to 2,805.[37] Beginning in 1975, household investors could buy low-cost index funds that tracked the performance of broad classes of stock—a product that even wealthy investors would had difficulty accessing in the 1950s. Mutual fund companies changed their distribution practices as well. Whereas in 1970 only 11% of long-term fund sales were direct-marketed "no load" funds, these funds comprised the majority of all funds sold by 2000.[38]

Patterns of simple savings also were influenced by innovation. In 1950, American households held 17% of their financial assets in deposit products—primarily bank savings accounts and time-deposit accounts like CDs. Virtually all of these savings were held in banks. In 2008, the share of household assets held in deposit products was similar (15 %), but *where* consumers saved them had changed. By then, a quarter of all deposits, equal to $1.6 trillion, were held in money market mutual funds, a product that had only been invented in 1971.[39]

Innovations also changed the delivery of credit. Aspiring homeowners in the 1950s had access primarily to 30 year fixed-rate amortizing mortgages.[40] Starting in the 1980s they could

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[36] Investment Company Institute, 2009.

[37] Data from http://www.nyxdata.com/factbook visited May 4, 2010.

[38] Fink, Matthew. *The Rise of Mutual Funds: An Insider's View* (New York, 2008).

[39] Federal Reserve Board, Z.1 report. These figures include all assets of households and nonprofits.

[40] The fixed-rate, long-term, fully-amortizing mortgage was made possible through the Home Owner's Loan Corporation established in 1933 (and the precursor to Fannie Mae) and the National Housing Act of 1934 (which created the Federal Housing Administration). Prior to the Depression-era, mortgages commonly were only available for a 5-10 year term and required a large payment toward principal at the end of the term. Most also had variable rates. These loans all but required that they be refinanced at the end of the term. Green, Richard K. and Susan M. Wachter, "The American Mortgage in Historical and International Context," *Journal of Economic Perspectives*,

choose among a far more complex set of options, including adjustable rate mortgages (ARMs), interest-only mortgages and option ARMs (which allowed the principal loan balances to exceed the value of the home).[41] In 2003, ARMs comprised 18% of all mortgages, growing to 25% by 2005.[42] Homeowners who presented more risk to lenders had more options as well, in the form of "subprime" loans.[43] While the subprime lending market started in the 1990s, it didn't begin to take shape until the early 2000s, accounting for 6% of all residential mortgage originations. By 2006, subprime originations comprised 25% of all mortgage loan originations that year and 14% of the overall mortgage market.[44]

2005, 19:4, pp. 93-114. Crawford, Morris D. Types and Sources of Home-Mortgage Financing, *The Analysts Journal* (June 1955).

[41] Title VIII of the St. Germain Depository Institutions Act of 1982 made it possible for mortgage interest rates to be adjusted or renegotiated. Green and Wachter, 2005. See also Lacy, William H. "Innovation Is a Key to Banks' Meeting Home-Financing Needs." *ABA Banking Journal*, 1982, (May), pp. 118-21.

[42] "Characteristics of Outstanding Residential Mortgage Debt: 2006", MBA Research DataNotes, January 2007, available at: http://www.mortgagebankers.org/files/Bulletin/InternalResource/47210_DataNoteCharacteristicsofOuttandingResidentialMortgageDebtfor2006.pdf

[43]See S Chomsisengphet and A Pennington-Cross, "The Evolution of the Subprime Mortgage Market," *Federal Reserve Bank of St. Louis Review* January/February (2006).. Available at: http://research.stlouisfed.org/publications/review/06/01/ChomPennCross.pdf

[44] "The Subprime Mortgage Market: National and Twelfth District Developments," Federal Reserve Bank of San Francisco, 2007 Annual Report. Available at: http://www.frbsf.org/publications/federalreserve/annual/2007/subprime.pdf. See also Ibid., which reports slightly different numbers, stating that the subprime market share of all originations went from 10.2% in 1995 to a peak of 14.5% in 1997 and then down to 8.4% in 2001.

In consumer credit, the principal product innovations had appeared before World War II. Early charge cards, including the Farrington Charga-Plate, were created in the 1920s.[45] The basic retail revolving credit account was invented in 1938.[46] What was striking in the postwar era was how quickly these innovations spread. By 1959, 88% of all department stores offered revolving accounts.[47] Banks first began offering credit cards tied to revolving credit accounts in the mid-1950s. Initially, these were marketed to small retailers as a way to allow them to compete with larger stores that offered in-house credit. A decade later, in 1967, an estimated 1,500 banks were offering credit cards, and 11-13 million of these were in active use.[48] Two major bank card networks emerged—BankAmericard (later VISA) in 1965 and Interbank (later MasterCard) in 1967. By 1969 these two networks included 44 million cardholders.[49] Including retail and travel and leisure cards, the total number of cards in use at the time was estimated at 400 million, or roughly three for every adult.[50] Over time, credit card transactions would come to rival the traditional check-based payment system. Electronic transactions (credit cards, debit cards, electronic funds transfers) surpassed check transactions in number in 2003.[51]

[45] Michel Schlosser and Gérard Tardy, *Les cartes de crédit* (Paris, 1971).

[46] JC Penney Corporate Records, Southern Methodist University, Recollections by Wallis B. Hocker, Retired Credit Manager, 1989, responses to clarifying questions, pp 6-7.

[47] Lelia Easson, "New Developments in Consumer Credit," *Journal of Home Economics* (December 1959), p 847.

[48] Robert L. D. Morris Papers, Kansas State University, Box 35, folder 4, E.J. Kersting, *Credit Cards: Thirty Days to Reality*, August 1967.

[49] David S. Evans and Richard Schmalensee, *Paying with Plastic: The Digital Revolution in Buying and Borrowing* (Cambridge, MA: MIT Press, 1999).

[50] Schlosser and Tardy, *Les cartes de crédit, p.* 13.

[51] Geoffrey R. Gerdes and Jack K. II Walton, "The Use of Checks and Other Noncash Payment Instruments in the United States," *Federal Reserve Bulletin* August (2002); *The 2004 Federal Reserve Payments Study, Analysis of*

The new consumer credit providers relied on ancillary service providers to ensure repayment. While the United States entered the postwar period with several nation-wide credit-rating companies that assessed business risk (e.g., Dun and Bradstreet, Standard and Poors, and Moody's[52]), consumer credit rating had been highly decentralized. In 1960, an estimated 1,500 independent local credit bureaus collected information on household income, profession, marital status, and outstanding debts, plus informal testimonies from neighbors and colleagues. Some operated for profit; most were non-profit cooperatives.[53] In many communities, the local "Welcome Wagon" collected credit information on new arrivals to the town.[54] Over the 1960s, these local bureaus began to consolidate into national networks. The movement culminated in 1970, the year in which Fair Isaac Company (FICO) launched a universal credit scoring system, and Retail Credit Company (Equifax) computerized the entire 45 million records in its credit

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Noncash Payments Trends in the United States, 2000-2003. The number of check payments is estimated to have peaked in 1995 at 49.5 billion (Stephen Quinn and William Roberds, "The Evolution of the Check as a Means of Payment: A Historical Survey," *Economic Review*, Number 4, 2008p. 23.. Data provided by the *Nilson Report*, shows that check volume dropped below 50% of the total payment volume (including cash) as of 1999. Between 2000 and 2003, the fraction of check-based transactions dropped from 58% to 45% and the volume of these payments dropped from 66% to 55% of total volume.

[52] Richard Cantor and Frank Packer, "The Credit Rating Industry," *FRBNY Quarterly Review* Summer-Fall (1994), R.W. Hidy, "Credit Rating before Dun and Bradstreet," *Bulletin of the Business Historical Society* 13, no. 6 (1939), James H. Madison, "The Evolution of Commercial Credit Reporting Agencies in Nineteenth Century America," *Business History Review* 48, no. 2 (1974), Rowena Olegario, "Credit Reporting Agencies: A Historical Perspective," in *Credit Reporting Systems and the International Economy*, ed. Margaret J. Miller (Cambridge, MA, 2003), B. Wyatt-Brown, "God and Dun & Bradstreet," *Business History Review* 40, no. 4 (1966).

[53] André Malterre, "Problème du credit à la consommation," *Journal Officiel* 20, 11 August 1961, pp 764.

[54] Louis Hyman "*Debtor Nation," Enterprise and Society* 9 no. 4, (2008).

ratings database.[55] Applying the FICO scoring system to digital data, consolidated credit-rating agencies were able to offer services that spanned the consumer lending value chain: from generating mailing lists of prospective new customers, to approving new applicants, to monitoring services for existing revolving-account customers. Lenders that had previously deployed in-house risk scoring techniques increasingly relied on credit scores provided by the three big external credit rating agencies: Experian (TRW), TransUnion, and Equifax.[56] Other specialized service providers emerged to manage collections and customer loyalty programs.

There is little question that the postwar period witnessed an increase in the variety of products available to consumers. To understand the industry dynamics that supported this innovation, it is useful to characterize how consumer financial service firms evolved in the postwar period.

Changing boundaries of the firm. The postwar period saw two countervailing trends regarding the scope of consumer finance businesses. The first trend was toward a broadening, both in terms of services offered and in geographic scope. The second trend was the disaggregation of consumer finance activities across networked firms.

Expansion of the scope of consumer finance firms can be seen in the geographic expansion of banking organizations. Precluded from operating across state lines, the banking industry traditionally was highly fragmented. In 1950, there were 14,000 banking organizations in America. Beginning with the passage of the Garn-St Germain Depository Institutions Act in 1982, and state-by-state deregulation that led to the passage of the Reigle-Neal Interstate

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[55] Donncha Marron, "'Lending by Numbers': Credit scoring and the constitution of risk within American consumer credit," *Economy and Society* 36 no. 1 (February 2007): 103-133.

[56] Mark Furletti, "An Overview and History of Credit Reporting," Federal Reserve Bank of Philadelphia Discussion Paper, 2002.

Banking and Branching Efficiency Act in 1994, banks increasingly were allowed to cross state lines.[57] Banking consolidation (or expansion of scope) occurred furiously; slightly over 7,000 banking organizations remained in 2008. For example, in 1993, the Ohio-based BancOne controlled 78 banks in twelve states as well as ten non-bank affiliates. It was one of the nation's top-10 acquirers, having completed 50 acquisitions in the previous decade.[58]

Not only were banks now allowed to operate across state lines, but in 1999 the barrier between commercial banking and investment banking was removed, leading to even greater consolidation. For example, today's JPMorganChase is an amalgam of JP Morgan, Chase Manhattan Bank, Chemical Bank, Manufacturer's Hanover, Bank One, First Chicago, and National Bank of Detroit.[59] Consolidation also took place in the brokerage or wire house business, which provided stock services to customers. With fixed brokerage commissions outlawed in 1975, the business models of many smaller boutique firms were challenged. After nearly 40 years of quiet operation, the two-partner firm of Harris-Upham and Co. would grow from 1976 to 1998 into Smith Barney, which was then acquired by Citigroup.[60] New behemoth financial services companies like the Citigroup-Travelers-Smith-Barney, or the ultimately

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[57] Randall S. Krosner, "The Motivations Behind Banking Reform," *Regulation* (2001), 36-41.

[58] Ben Esty, Peter Tufano and Jonathan Headley, "Bancone Corporation: Asset and Liability Management," *Journal of Applied Corporate Finance* 7 (1994), 33-51.

[59] See the history of JPMorgan Chase at http://www.jpmorgan.com/pages/jpmc/about/history

[60] Smith, Barney & Co. merged with Harris, Upham & Co. in 1987 was acquired by Primerica, a public financial services company, in 1993 became a wholly-owned subsidiary of Travelers Group, in 1997 was combined with Saloman, Inc. and then in 1998 becomes part of Citigroup.

http://www.citigroup.com/citi/corporate/history/smithbarney.htm

unsuccessful Sears-Allstate-Coldwell Banker-Dean Witter-Discover amalgam, would sell themselves as the "supermarkets" of household finance.[61]

Pushing against this trend towards aggregation was an equally strong, and in many ways less obvious, trend towards disaggregation of firms connected through consumer finance business networks. We see this strikingly in home mortgage products. Until the 1970s and 1980s, most home mortgages were originated, funded and serviced by banks and credit unions or, if they were government-insured mortgages, were bought by government-owned Fannie Mae (which, in 1968 would become a private shareholder-owned corporation).[62] Over time, origination, servicing, and funding activities became separated. Funding activities were transferred to third parties through securitization—the bundling and then tranching of mortgage claims. The volume of securitized home mortgages grew from $28 billion in 1976 to $4.2 trillion in 2003.[63] Government-sponsored entities (i.e., Fannie Mae and Freddie Mac) played an important role in this process by standardizing mortgage products, pooling mortgages into mortgage-backed securities, and guaranteeing investors against losses.[64] Mortgage brokers and specialized mortgage originators developed a new "originate-to-distribute" model in which even servicing was broken out to specialized mortgage servicers.

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[61] For an "obituary" of the latter, see Barnaby, J. Feder, "Sears, Returning to its Roots, is Giving up Allstate" New York Times, Nov 10, 1994.

[62] http://www.fundinguniverse.com/company-histories/Fannie-Mae-Company-History.html

[63] Elena Loutskina and Philip E. Strahan, "Securitization and the Declining Impact of Bank Finance on Loan Supply: Evidence from Mortgage Originations," *Journal of Finance* LSIV, no. 2 (2009).

[64] Scott W. Frame and Lawrence J. White , "Fussing and Fuming About Fannie and Freddie: How Much Smoke, How Much Fire?" *Journal of Economic Perspectives* 19 (2005).

Other lending activities also used this networked form. Automobile loans were first securitized in 1985; credit card loans followed in 1986.[65] By 2006, approximately 55% of all mortgages, 45% of all credit card loans, and 16% of non-revolving loans (many of which are auto installment loans) were securitized.[66] Over time, these networks of firms and investors displaced traditional lenders. Much attention has been focused on the way in which changes in financial intermediation, especially in mortgages, would come to influence the national and global economy.[67]

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[65] "Asset Securitization Comptroller's Handbook." C. o. t. C. Liquid and Funds Management, Washington, DC: U.S. Department of Treasury, 1997.

[66] Mortgage data from Figure 2 in Richard J. Rosen, "The Role of Securitization in Mortgage Lending," in *Chicago Fed Letter: Essays on Issues* (Federal Reserve Bank of Chicago, 2007). Revolving and non-revolving debt data from Federal Reserve Statistical Release, Series G19, http://www.federalreserve.gov/releases/g19/Current/; xxx.

[67] Adam B. Ashcraft and Til Schuermann, "Understanding the Securitization of Subprime Mortgage Credit," in *Staff Reports* (New York: Federal Reserve Bank of New York, 2008), Antje Berndt and Anurag Gupta, "Moral Hazard and Adverse Selection in the Originate-to-Distribute Model of Bank Credit " *Available at SSRN: http://ssrn.com.ezp-prod1.hul.harvard.edu/abstract=1290312* (2008), Joshua Coval, Jakub Jurek, and Eric Stafford, "The Economics of Structured Finance," *Journal of Economic Perspectives* 23, no. 1 (2009), Matias Hoffman and Thomas Nitschka, "Securitization of Mortgage Debt, Asset Prices, and International Risk Sharing," *Institute for Empirical Research in Economics, University of Zurich, Working Paper Series* (2008), Loutskina and Strahan, "Securitization and the Declining Impact of Bank Finance on Loan Supply: Evidence from Mortgage Originations.", Christopher Mayer, Karen Pence, and Shane M. Sherlund, "The Rise in Mortgage Defaults," *Journal of Economic Perspectives* 23, no. 1 (2009), Atif Mian and Amir Sufi, "The Consequences of Mortgage Credit Expansion: Evidence from the 2007 Mortgage Default Crisis," *NBER Working Paper 13936* (2008), Amiyatosh Purnanandam, "Originate-to-Distribute Model and the Subprime Mortgage Crisis," *AFA 2010 Atlanta Meetings Paper. Available at SSRN: http://ssrn.com.ezp-prod1.hul.harvard.edu/abstract=1167786* (2009), Robert J. Shiller,

The creation of networks of firms to deliver financial services went beyond mortgages and credit products. A growing field of defined contribution retirement plans offered by employers also depended on a network of providers. Investment managers, plan servicers, and sponsors all were outsourced. Similar networks emerged to serve the two-sided market of credit and debit cards. Banks had long been organized into correspondent networks to cash and process checks. With the advent of credit card, elaborate networks emerged linking cardholders and merchants via issuing banks (e.g., Capital One or Citibank), card associations (Visa or MasterCard), acquiring banks (e.g., Citi Merchant Services, Fifth Third Bank), and specialized data processors (e.g., First Data Corporation).[68] This networked structure enabled merchants to get immediate authorization of charges, facilitated the flow of information and funds through the system, and allowed consumers to cancel payment in case of grievance against a merchant.[69]

New consumer finance markets became the focus of intense competition. In the credit function, banks competed fiercely with consumer finance companies and retailers to control the card payment system. In the saving function, money market mutual funds competed with commercial banks for household savings. In the electronic payments function, competing card payment providers vied for dominance. And because the consumer financial markets were highly regulated, competition nearly always occurred in the shadow of the regulatory state. This meant that companies providing consumer financial services ended up deeply involved in state and national regulatory battles.

The Subprime Solution: How Today's Global Financial Crisis Happened and What to Do About It (Princeton, NJ: Princeton University Press, 2008).

[68] Evans and Schmalensee, *Paying with Plastic: The Digital Revolution in Buying and Borrowing*.

[69] Ronald J. Mann, *Charging Ahead: The Growth and Regulation of Payment Card Markets* (Cambridge, 2006), pp 25-27.

We observe this close interconnection between regulation and competition in consumer credit markets. From the 1940s until the late 1960s commercial banks fought fiercely to block laws that would force them to disclose their actual lending rates as annualized percentages. While consumer finance companies were bound by strict truth in lending laws, banks could use creative pricing, including discounting and add-on insurance, to advertise loans at 6% that had effective annual rates ranging from 20% to 25%.[70]

With the passage of the 1968 Truth in Lending Act (TILA), banks were required to report the cost of their loans in a standardized fashion. In response, banks shifted their strategies. In the late 1960s and early 1970s, banks supported state-level usury reform initiatives, advanced largely by consumer advocacy organizations, to *lower* legal interest–rate caps (typically from 18% to 12% per year) in an effort to make inroads into the large retail credit business. Since banks increasingly supplemented their interest income from user and retailer fees, they were less sensitive to low interest rates than were their retail lending competitors. Indeed, where these reform initiatives succeeded, mid-sized and regional retail chains abandoned their own credit cards and accepted bank-issued cards. By the late 1970s, the remaining large retail lenders countered by opening banks and moving into the general-purpose credit card business. In 1988, the top four American credit card issuers, measured by numbers of cards and volume of outstanding loans, were still retailers: Sears, JC Penney, Wards, and Allied Department Stores.[71]

Greater access: broadening participation of consumers in the financial sector

[70] Richard L. D. Morse, statement before the Subcommittee of the Kansas Senate Committee on Financial Institutions, December 18, 1969, p 2. The Richard L.D. Morse Papers, Kansas State University, Consumer Movement Archives, Box 212, folder 12.

[71] Mandell, *The Credit Card Industry: A History*.

The postwar period saw an increase in Americans' access to financial products: the "democratization" of financial services.[72] **Table 2** shows the fraction of American households with various types of financial assets or liabilities. By virtually all measures, financial products and services have become more widely dispersed. A larger variety of assets was held by more and different types of US families, especially those with lower incomes and net worth, as well as among racial and ethnic minorities. For example, families in the lowest 20% of income who had checking or savings accounts rose from 55.6% to 74.9% between 1989 and 2007.[73] **Table 3** highlights changes to selected assets and liabilities by income and race/ethnicity. More striking than the increased use of basic transaction accounts is the increase in asset holdings for non-whites and Hispanics. The share of non-white and Hispanic families with assets held in pooled investment funds and stocks increased from 1.0% to 5.8% and 4.6% to 9.4% respectively between 1989 and 2007.[74] For retirement account assets, ownership share increased from 18.0% to 39.1%. Yet, while more people held a wider variety of assets, there were more people with debt as well. This was most pronounced among lower-income families. Households in the lowest two income quintiles were more likely to carry credit card debt (roughly 11% more of them had credit card debt) in 2007 than in 1989, while those in the top income quintile were less

[72] Arthur Morris, founder of the Morris Plan consumer lending banks, claims to have coined this term. It was also used by Henry Wolff, an early advocate for the adoption of credit unions. Arthur J. Morris, "Fifty years creating and developing the Morris Plan system of consumer bank," speech to the Consumer Bankers Association, October 25, 1956. Arthur J. Morris papers, Library of Congress, Box 17, Speeches and Writings File, 1918-60.

[73] The Survey of Consumer Finance was conducted in a different form prior to 1989. The data from these earlier years are not reliable for use in a time series and therefore are not included here.

[74] Survey of Consumer Finances, various years.

likely to carry credit card debt over this time period. Consumers at nearly all income levels had more mortgage debt, although again there was least change in the top quintile. Non-whites and Hispanics were more likely to have both credit card debt (40.6%) and mortgage debt (40.4%) in 2007 than they were in 1989 (34.4% and 28.9% respectively).[75]

>>>Insert Tables 2 & 3 Here<<<

The extension of credit to new groups in society was driven in part by new technical innovations, including new automated risk-modeling techniques that allowed lenders to better distinguish reliable borrowers. The trend also reflected a change in attitudes and public policy about the role of credit in society. This change was in turn triggered by civil rights and women's movements in the late 1960s and 1970s that portrayed consumer credit as a basic right that should be provided as broadly as possible. These social movements around credit began as a response to the urban riots that spread across the country between 1965 and 1969. Research into the sources of black urban violence led policymakers to conclude that the urban poor should be given greater economic access.[76] In part, that meant access to credit. That conclusion reflected the findings of David Caplovitz, whose book *The Poor Pay More* documented the exploitative lending conditions faced by the urban poor, and of the Kerner Commission, which concluded

[75] Survey of Consumer Finances

[76] Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America*; "Report of the National Advisory Commission on Civil Disorders," (Kerner Commission, 1968).

that urban blacks could be de-radicalized if they were given greater access to credit at a fair price.[77]

The first grass-roots call for broad access to affordable consumer credit came from the welfare rights movement. In 1970, the National Welfare Rights Organization (NWRO) shifted its focus from securing welfare benefits for its members—who were mainly women receiving Aid to Families with Dependent Children (AFDC)—to securing credit access for them. Under the slogan "credit for being American," they approached retailers to get them to offer lines of credit to their members. Many stores assented, including Montgomery Ward and Dillards; others did not, including JC Penney and Sears. The NWRO held a highly publicized two-year boycott of Sears to protest their decision not to offer credit to their members.[78] By 1972, it had become clear that the repayment rates under the NWRO program were disappointing, and the program was discontinued.[79] Nonetheless, their campaign ignited a national policy effort to promote credit access.

Just as the NWRO credit campaign was waning, the National Organization for Women (NOW) mobilized to promote credit access for a very different constituency: middle-class white women. Their grievances were broad ranging. Women who married had their credit information merged into their husbands' files, and credit cards were issued in their husbands' names.

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[77] David Caplovitz, *The Poor Pay More: Consumer Practices of Low Income Families* (New York: Free Press, 1963); Kerner Commission, *Report of the National Advisory Commission on Civil Disorders*, 1968, p 7.

[78] Patricia Ann Kornbluh, *A Right to Welfare? Poor Women, Professionals, and Poverty Programs, 1935-1975*, Dissertation, Princeton University, 2000, Andrea Jule Sachs, *The Politics of Poverty: Race, Class, Motherhood, and the National Welfare Rights Organization*, 196501975, Dissertation, University of Minnesota, 2001

[79] Robert H. Edelstein, "Improving the Selection of Credit Risks: An Analysis of a Commercial Bank Minority Lending Program," *Journal of Finance* 30/1 (1975), p 39.

Mortgage lenders frequently discounted or even ignored a wife's income on the belief that she would have children and lose her salary. Indeed, many mortgage lenders would recognize women's salaries only if their doctor issued "baby letters" certifying that they were infertile or using birth control. Marriage was not the only source of discrimination.[80] Young unmarried women were disproportionately denied educational loans because they were thought to be less serious students. If women divorced or were widowed, they found themselves without credit.[81]

Mobilization around credit led to new legislation that would treat credit access as a right. The Equal Credit Opportunity Act (ECOA) of 1974 initially banned credit discrimination based on sex or marital status, and was amended in 1976 to include race. In the same year, an amendment to the Fair Credit Reporting Act of 1970 required credit rating agencies to keep records on married women. The Home Mortgage Disclosure Act of 1975 allowed the Federal Reserve to track bank mortgage histories in order to detect discriminatory patters of lending. In 1977, the Community Reinvestment Act banned redlining and required banks to lend in the communities in which they operated. These legal protections were accompanied by grass-roots projects to promote credit use. Federally-sponsored low-income credit unions (LICUs), launched by the Office for Economic Opportunity starting in 1964, opened in urban areas around the country. New specialized banks focused on the previously excluded populations. Successful urban lenders included Shore Bank in Chicago (1973) and the Consumer Action Program of

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[80] Billie Venable Sessoms, Suzanne Nelsen, and Patricia Smith, "A Preliminary Report on Women and Cedit," report prepared by the North Carolina Chapter of National Organization for Women, Durham, North Carolina Chapter, October 15, 1973. National Organization for Women archives, Schlessinger Library, Radcliffe Institute, Box 211, File 41,

[81] Laurie D. Zelon, "Equal Credit Promise or Reality?," *Harvard Civil Rights-Civil Liberties Law Review* 11 (1976), Flora Davis, ed., *Moving the Mountain: The Women's Movement in America since 1960* (Champaign, Ill., 1999)

Bedford Stuyvesant (1966) in New York.[82] Women's activist groups like NOW and 9-to-5 counseled women on how to build their credit rating. Feminist credit unions emerged across the country to offer loans that could become the basis of a credit history.[83] By the early 1980s, the democratization of credit had become an uncontroversial assumption on the political left and right.

Do-it-Yourself: increases in consumer responsibility

Driven by a combination of technical innovations, increasing access, and regulatory changes, America embarked on a period of do-it-yourself (DIY) finance, in which consumers took greater responsibility for the design and delivery of their own financial services. New financial products increasingly allowed, encouraged, and in some cases required consumers to make financial decisions and transactions that had previously either not been possible, or had been reserved for financial professionals.

Product innovations enabled the rise of DIY consumer finance. The postwar evolution of consumer credit products followed this trend. Early consumer credit was installment credit, with fixed repayment terms. The shift to revolving credit that took place in the 1950s and early 1960s allowed borrowers to customize their repayment plans. Suddenly, consumers could choose whether they would repay the entire balance or only a required minimum. By the 1980s, required minimum monthly payments were dramatically reduced, such that a consumer could literally

[82] The Urban Coalition, *Consumer Credit and the Low Income Consumer: Preliminary Report* (1969).

[83] "Sistershares, Newsletter of the Massachusetts Feminist Federal Credit Union," 2, no. 1-4 (1976-1977).

finance a dinner at a restaurant over a period of years.[84] The growing share of revolving credit left consumers "free to choose," and in so doing put an end to the disciplining role that fixed installment plans had traditionally played in household finance.[85] In the mid-1990s, banks and credit unions began to offer "courtesy pay" or overdraft features so that consumers could overdraw their checking or debit accounts, for a fee. The service proved profitable; in 2009, Americans paid $38 billion in overdraft fees.[86] Whereas the amount of cash in one's wallet might have regulated spending behavior in prior years, new innovations permitted consumers to spend more freely.

Innovations in home mortgage products led to more extreme versions of DIY finance. Interest-only mortgages and option ARMs allowed consumers to choose monthly payments and amortization schedules. In the first half of 2006, interest-only loans comprised 25% of the total volume of loan originations.[87] These credit innovations gave consumers more flexibility and greater control over the amount they borrowed and their refinancing schedules. Homeowners could postpone repayment of their principal almost indefinitely, or even choose negative-amortization products that increased their principal over time. Home equity loans and lines of credit, which were increasingly available as home prices grew, added an additional tool to the consumer's financial toolbox. With these tools, homeowners could more easily spend the

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[84] This was alleged to be the card companies' intention. David Rummel, "Secret History of the Credit Card," in *Frontline* (Public Broadcasting System, 2004).

[85] Calder, *Financing the American Dream: A Cultural History of Consumer Credit*.

[86] Moebs Services, 2009 Survey.

[87] Mortgage Bankers Association, "The Residential Mortgage Market and Its Economic Context in 2007," January 30, 2007. Available at: http://www.mbaf.org/pdf/2007/Residential%20Mortgage%20Market%20Report%202007.pdf

otherwise illiquid trapped equity in their homes. These products also made it that much easier to borrow and played an important role in increasing household leverage beginning in the 1990s.[88]

The DIY approach also changed the means by which people saved, invested, and insured against risk. Innovations in investment products exposed consumers to a broad range of asset classes. The expanded menu of mutual funds gave individual investors low-cost access to diversified pools of investments without requiring that they select individual securities or pay commissions to brokers. Index funds gave them even cheaper access to entire markets and asset classes. Individuals could choose between insured bank deposits or uninsured money market funds. Even for trading individual stocks, widespread access to internet-based discount brokerages in the 2000s allowed households to bypass financial advisors all together. With these choices came the possibility for new levels of risk exposure.

The insurance function also saw slightly more DIY products, giving households greater control. Historically, most life insurance products had blended pure insurance (death benefits) with largely predetermined investments with fixed rates of interest. By the 1980s, consumers were able to choose the extent and type of investments that would be held inside insurance wrappers. These new products included universal- and variable-life plans. Like whole-life plans, universal plans covered clients for their entire lives and earned "cash value" in a fixed-investment program, yet allowed more flexibility in premiums and the size of death benefit. Variable and the hybrid variable-universal insurance plans were Securities and Exchange Commission (SEC)-registered contracts that allowed participants to direct their investment to a

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[88] Alan Greenspan and James Kennedy, "Sources and Uses of Equity Extracted from Homes," *Oxford Review of Economic Policy, Vol. 24, Issue 1, pp. 120-144, 2008. Available at SSRN: http://ssrn.com/abstract=1154417 or doi:grn003* (2008).

variety of accounts and/or stocks and bonds; by 2008, 13% of all insurance premiums paid were to variable plans.[89] Innovations in health insurance followed a similar trend. The introduction of high-deductible health insurance tied to tax-exempt health savings accounts gave consumers and employers new discretion over the level of risk they faced.[90]

Some of the most important elements of DIY in consumer finance were in workplace savings plans facilitated by government policy. The largest driver toward DIY in consumer investing, for example, was the shift by employers from defined benefit (DB) to defined-contribution (DC) pension plans. In the former, employers agreed to provide a specific level of retirement benefits, usually as a function of an employee's salary prior to retirement. Because employers had responsibility for providing the benefit, employees didn't make decisions about the size and type of retirement investments. With the rise of DC plans, employees were given broad latitude to determine the amount and types of investments they would make, but bore the risk of inadequate retirement funds. As DC plans overtook DB plans, American households increasingly took responsibility for the level of funding and the form of retirement investments. In 1985, of the $1.2 trillion American workers held in private pension funds, 35% was in DC plans. In 1996, the share of DC plans surpassed that of DB plans. By 2009, American workers had $5.4 trillion invested in private pension funds, of which 61% was held in DC plans and 39% in DB plans.[91] Under these DC plans, employees were required to make complex decisions about where their retirement funds would go, choosing among plans that ranged from secure

[89] Based on LIMRA (a worldwide association of financial and service companies) estimates of US individual life, annualized new premium market share by product, and LIMRA definitions.

[90] Kaiser Family Foundation, Employer Health Benefits, 2007 Survey.

[91] Federal Reserve Flow of Funds, supplementary tables L. 118b and L.118c

government-only portfolios, ‘prime’ portfolios that took on slightly more risk, to narrow sector-specific investment funds.

The emergent DIY consumer financial culture was supported by federal regulations, often in the form of disclosure requirements. Prior to the late 1960s, the primary means of consumer protection in credit markets was through restrictions on products offerings and caps on interest rates for deposits and loans. Over time, the caps were phased out, and in part replaced by a regime of enhanced disclosure. Pushed by consumer and worker-advocacy groups, legislators created new laws to improve the transparency and accountability of financial-service providers.

Table 4 highlights some of the major regulations during the postwar period. In consumer credit, early federal regulations emphasized transparency and accountability. The federal Truth in Lending Act (1968) required lenders to disclose the annual percentage rate (APR) and total cost of loans. The Fair Credit Reporting Act (1970) increased transparency and accountability of credit rating agencies. Other regulations offered consumers assurances. Changes to rules at the Federal Trade Commission in the 1970s limited consumer liability for credit card fraud to $50—a move that was later seen as key to easing public concerns about the credit card industry. For workers, the 1974 Employee Retirement Income Security Act (ERISA) regulated disclosure and accountability of employer-sponsored defined contribution plans. The Real Estate Settlement Procedures Act (1974) imposed standardized cost reporting for home mortgages.

>>>Insert Table 4 Here<<<

Once a legal framework assuring transparency and accountability was in place, Congress and the courts began to loosen restrictions on the kinds of products that consumer finance

companies could offer. The Monetary Control Act of 1980 began the process of eliminating interest rate caps on deposits by authorizing NOW (negotiable order of withdrawal) accounts, which offered a legal workaround to the caps imposed under Regulation Q. The Garn St. Germain Act of 1982, which deregulated the Savings and Loan industry, also legalized another form of savings account, the money market deposit account (MMDA), which could now offer higher interest rates. Financial deregulation extended to consumer lending as well. In 1978, the Supreme Court decision in *Marquette v. First of Omaha* found that out-of-state credit card lenders were bound by usury regulations only in the state in which they were located.[92] Given that some states either had no usury caps or were—like South Dakota—willing to eliminate them, the decision drove a regulatory race in which jurisdictions with more liberal credit terms attracted national lenders. New federal and state laws reinforced this trend. The Monetary Control Act of 1980 extended a usury exemption to all FDIC-insured banks, wherever they were located. In order to support domestic non-bank lenders, most states responded by loosening or eliminating their own usury restrictions. New rules issued in 2004 by the Office of the Comptroller of the Currency further extended federal preemption to include not just interest rates but also non-interest charges, disclosures, and details of credit account management.[93] By the mid-2000s, US consumer lenders operated in a regulatory environment that paired vast product variety with fairly aggressive regulation of transparency and accountability.

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[92] U.S. Supreme Court, *Marquette Nat. Bank v. First of Omaha Svc. Corp.*, 439 U.S. 299 (1978), No. 77-1265.

[93] Mark Furletti, "The Debate Over the National Bank Act and the Preemption of State Efforts to Regulate Credit Cards," *Temple Law Review* 77 (2004).

Greater risk: the aggregate impact of consumer decisions

In his book, *The Great Risk Shift*, political scientist Jacob Hacker draws on evidence from changing patterns in the cost of living, employment stability, household decision-making, and the impact of social programs to paint a broad picture of American society in which ordinary Americans have been asked to take on ever greater risk.[94] Our postwar history of household financial services is broadly consistent with his characterization. The combination of innovations, broader adoption of financial products, and greater access to DIY products created a context in which households assumed greater risk. The reasons for this are multiple. Personal preferences, herd mentality, the availability of new and riskier financial products, and new government policies and incentives all reinforced the risk shift in consumer finance.[95]

In some cases, the shift of risk to households was a side effect of new product adoption. Households moved their deposits from *insured* depository instruments like CDs to new and *uninsured* money market funds. DB pension plans came with a limited federal guarantee (through the Pension Benefit Guarantee Corporation), whereas increasingly popular DC plans offered no guaranteed payout either by their employers or the government. New electronic payments technologies offered more convenient payment options, but they also incurred variety of charges and fees (i.e., overdraft fees, late fees, and finance charges) aimed at consumers who

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[94] Jacob Hacker, *The Great Risk Shift: The Assault on American Jobs, Families, Health Care, and Retirement--and How You Can Fight Back* (New York, 2006).

[95] The amount of risk consumers take on is also psychologically-related, including the fact that we tend not to understand the probability of facing certain risks. See Robert Shiller, *The New Financial Order: Risk in the 21st Century*. Also, as our colleague Robert Merton has noted, consumers become comfortable with risks as they increase their (successful) experience with them.

were not diligent about managing their accounts. Similarly, increasingly low monthly minimum credit card payment requirements offered new flexibility, but cost those consumers who were undisciplined or inattentive about prompt repayment.[96]

The aggregation of these decisions in the consumer finance sector can be seen in the "scissor" pattern in savings and borrowing. In general, over the past sixty five years, but particularly in the past three decades, households took on more risk as their savings rate declined and their leverage increased. (**See Figure 3.**) During the last 65 years, the level and composition of savings (i.e., the difference between post-tax disposable income and personal consumption) has changed materially. Following a rationing-induced wartime savings rate of 26% (1943-44), household savings in the late 1940s fell briefly below 5%. As a general trend, however, savings rose to roughly 10% by the early 1970s, remained at that level until 1985[97], then declined to below 0% in for four consecutive months in 2005.[98] (In response to the financial crisis of 2008, savings rates rose to 4.3% as of 2009.[99])

>>>Insert Figure 3 Here<<<

[96] David Rummel, "Secret History of the Credit Card"

[97] Bureau of Economic Analysis

[98] "Spendthrift Nation," *Federal Reserve Bank of San Francisco Economic Letter* 2005-30 (2005).

[99] A historical narrative of this change is told by David Tucker in his 1991 book, *The Decline of Thrift in America* and is an element of the story of increased household leverage as told in Manning's *Credit Card Nation*. Tucker, *The Decline of Thrift in America: Our Cultural Shift from Saving to Spending*. Robert D. Manning, *Credit Card Nation: The Consequences of America's Addiction to Credit* (New York, 2000).

Yet, these often-reported low savings numbers significantly understate the rate at which total US household assets grew in the postwar period.[100] Because the United States experienced strong housing- and stock-market appreciation, overall wealth rose markedly in the postwar period. From 1950 to 2005, the real per capita market value of owner-occupied real estate rose from $14,330 to $79,796 (in constant 2008 dollars). By 2007 it had fallen back to $60,149, a 24% drop).[101] Stock market increases were similarly dramatic. The S&P 500 total returns index rose from $40 in 1950 to $2,395 by 2007.[102] As the market grew, more families began to hold stock. The share of families holding stock rose from 8% in 1949, 17% in 1960, to 44% in 1970, to over 80% in 2007.[103] Of stock holders in 2007, 65% held stock through their retirement accounts; only 18% held stocks directly.[104]

The aggregate household portfolio allocation changed over time, taking on greater risk. As part of its Flow of Funds data, the Federal Reserve Board calculates the fraction of the household (and nonprofit) balance sheet is composed of equity. **Figure 4** shows the fraction of financial assets that are directly or indirectly exposed to equities (excluding defined benefit plans). This fraction has varied dramatically over the 65 years, rising above 30% during the go-go years of the 1960s, and rising again in the late 1990s. In the later part of the period, households assumed greater equity price exposure, until at least the bursting of the dot.com bubble and the more recent precipitous decline in equities.

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[100] For accounting purposes, appreciation of financial and housing assets does not constitute "savings."

[101] Federal Reserve Data. Includes vacant land.

[102] Global Financial Data, S&P 500 Total Return Index (with GFD extension)

[103] Survey of Consumer Finances 1960, 1970, and 2007. There is no weighting documentation for these surveys. Data are assumed to be self-weighting.

[104] Survey of Consumer Finances, 1989-2007

>>>Insert Figure 4 Here <<<

We must consider, however, not only household assets, but also leverage. By definition, increased leverage increases the riskiness of a firm or household in two ways. First, leverage amplifies the exposure to fluctuations in asset prices; and second, leverage opens the option of default and bankruptcy. By any measure, households took on greater leverage in the postwar period. Measured as a percentage of personal income, household debt (mortgage and non-mortgage) grew six-fold from 1946 and 2008. This growth was distributed unevenly over time, with periods of rapid debt growth in the 1950s and early 1960s, and again in the 1980s and 1990s. As a percent of disposable income, total debt also rose from 20% in 1946 to 60% in 1965. For the next twenty years, from 1965 to 1985, outstanding household debt remained roughly stable. Then, from 1985 until 2008, debt as a share of disposable income again increased dramatically, from 60% to 125%.[105]

The type of debt households carry has also changed over time. The share of household financial liabilities represented by mortgages increased from 59% in 1950 to 73% in 2008; the share represented by consumer debt fell from 31% to 18%.[106] The rise in mortgage debt likely reflected greater access to mortgages and increasing debt per home (with the latter facilitated through home equity products). Relative to other non-mortgage debt, credit card lending showed disproportionate growth. Between the time when BankAmericard was formed in 1968 and 2008, credit card debt grew at an annual rate of 9.1%, compared to a 6.4% annual growth rate for all

[105] Bureau of Economic Analysis

[106] Federal Reserve Board, Z.1 Report

non-mortgage consumer credit.[107] The share of non-mortgage debt comprised by revolving debt grew from just 3.8% in 1970 to 37.5% in 2008.[108]

By 2009, American households had roughly three times more leverage than in 1950.[109] **Figure 5** shows three indicators of consumer leverage: the ratio of total household liabilities to total assets, total home mortgage debt as a share of the replacement value of residential real estate, and consumer credit measured as a percentage of disposable personal income. Although these ratios show variation over time—with periods of strong growth punctuated by periods of relative stability—the overall trend toward increasing leverage is clear, reflecting long-term trends toward both more debt and less savings.

>>>Insert Figure 5 Here<<<

Why did Americans go so far into debt? Home mortgages are a major part of the reason, and the drivers of home mortgage growth were not just economic, but also regulatory. An explicit national goal of greater homeownership generated bipartisan support for mortgage subsidies. Throughout most of the postwar period, consumer interest gave rise to tax deductions, but under the Tax Reform Act of 1986, most of these deductions were removed, leaving only mortgage insurance deductions permitted on federal income taxes. In addition, monetary policy kept interest rates low. These and other factors contributed to the rise in home ownership levels

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[107] Credit card debt from "revolving" credit figures from Bureau of Economic Analysis.

[108] Federal Reserve Board, Consumer Credit Data, Series G.19.

[109] Ratio of liabilities to assets in 1950 (Q4) was .068 and in 2009 (Q3) was .208. Federal Reserve Flow of Funds data.

from 51% in 1949 to 69% in 2007.[110] Other forms of household borrowing also were encouraged. Loans for higher education were promoted through government-sponsored insurance, and these left students with high balances to repay upon graduation. In 1996, 58% of bachelor's degree recipients graduated with an average of $18,000 in student loan debt (inflation adjusted); by 2008, nearly two-thirds of bachelor's degree graduates had debt, averaging $23,000.[111]

To get a rough sense of the rise in the riskiness of the US households' finances over time, **Figure 6** examines the standard deviation of annual changes in per capita CPI-adjusted household net worth and disposable personal income for each of the six past decades. The standard deviation in annual changes reflects how variable the changes in net worth and income are from year to year. This calculation is imprecise for various reasons: it is measured at the aggregate level; the inflation-adjusted results may vary by type of deflator; and the "household" sector includes a small fraction of the non-profit activities. Nevertheless, the story of the household sector is not about increasing aggregate variability in personal income. To the contrary, this variation has eased off, albeit modestly over the period. The real change is the substantial increase in variability in per capita real changes in net worth, as households were exposed to stocks and ever more levered real estate holdings, both of which experienced substantial shocks in the past decade.

>>>Insert Figure 6 Here<<<

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[110] Survey of Consumer Finances, 1960 and 2007.

[111] Matthew Reed and Diane Cheng, "Student Debt and the Class of 2008," (Berkeley, CA: Institute for College Access and Success, 2009).

Implications

Recent attention to subprime mortgages and debate over the recently enacted Bureau of Consumer Financial Protection have increased awareness of the consumer finance space; however, the events of the last few years are only part of a longer and richer story. An expanded account of postwar American consumer finance places mortgage lending in the context of the fuller set of consumer financial decisions, and reveals that the trends of the last few years are part of a broader pattern. The postwar period has seen increased innovation that made more products available to a broader range of the population. Largely, the period has witnessed a rise in do-it-yourself consumer finance, with the outcome being that households in aggregate have taken on greater risk than earlier in the post war period.

While it is appropriate to focus on the costs of these decisions (e.g., greater defaults), one cannot assess the social welfare implications of these trends without also considering the *benefits* of increasing leverage and reduced savings. More families could borrow to buy homes and cars, and fund higher education. Younger families enjoyed higher standards of living by borrowing against future earnings ability. In this review, we do not attempt to draw conclusions about the net benefits or costs of the trends we identify.

There is good reason to be concerned about the implications of the DIY trend in consumer finance. Researchers have begun to explore the financial capability of consumers, and their ability and preparedness to make household financial decisions. These studies illustrate that most consumers are ill-equipped to make financial decisions that would keep their balance sheets healthy—whether that means having enough money in the bank to handle an emergency (or grow larger amounts of wealth), or keeping their risk-exposure low (including keeping their debt

loads down).[112] Most Americans fail to understand basic financial concepts,[113] including how to calculate simple interest, how to account for inflation[114] and how to understand loan and mortgage terms.[115] This seeming lack of financial capability is linked to a variety of outcomes. Less financially-literate consumers are less likely to plan for retirement, to accumulate wealth or to participate in the stock market. A recent study of debt literacy (i.e., knowledge of fundamental concepts related to debt) illustrates a strong positive relationship between over-indebtedness and low knowledge of debt fundamentals.[116] In short, as Americans have been given more options, and have been asked to make their own financial decisions, they are apparently ill equipped to make choices that foster household financial health or contribute to the development of a healthier national economy.[117]

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[112] Annamaria Lusardi, Daniel Schneider, and Peter Tufano, "Households @ Risk: A Cross Country Study of Household Financial Risk," in *Paper presented to the 2010 American Economic Association Meeting.* (Denver, CO: 2010).

[113] Hilgert, Marianne A.; Hogarth, Jeanne M. and Beverly, Sondra. "Household Financial Management: The Connection between Knowledge and Behavior." *Federal Reserve Bulletin*, 2003, (July 2003).

[114] Lusardi, Annamaria and Mitchell, Olivia S. "Financial Literacy and Planning: Implications for Retirement Wellbeing." *MRRC Working Paper n. 2006-144.*, 2006.

[115] Moore, Danna. "Survey of Financial Literacy in Washington State: Knowledge, Behavior, Attitudes, and Experiences," *Technical Report n. 03-39.* Social and Economic Sciences Research Center, Washington State University, 2003.

[116] Lusardi, Annamaria and Mitchell, Olivia S. "Planning and Financial Literacy. How Do Women Fare?" *American Economic Review*, 2008, *May*, Lusardi, Annamaria and Tufano, Peter. "Debt Literacy, Financial Experience, and Overindebtedness." *Working Paper, Harvard Business School*, 2008.

[117] See also Niall Ferguson, *The Ascent of Money: A Financial History of the World* (New York, 2008). On page 12 he states "A society that expects most individuals to take responsibility for management of their own [finances,

There is not a lot of evidence to suggest that financial institutions are prepared or willing to take responsibility for these problems. The recent overleveraging of the American household was clearly supported by mortgage brokers, lenders and investors. Asset management companies have generally not performed any better. While there are some firms that seem committed to educating consumers and improving the quality of decision making, evidence from the brokerage industry calls into question whether this channel will support improved consumer decision making. The passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act (H.R. 4173) on July 21, 2010 and the creation of a federal Bureau of Consumer Financial Protection reflect and acknowledge this need.

The need to enhance financial decision making will likely get more pressing with the aging of the US population. In 2008, 13% (36.9 million people) of the US population were 65 or older, but by 2020, this fraction is expected to rise to 16% (54.8 million people).[118] While this demographic bulge gives rise to pressures on Social Security, it also will require a massive number of elderly citizens to make one of the most complex financial calculations they will have ever made (the rate of decumulation from retirement plans), at a time when they are perhaps most sensitive to financial risk and have diminished cognitive abilities in general, a sobering fact established by neuroscientists.[119] How business practice—and evolving regulation—address these issues will determine the arc of the next few decades of consumer finance history.

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taxes, homeownership, retirement and health insurance] is surely storing up trouble for the future by leaving its citizens so ill-equipped to make wise financial decisions."

[118] U.S. Bureau of the Census

[119] Sumit Agarwal, John C. Driscoll, Xavier Gabaix, and David Laibson, "The Age of Reason: Financial Decisions over the Lifecycle," *NBER Working Papers*, no. 13191, National Bureau of Economic Research, Inc. 2007.

Table 1: Selected Examples of Consumer Finance Innovation

Date	Innovation
1949	Diner's Club travel and entertainment card
1956	Magnetic ink character recognition (MICR) technology for check reading
1952	Variable annuity life insurance (TIAA-CREF)[1]
1958	American Express and Carte Blanche travel and entertainment cards
1958	Bank Americard credit card
1965	Federally-guaranteed student loans
1965	BankAmericard creates licensing agreements with other banks (later becomes Visa)
1967	MasterCard network (originally the Interbank Card Association)
1970	Credit scoring (FICO)
early 1970s	Automated Clearing House (ACH) debits
early 1970s	Automated teller machine (ATM)
1970s	Securitized mortgages through structured finance mortgage pools[2]
1970s	Point of sale systems for electronic payment processing (IBM)[3]
1971	Money market mutual funds
1973	Negotiable Orders of Withdrawal (NOW) accounts
1974	First MMMF to offer check writing
1976	Indexed mutual funds (Vanguard)
1979	Universal life insurance
late 1970s/early 1980s	Home equity line of credit
1980s	Debit cards
1980s	Adjustable rate mortgage, widespread introduction[4]
1980	Original issue deep discount bonds
1983	Collateralized mortgage obligations
mid 1980s	Option ARM mortgage
mid 1980s	Auto-title loans
1984	Fund supermarkets (Schwab)
1985	Securitized auto loans
1985	Treasury STRIPS
1986	Securitized credit cards
1987	Index-linked CDs
late 1980s	Modern refund anticipation loans at tax sites
early 1990s	Payday lending
early 1990s	Subprime mortgage lending (comprised .74% of mortgage market in early 1990s)[5]
1990s	Electronic bill payment
1992	Online securities trading
1993	Exchange-traded funds
early-mid 1990s	Electronic check presentment
mid 1990s	Stored-value (i.e., prepaid) cards offered by retailers
mid 1990s	Collateralized debt obligations
mid 1990s	Checking overdraft protection
1995	Internet-only bank (Security First Network Bank)
1999	Online payments (Paypal)
late 1990s	Account aggregation services to financial institutions (Yodlee.com, CashEdge.com)
2000	Mobile banking (Harris Bank)[6]
2001	Payroll cards
mid 2000s	Online money management sites (mint.com, wesabe.com, thrive.com)
2006	Peer lending (Prosper.com)

Selected Sources:

[1] http://www.annuity-insurers.org/Resources/History/History-sec5.aspx
[2] "Asset Securitization Comptroller's Handbook 1997" In Comptroller of the Currency, Liquid and Funds Management. Washington, DC: U.S. Department of Treasury.
[3] http://www.touchpos.net/page.html?chapter=10&id=9
[4] Frame, W. Scott and Lawrence J. White. 2009. "Technological Change, Financial Innovation, and Diffusion in Banking." Federal Reserve Bank of Atlanta Working Paper, 2009-10.
[5] http://research.stlouisfed.org/publications/review/06/01/ChomPennCross.pdf
[6] Rob Luke and Susan S. Luke, "Mobile Banking? Hold the Phone", Bank Technology News, March 2000, 13:3

Table 2: Household Asset Holdings and Values, 1989-2007

	Percentage of Families							Mean Value of Holdings for Families Holding Asset (Thousands of 2007 dollars)							CAGR for Mean Values
	1989	1992	1995	1998	2001	2004	2007	1989	1992	1995	1998	2001	2004	2007	
Own primary residence	63.9	63.9	64.7	66.2	67.7	69.1	68.6	170.5	158.6	155.7	176.6	211.5	271.1	302.4	3.2%
Financial Assets															
Transaction accounts*	85.5	86.9	87.4	90.6	91.4	91.3	92.1	23.2	20.0	19.6	21.4	27.7	29.8	26.4	0.7%
Certificates of deposit	19.9	16.7	14.3	15.3	15.7	12.7	16.1	53.3	47.8	48.5	47.9	43.8	60.2	55.6	0.2%
Savings bonds	23.9	22.3	22.8	19.3	16.7	17.6	14.9	6.5	5.1	7.1	6.0	9.2	6.3	6.6	0.1%
Bonds	5.7	4.3	3.1	3.0	3.0	1.8	1.6	186.2	197.1	250.0	247.1	340.7	600.8	574.3	6.5%
Stocks	16.8	17.0	15.2	19.2	21.3	20.7	17.9	92.8	96.6	126.2	202.2	224.9	176.1	221.1	4.9%
Pooled investment funds	7.2	10.4	12.3	16.5	17.7	15.0	11.4	76.6	73.0	126.9	128.6	152.9	202.0	309.7	8.1%
Retirement accounts	37.0	39.6	45.2	48.9	52.7	49.7	52.6	60.5	64.4	76.7	96.3	122.0	133.2	145.8	5.0%
Cash value life insurance	35.5	34.9	32.0	29.6	28.0	24.2	23.0	17.5	17.0	27.7	36.7	42.2	25.3	31.3	3.3%
Other managed assets	3.6	4.0	3.9	5.9	6.6	7.3	5.8	188.5	135.2	184.1	246.5	353.1	227.4	248.8	1.6%
Other	13.8	10.8	11.1	9.4	9.4	10.0	9.3	36.1	34.6	37.0	30.5	46.0	43.4	50.3	1.9%
Any Financial Assets	88.9	90.3	91.2	93.1	93.4	93.8	93.9	117.1	110.3	135.0	183.3	238.3	220.4	235.8	4.0%
Liabilities															
Debt on primary residence	39.5	39.1	41.0	43.1	44.6	47.9	48.7	73.0	84.1	87.5	99.0	107.3	136.2	149.0	4.0%
Debt on other residence	5.1	5.7	4.7	5.0	4.6	4.0	5.5	62.9	82.7	79.0	89.6	86.6	183.1	177.3	5.9%
Installment loans	49.5	46.0	46.0	43.7	45.2	46.0	46.9	14.2	11.3	12.8	17.9	17.4	20.7	21.0	2.2%
Credit cards	39.7	43.7	47.3	44.1	44.4	46.2	46.1	3.0	3.3	4.0	5.2	4.8	5.6	7.3	5.1%
Unsecured lines of credit	3.2	2.3	1.9	2.3	1.5	1.6	1.7	18.7	15.0	14.7	8.6	21.1	40.2	24.8	1.6%
Other	6.7	8.4	8.5	8.8	7.2	7.6	6.8	13.8	12.7	16.5	25.5	20.7	18.7	15.5	0.6%
Any debt	72.3	73.2	74.5	74.1	75.1	76.4	77.0	57.8	62.3	65.8	80.7	84.8	113.5	126.0	4.4%

Source: Survey of Consumer Finances, 1989-2007

NOTE: The Survey of Consumer Finance was conducted in a different form prior to 1989. The data from these earlier years are not reliable for use in a time series and therefore are not included here.

* Transaction accounts include checking, savings, money market deposit accounts, money market mutual funds, and call or cash accounts at brokerages. As of 2007, 90% of families had checking accounts, 47% had savings accounts, 21% had money market accounts, and 2% had call accounts. See Brian Bucks, Arthur Kennickell, Traci Mach, and Kevin Moore, "Changes in U.S. Family Finances from 2004 to 2007: Evidence from the Survey of Consumer Finances", Federal Reserve Bulletin, February 2009.

Table 3: Assets and Liabilities of Households by Income and Race/Ethnicity

ASSETS	Percentage of Families with Selected Assets						
	1989	1992	1995	1998	2001	2004	2007
Stocks							
Percentile of income							
Less than 20	*	4.1	2.8	3.7	3.8	5.1	5.5
20–39.9	9.2	7.9	9.4	9.7	11.2	8.2	7.8
40–59.9	12.4	13.4	11.7	17.9	16.4	16.4	14.0
60–79.9	18.7	21.4	18.0	21.5	26.2	28.1	23.2
80–89.9	28.7	27.5	27.7	32.7	37.0	35.9	30.5
90–100	54.8	48.7	40.9	53.6	60.6	55.0	47.5
Race/Ethnicity							
White non-Hispanic	21.0	20.6	18.2	22.2	24.7	25.5	21.4
Nonwhite or Hispanic	4.6	5.9	5.1	9.1	11.0	8.0	9.4
Pooled Investment Funds							
Percentile of income							
Less than 20	*	2.3	1.5	3.2	3.6	3.6	3.4
20–39.9	2.6	6.1	5.2	8.7	9.5	7.6	4.6
40–59.9	6.4	8.5	9.8	13.8	15.7	12.7	7.1
60–79.9	7.2	12.9	16.0	20.2	20.6	18.6	14.6
80–89.9	15.0	16.2	22.0	28.8	29.0	26.2	18.9
90–100	23.1	28.3	36.2	44.3	48.8	39.1	35.5
Race/Ethnicity							
White non-Hispanic	9.3	12.8	14.8	18.9	21.0	18.9	13.7
Nonwhite or Hispanic	1.0	3.2	3.6	8.3	7.4	5.0	5.8
Retirement Accounts							
Percentile of income							
Less than 20	4.3	5.6	8.8	9.4	13.7	10.1	10.7
20–39.9	15.8	23.0	27.6	30.9	34.0	29.8	35.6
40–59.9	38.3	37.3	48.2	53.5	53.3	53.5	55.2
60–79.9	52.2	55.3	63.4	69.2	75.9	69.7	73.3
80–89.9	69.1	72.9	73.3	75.3	83.8	81.9	86.7
90–100	79.6	81.0	82.1	87.5	88.9	88.5	89.6
Race/Ethnicity							
White non-Hispanic	43.4	45.1	49.1	53.8	57.5	56.1	58.2
Nonwhite or Hispanic	18.0	22.9	31.5	32.6	37.7	32.9	39.1

LIABILITIES	Percentage of Families with Selected Liabilities						
	1989	1992	1995	1998	2001	2004	2007
Debt on Primary Residence							
Percentile of income							
Less than 20	7.6	10.4	10.4	11.2	13.8	15.9	14.9
20–39.9	23.4	21.2	25.9	23.9	27.0	29.6	29.5
40–59.9	37.8	36.1	38.2	43.7	44.4	51.6	50.5
60–79.9	56.4	56.8	59.1	63.5	61.8	65.8	69.7
80–89.9	70.0	67.3	69.8	73.6	76.9	76.8	80.8
90–100	74.2	74.7	72.9	73.0	75.4	76.2	76.4
Race/Ethnicity							
White non-Hispanic	43.0	42.8	44.1	46.8	47.6	51.9	52.1
Nonwhite or Hispanic	28.9	27.8	30.2	31.0	35.6	37.4	40.4
Credit Card Debt							
Percentile of income							
Less than 20	15.3	23.4	26.0	24.5	30.3	28.8	25.7
20–39.9	27.6	41.9	43.2	40.9	44.5	42.9	39.4
40–59.9	48.9	51.9	52.9	50.1	52.8	55.1	54.9
60–79.9	57.3	55.6	60.0	57.4	52.6	56.1	62.1
80–89.9	58.3	53.6	61.0	53.1	50.3	57.6	55.8
90–100	40.5	37.9	47.3	42.1	33.1	38.5	40.6
Race/Ethnicity							
White non-Hispanic	41.5	44.2	47.1	44.3	43.3	46.0	45.1
Nonwhite or Hispanic	34.4	42.1	48.0	43.5	47.6	46.7	48.4

Source: Survey of Consumer Finance, 1989-2007

NOTE: The Survey of Consumer Finance was conducted in a different form prior to 1989. The data from these earlier years are not reliable for use in a time series and therefore are not included here.

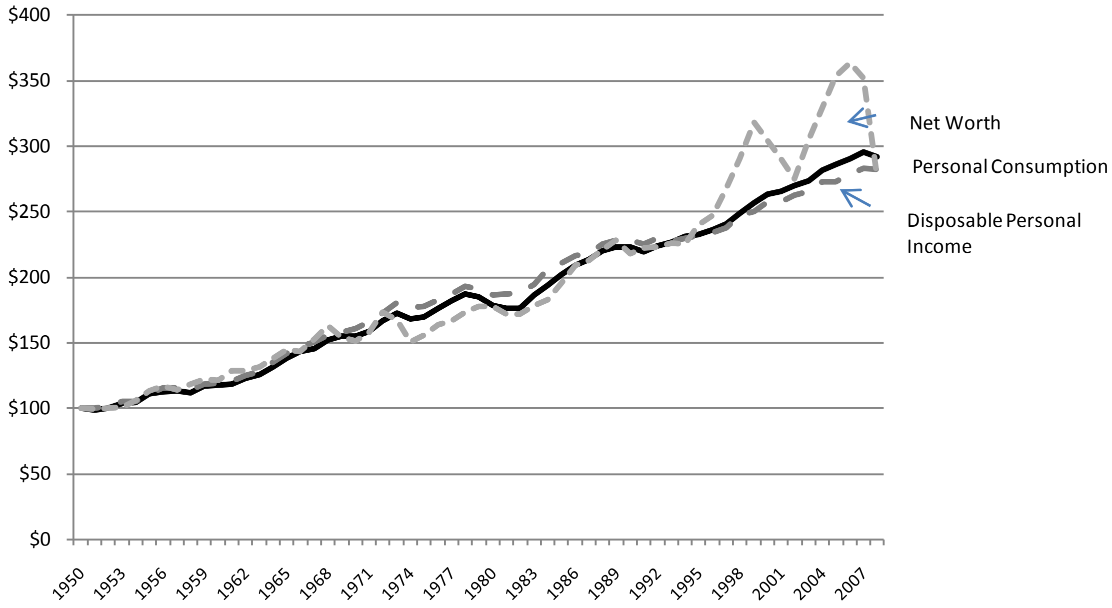
* Denotes 10 or fewer observations

Table 4: Selection of Key Legal Events

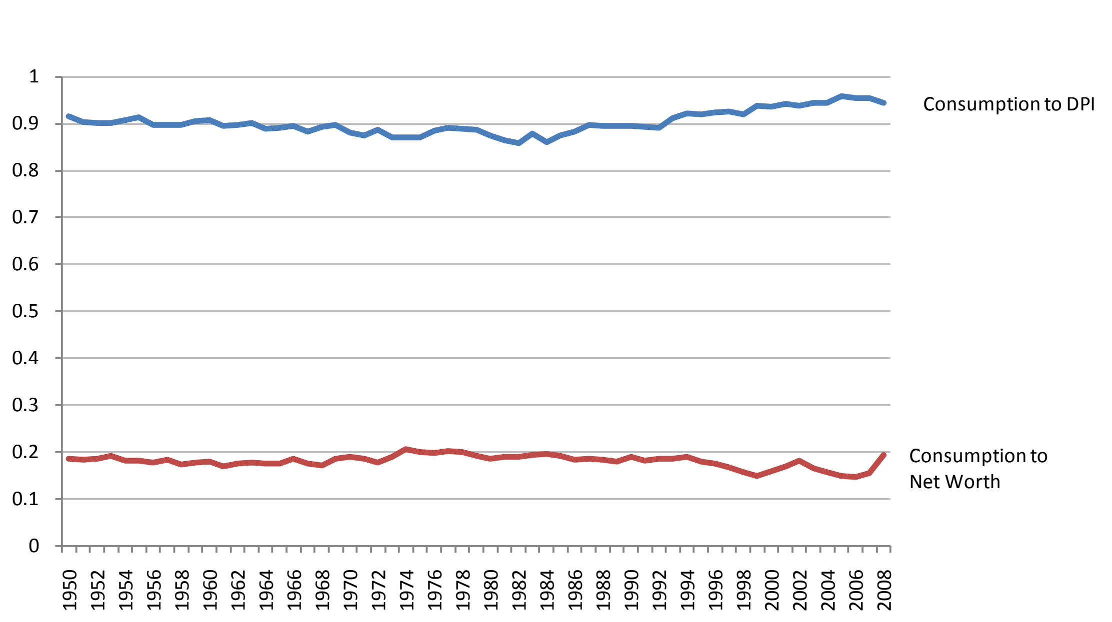
Year	Legal Event	Implications for Consumer Finance
Actions with Important Implications for Consumers		
1968	Truth in Lending Act	Requires clear disclosure of terms and costs in lending to consumers
1968	Fair Housing Act	Prohibits discrimination on the basis of race, color, religion and national origin in housing sales and rentals
1970	Fair Credit Reporting Act	Regulates practices of the consumer reporting agencies with regard to collecting, disseminating and using consumer information
1970	Securities Investor Protection Act	Established Securities Investment Protection Corporation, a non-profit that protects securities investors from harm if a broker-dealer fails
1970	Amendment to the Investment Company Act (Section 36(b))	Imposes fiduciary duties on mutual fund advisors with respect to compensation and provides a mechanism for enforcement
1974	Equal Credit Opportunity Act	Prohibits creditors from discriminating based on gender or marital status
1974	Fair Credit Billing Act (Amendment to TILA)	Provides dispute settlement procedures for billing errors on unsecured credit accounts (i.e., credit cards)
1974	Real Estate Settlement Procedures Act	Requires clear disclosure of home mortgage and purchase costs; prohibits kickbacks between lenders and servicing agents
1974	Employee Retirement Income Security Act (ERISA)	Protects employee investments in pension plans by establishing minimum standards of disclosure and behavior of fiduciaries
1975	Home Mortgage Disclosure Act	Requires lenders to report mortgage data for the purpose of determining housing patterns and needs and identifying possible discrimination
1976	Amendment to the Equal Credit Opportuinty Act	Prohibits creditors from discriminating based on race, religion, age, national origin, and receipt of public assistance
1976	Consumer Leasing Act (Amendment to TILA)	Requires certain disclosures be made to consumers when leasing property
1977	Fair Debt Collection Practices Act	Promotes fairness in debt collection, including giving consumers the right to dispute and validate their credit information
1977	Community Reinvestment Act	Requires supervisory agencies to consider depository institution's record and performance in meeting needs of low and moderate-income neighborhoods
1978	Electronic Fund Transfer Act (Regulation E)	Established rights, liabilities, and responsibilities of participants in electronic fund transfer systems and protect consumer rights
1978	Bankruptcy Reform Act	Considered to be "modern bankruptcy law"; made it easier for consumers to file for bankruptcy under chapter 7 (discharge of qualified debts) or chapter 13 (supervised "financial reorganization")
1982	Alternative Mortgage Transaction Parity Act	Pre-empted state laws that restricted banks from making any mortgages other than fixed-rate amortizing
1986	Tax Reform Act	Disallowed tax deductions on consumer and student loan interest; only tax deductable if secured by home (i.e., home equity or mortgage loans)
1991	Truth in Savings Act	Established uniform disclosure on terms and conditions with regard to interest and fees
1994	Home Ownership and Equity Protection Act (Amendment to TILA)	Requires lenders to disclose and comply with limits on home-equity loans
1996	Credit Repair Organization Act	Provides information about and protects consumers from unfair or deceptive practices of credit repair organizations
1998	Home Owners Protection Act	Restricts unnecessary payment of private mortgage insurance (PMI); ensures that PMI is no longer billed once a homeowner establishes the required amount of equity in the home
1999	Gramm-Leach-Bliley Act	Requires disclosure of privacy policy and sharing of non-public personal information, as well as permits consumers to opt out
2003	Fair and Accurate Credit Transactions Act (FACTA)	Added new sections to the Fair Credit Reporting Act; established the Financial Literacy and Education Commission to improve financial literacy among consumers; helps consumers fight identity theft
2005	Bankruptcy Abuse Prevention and Consumer Protection Act	Made it harder for consumers to qualify for Chapter 7 bankruptcy, requiring many to file Chapter 13 instead; requires credit counseling for all filers and financial management course prior to any discharges.
2006	Pension Protection Act (Amendments to ERISA)	Established new minimum funding standards for pension plans; induces employers to offer auto-enrollment, auto-contribution and default asset-allocation plans; requires employers to make minimum contributions
2008	S.A.F.E. Mortgage Licensing Act	Provides consumer protection by requiring states to establish standards and licensing requriements for mortgage loan originators
2009	Credit Card Act	Limits "unfair or deceptive" billing and payment practices as well as interest rate increases

Table 4, continued

Year	Legal Event	Implications for Consumer Finance
Structural Regulation and Changes to Sectoral Boundaries		
1975	Amendment to Securities Act of 1934	Prohibits fixed-commission rates among broker-dealers
1978	Marquette decision	Authorized the export of interest rates and facilitated the development of a national market for consumer credit
1980	Monetary Control Act	Eliminated Regulation Q ceilings on interest rates banks and thrifts could pay on deposits
1982	Garn-St Germain Depository Institutions Act	Deregulated savings and loan industry; intention was "to revitalize the housing industry by strengthening the financial stability of home mortgage lending institutions and ensuring the availability of home mortgage loans."
1994	Riegle-Neal Interstate Banking and Branching Efficiency Act	Allowed interstate banking, permitting banks to establish branches nationwide without separate subsidiaries
1999	Gramm-Leach-Bliley Act	Repealed Glass-Steagall Act (1933) prohibitions against the consolidation of commercial banks, investment banks, securities firms and insurance
GSEs and Mortgages		
1968	Amendments to the National Housing Act of 1934	Divided existing agency into two, making Fannie Mae privately-owned and creating Ginnie Mae to guarantee repayment of mortgage-backed securities
1970	Amendments to the National Housing Act of 1934	Created Freddie Mac to expand the secondary market for mortgages
1984	Secondary Mortgage Market Enhancement Act	Broadened the market for mortgage-backed securities by reducing barriers that prevented private companies from investing in them
2008	Federal Housing Finance Regulatory Reform Act	Intended to bring stability and liquidity to the mortgage market, it included authorizing placement of Fannie Mae and Freddie Mac into conservatorship under the Federal Housing Finance Agency and raising loan limits.
Protecting the Financial System		
1970	Bank Secrecy Act	Requires financial institutions to work with government agencies in an effort to detect and prevent money launderings
2001	Know Your Customer rules (Section 326 of the 2001 Patriot Act)	Requires banks and depositories to verify customer identity to ensure they are not on prohibited lists (due to fraud, money laundering, terrorism, etc.)
2001	International Money-Laundering Abatement and Financial Anti- Terrorism Act (Title III of the 2001 Patriot Act)	Strengthens bank rules against money laundering and works to detect, prevent and prosecute those laundering money for terrorist activity

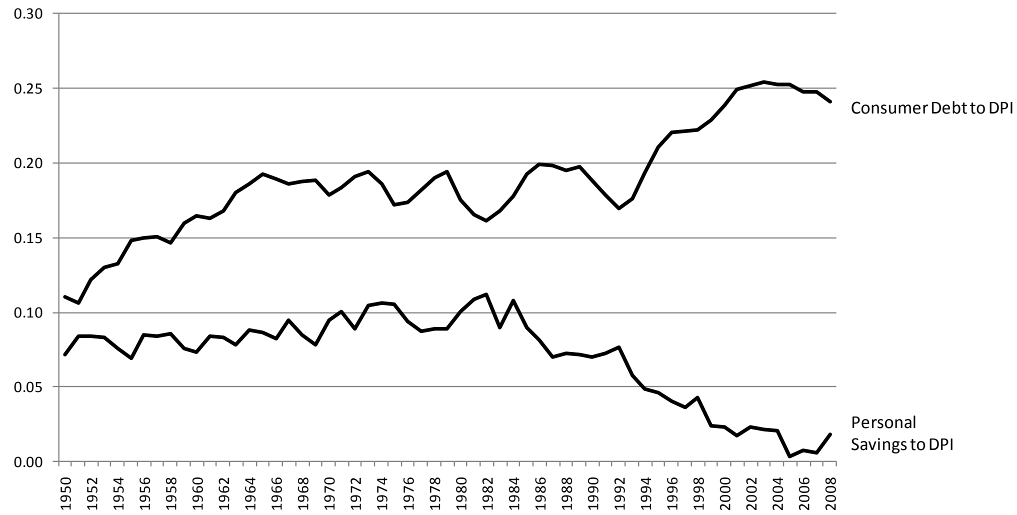


Source: Bureau of Economic Analysis and Federal Reserve Flow of Funds Real per capita figures for 1950 and 2008 respectively were as follows: Disposable personal income ($12,374, $34,946), net worth ($61,169; $169,791), personal consumption ($11,320; $33,028). Uses Consumer Price Index from Bureau of Labor Statistics for all urban consumers, non-seasaonally adjusted.



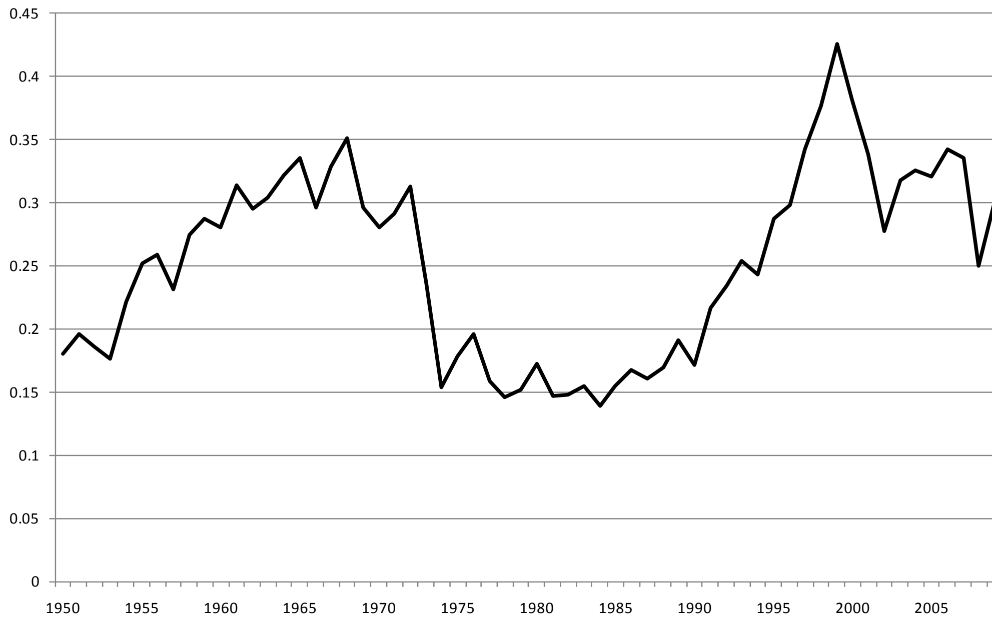
Source: Bureau of Economic Analysis and Federal Reserve Flow of Funds

Figure 3: Ratio of Total Debt and Personal Savings to Disposable Personal Income (DPI), 1950-2008

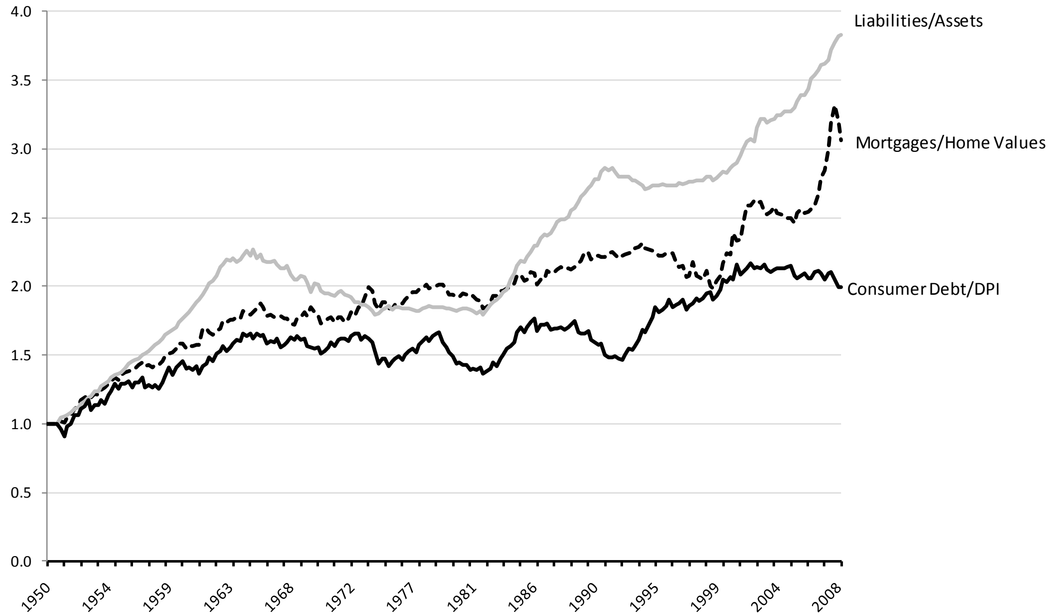


Source: Bureau of Economic Analysis, Table 2.1; consumer debt includes revolving and non-revolving non-mortgage debt.

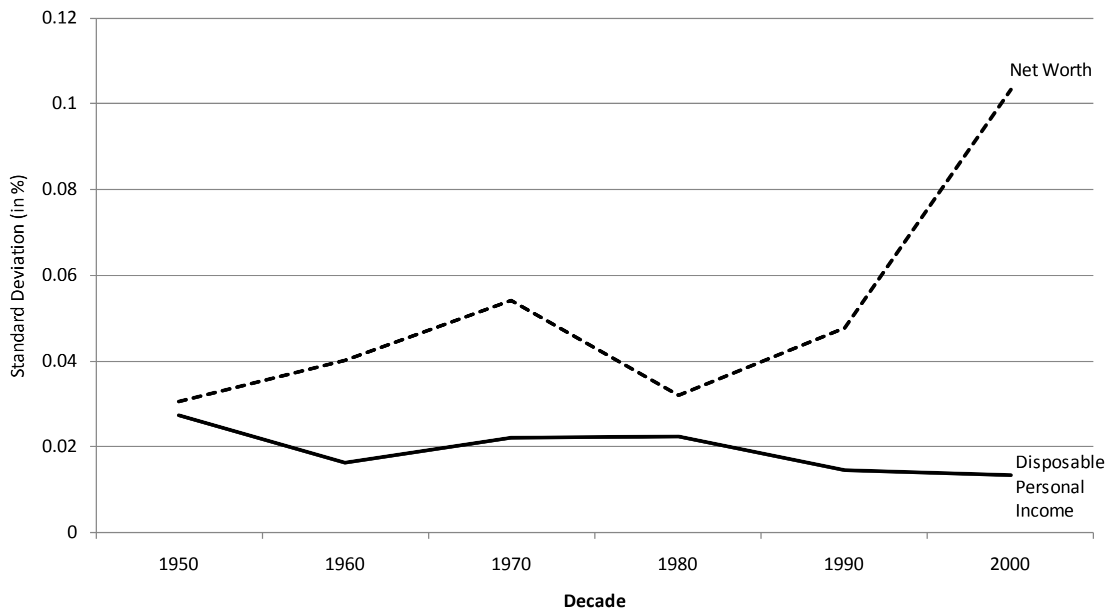
Figure 4: Fraction of Household/Nonprofit Financial Assets with Direct or Indirect Equity Exposure, 1950-2009



Source: Federal Reserv eBoard Flow of Funds data, Table B. 100. e. Represents equity share excluding defined benefit plans as a fraction of financial assets.



Sources: Debt data are from the Federal Reserve 's Flow of Funds for households and non-profits. "Liabilities/Assets" is the ratio of total liabilities to total assets. "Mortgages/Home Values" is the ratio of mortgage liability to household real estate values. "Consumer Debt/DPI" is the ratio of consumer revolving and non-revolving debt to disposable personal income (DPI). Ratios as of 2009 Q3 were as follows: Liabilities/assets (.208), mortgages/home value (.779), consumer debt /DPI (.227).



Sources: Federal Reserve Flow of Funds, B.100 report, Bureau of Economic Analysis population statistics, Bureau of Labor Statistics CPI multiplier (1982-84=100),