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A Brief Postwar History of U.S. Consumer Finance

In this brief history of U.S. consumer finance since World War II, the sector is defined based on the functions delivered by firms in the form of payments, savings and investing, borrowing, managing risk, and providing advice. Evidence of major trends in consumption, savings, and borrowing is drawn from time-series studies. An examination of consumer decisions, changes in regulation, and business practices identifies four major themes that characterized the consumer-finance sector: innovation that increased the choices available to consumers; enhanced access in the form of consumers' broadening participation in financial activities; do-it-yourself consumer finance, which both allowed and forced consumers to take greater responsibility for their own financial lives; and a resultant increase in household risk taking.

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 automated-teller-machine [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 in the share of the population with access to them, gave American consumers unprecedented financial flexibility.

Milton Friedman's 1980 public television series and subsequent book, "Free to Choose," matched 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, rather than less. This manifested itself in a "do-it-yourself" style of consumer finance, by which consumers were not only allowed to make financial choices, but were 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 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 were mostly required—to make their own retirement decisions as part of tax-exempt, personal retirement funds. Rather than sit on previously illiquid assets, like pensions and houses, individuals could monetize these holdings by borrowing against retirement funds or home equity.

One consequence of the availability of these options 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 or in financial advice provided by third parties.

We begin this article 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 incurred by 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

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

institutions, such as banks, mutual funds, insurance companies, and brokerage firms (including a host of new online firms); government bodies, including the postal service and the Social Security Administration; and informal personal networks of friends and family. The roles of these actors have shifted and merged over time, but their basic functions have remained the same:

1. Moving funds between consumers and other actors (payments)
2. Moving funds forward in time (saving and investing)
3. Moving funds backward in time (borrowing and credit)
4. Managing risk (insurance)
5. Providing information and advice about these decisions²

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, automated teller machines [ATMs], 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 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 percent of consumer payment activity was conducted via some sort of electronic product—up from 26 percent in 1999—representing \$4.5 trillion dollars spread across 75 billion transactions.³

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 percent of total U.S. revenues

²For 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). 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, Mass., 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, Mass., 1995).

³The respective shares of each type of electronic payment as of 2008 are as follows: credit (26 percent of volume, 18 percent of transactions), debit (17 percent, 24 percent), prepaid (2 percent, 4 percent), and other preauthorized and remote payments (12 percent, 6 percent). *The Nilson Report*, no. 939 (Dec. 2009) and no. 729 (Dec. 2000).

(three-quarters from consumer credit cards and transaction accounts).⁴ 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 have 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 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.⁵ (See Table 1 for a postwar-time line 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; roughly 50 percent of families held some form of installment debt during this time.⁶ Some older forms of credit, such as pawning 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; they ranged from student loans, to 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,

⁴ 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, D.C., 2009).

⁵ Peter Tufano, "Financial Innovation and First Mover Advantage," *Journal of Financial Economics* 25 (1989): 213–40.

⁶ In 1960, 48 percent of families had installment debt as compared to 50 percent in 1989 and 47 percent in 2007. Federal Reserve Board, *Survey of Consumer Finances* (Washington, D.C., 1960, 1989, 2007).

Table 1
Selected Examples of Consumer Finance Innovations

1949–1969	Diners Club travel and entertainment card; magnetic-ink character recognition (MICR) technology for check reading; variable annuity life insurance (TIAA-CREF); American Express and Carte Blanche travel and entertainment cards; BankAmericard credit card; federally guaranteed student loans; BankAmericard licensing agreement with other banks (later becomes Visa); Interbank Card Association (later becomes MasterCard)
1970s	Credit scoring (FICO); automated clearing house (ACH) debits; automated teller machine (ATM); securitized mortgages through structured finance mortgage pools; point of sale systems for electronic payment processing (IBM); money-market mutual funds (MMMF); negotiable orders of withdrawal (NOW) accounts; first MMMF to offer check writing; indexed mutual funds (Vanguard); universal life insurance; home equity line of credit
1980s	Debit cards; collateralized mortgage obligations; option adjustable-rate mortgage; auto-title loans; fund supermarkets (Schwab); securitized auto loans and credit cards; U.S. Treasury STRIPS; index-linked CDs; modern refund anticipation loans at tax sites
1990s	Payday lending; subprime mortgage lending (comprised 0.74% of mortgage market in early 1990s); electronic bill payment; on-line securities trading; exchange-traded funds; stored-value (i.e., prepaid) cards offered by retailers; checking overdraft protection; Internet-only bank (Security First Network Bank); online payments (Paypal); account aggregation services to financial institutions (Yodlee.com, CashEdge.com)
2000s	Payroll cards; online money-management sites (mint.com, thrive.com); peer lending (prosper.com)

including the government (e.g., student loans and government-sponsored mortgages), private companies (e.g., retailers, consumer-finance companies, banks, nonbank alternative finance organizations), non-profit groups (e.g., credit unions), and a variety of hybrid financial organizations, such as person-to-person lending services and savings circles. The *risk-management* function in household finance is covered by traditional private insurance (e.g., life, property and casualty, disability, health), plus government-sponsored social protection programs (e.g., Social Security, unemployment insurance, workers' compensation, Medicaid, food stamps), precautionary savings, lines of credit, and social networks.⁷ Two trends characterized postwar risk management. First,

⁷See 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 Twenty-first Century* (Princeton, 2003).

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).⁸ Medicare (1965) introduced publicly financed health coverage for the elderly. The Employee Retirement Income Security Act (1974) guaranteed employer defined-benefit retirement plans.⁹ 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, formal media, bankers, salesmen, and security brokers continued to provide information and advice, the latter part of the postwar period experienced an increase in new models of providing advice, including computerized models (such as Financial Engines[®]), chat boards, account aggregators (such as Mint.com), and product comparison sites.¹⁰

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—have evolved. We identify four major trends from the past sixty-five 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

In general terms, the move to more products and greater access began during the 1960s and 1970s, while the shift to do-it-yourself financial management and the accompanying growth in household risk exposure intensified, beginning with financial deregulation in the 1980s. And while these trends also appeared in the other advanced economies in Europe and in Japan, the effects were delayed and less pronounced. In general, countries with stronger state participation in welfare and

⁸ Later amendments expanded disability coverage further. See a chronology of the Social Security Administration at <http://www.ssa.gov/history/chrono.html> (accessed Aug. 2010).

⁹ David Moss, *When All Else Fails: Government as the Ultimate Risk Manager* (Cambridge, Mass., 2002), 215.

¹⁰ Brooke Harrington, *Pop Finance: Investment Clubs and the New Investor Populism* (Princeton, 2008); Sanjiv Das, Asis Martinez-Jerez, and Peter Tufano, "E-Information," *Financial Management* 34 (Autumn 2005).

pension programs relied less heavily on households to manage long-term financial decisions. Until financial liberalization in the mid-1980s, for example, households in most of these countries relied dramatically less on credit. In 1960, credit financed 12 percent of U.S. consumption, but only 6 percent in the United Kingdom, 2.5 percent in Germany, and 1.2 percent in France.¹¹ Similarly, for countries that relied heavily on banks to finance industry, levels of equity investment were also relatively low. Given these delays, innovations that originated in the United States found their way, eventually, into most of the advanced industrialized economies.

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 2010, American per capita real disposable income grew from \$12,521 to \$36,680 (in 2010 dollars), for a compound annual growth rate of 1.78 percent. Growth in personal consumption followed the increase in income and wealth. (See Figure 1.) Per capita household expenditures increased from \$11,465 in 1950 to \$33,039 in 2010 (both in 2010 dollars), growing 1.81 percent per year.¹² While consumption rose in absolute terms, it remained remarkably stable when considered as a share of disposable income. Americans consumed more, but they did so largely because they earned more.

The increase in American household consumption has been discussed at length by historians, political scientists, sociologists, and economists.¹³ Efforts to make sense of American acquisitiveness, the

¹¹ Jean Chicoye, "Les achats à credit," *Revue de l'action populaire* 140 (July–Aug. 1960): 786–98.

¹² Bureau of Economic Analysis, *Personal Consumption Expenditures* (Washington, D.C., 1990).

¹³ 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," *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, N.Y., 1999); Harrington, *Pop Finance*; Daniel Horowitz, *The Anxieties of Affluence: Critiques of American Consumer Culture, 1939–1979* (Amherst, Mass., 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*:

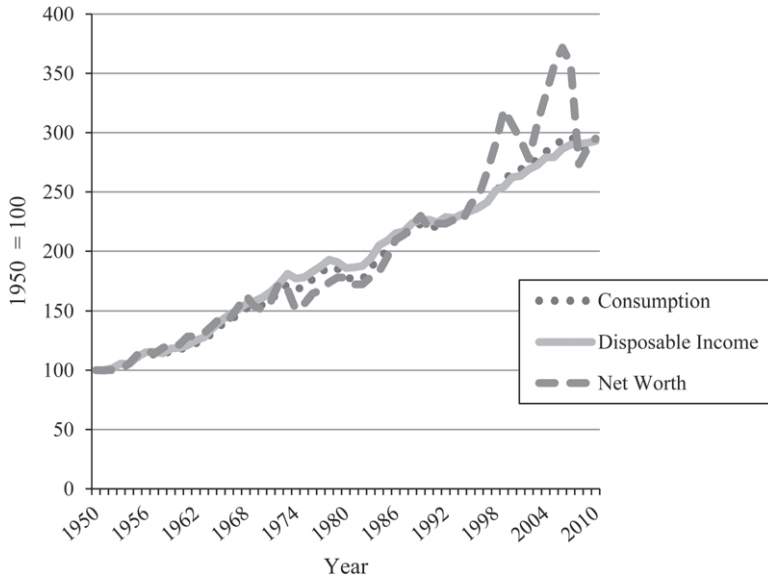


Figure 1. Real per capita household net worth, income, and consumption, 1950–2010. (Source: Bureau of Economic Analysis and Federal Reserve Flow of Funds. Real per capita figures [in 2010 dollars] for 1950 and 2010, respectively, were as follows: disposable personal income [\$12,521; \$36,680], net worth [\$62,421; \$184,177], personal consumption [\$11,465; \$33,039]. Uses Consumer Price Index from Bureau of Labor Statistics for all urban consumers, nonseasonally adjusted.)

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.¹⁴

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. Furthermore, after the war, and coming off of savings rates as high as 26 percent, people were ready to begin

A Reader, ed. Lawrence B. Glickman (Ithaca, N.Y., 1999); Eleanor Bernert Sheldon, “Family Economic Behavior: Problems and Prospects (Philadelphia, 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).

¹⁴ Lawrence B. Glickman, ed., *Consumer Society in American History: A Reader* (Ithaca, N.Y., 1999).

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.¹⁵ To buy these goods, many households relied on credit. By 1949, 49 percent of new cars, 54 percent of used cars, 54 percent of refrigerators, and 46 percent of televisions were being sold on credit.¹⁶

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 were not only desirable but also necessary for achieving the American dream.¹⁷ 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.¹⁸ This perspective emphasizes how consumer credit made it easier to afford things that had before been out of reach, allowing different social groups to express their identities through material goods, and perhaps secure higher social status.¹⁹ While acknowledging that consumerism generated increased access to goods and services, this class of theorists has more commonly lamented the increasingly central role that material objects play in consumers’ lives—labeling this trend the “commodification of daily life.”²⁰

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

¹⁵ Cohen, *A Consumer’s Republic*, 195.

¹⁶ Federal Reserve Board, *Survey of Consumer Finances* (Washington, D.C., 1950).

¹⁷ 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 Americans Consume Too Much?” in *The Consumer Society Reader*, ed. Juliet B. Schor and Douglas B. Holt (New York, 2000); Susan Strasser, *Satisfaction Guaranteed: The Making of the American Mass Market* (New York, 1989).

¹⁸ Susan Bordo, “Hunger as Ideology,” in *The Consumer Society Reader*, ed. Juliet B. Schor and Douglas B. Holt (New York, 2000); John Kenneth Galbraith, “The Dependence Effect,” in *The Consumer Society Reader*, ed. Schor and Holt; Lloyd Klein, *It’s in the Cards: Consumer Credit and the American Experience* (Westport, Conn., 1999).

¹⁹ Klein, *It’s in the Cards*; Jan Logemann, “Different Paths to Mass Consumption: Consumer Credit in the United States and West Germany during the 1950s and 1960s,” *Journal of Social History* 41 (2008): 525–59; Schor, *The Overspent American*; James B. Twitchell, *Lead Us into Temptation: The Triumph of American Materialism* (New York, 1999). Much of the work is also related to Pierre Bourdieu, *Distinction: A Social Critique of the Judgment of Taste* (Cambridge, Mass., 1984); and Thorstein Veblen, *The Theory of the Leisure Class* (New York, 1973, 1st ed. 1899).

²⁰ Schor and Holt, “Introduction: Do Americans Consume Too Much?”

we are individually as well as culturally.²¹ 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.”²² American consumer behavior facilitated social bonding. 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 represented an attempt to foster an alternative community. Often constructed to look like an idealized Main Street, malls offered meeting places and “community events,” similar to gatherings that would occur in a town center. This new way of consuming helped to reinforce the notion that individual consumption was inherently a community affair.²³

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.²⁴

However consumerism is interpreted, it is clear that more and different types of people have been consuming more goods and services over the past fifty years, and that this trend drove growth and innovation in consumer financial services. The increase in car and home ownership (respectively, from 51 percent and 51 percent in 1949 to 87 percent and 69 percent in 2007) both depended on, and supported demand

²¹ Monti, *The American City*; Calder, *Financing the American Dream*; Gary S. Cross, *An All-Consuming Century: Why Commercialism Won in Modern America* (New York, 2000); John Levi Martin, “The Myth of the Consumption-Oriented Economy and the Rise of the Desiring Subject,” *Theory and Society* 28, no. 3 (1999): 425–53; Grant McCracken, *Culture and Consumption: New Approaches to the Symbolic Character of Consumer Goods and Activities* (Bloomington, Ind., 1988); Frank Trentmann, “Beyond Consumerism: New Historical Perspectives on Consumption,” *Journal of Contemporary History* 39, no. 3 (2004): 373–401. See also Vivana Zelizer, “Culture and Consumption,” in *The Handbook of Economic Sociology*, ed. Neil J. Smelser and Richard Swedberg (Princeton, 2005), 331–54.

²² Gary S. Cross, “Consumer History and the Dilemmas of Working-Class History,” *Labour History Review* 62, no. 3 (1997): 261–74.

²³ Cohen, “From Town Center to Shopping Center.” See also Monti, *The American City*.

²⁴ Cohen, *A Consumer’s Republic*; Ted Ownby, *American Dreams in Mississippi: Consumers, Poverty, and Culture, 1830–1998* (Chapel Hill, N.C., 1999); Robert E. Weems Jr., “The Revolution Will Be Marketed: American Corporations and Black Consumers during the 1960s,” in *Consumer Society in American History: A Reader*, ed. Lawrence B. Glickman (Ithaca, N.Y., 1999).

for, consumer financial products, such as auto and home insurance.²⁵ Liberated by the new mobility afforded by automobiles, consumers increasingly traveled outside their own towns and states, creating demand for secure payment systems that bridged the highly fragmented national banking system. Early hotel, gas, and travel and leisure cards all emerged to fill this payments gap. Higher demand for consumer goods also fostered an emphasis on, and need for, consumer credit products as households proved more 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. In tandem with regular and rising salaries, the amount of household savings increased steadily from the end of the war through the mid-1980s, creating opportunities for new classes of investment products that could be sold to households.²⁶ As the workforce expanded, widening access to financial products helped to forge what Cohen has called the “mass middle-class.”²⁷ Concurrent gains in income, wealth, and consumption supported innovation and expansion in the consumer finance sector.

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.²⁸ The postwar period witnessed new products, new infrastructure, new strategies, and new technologies for providing existing products, as well as new opportunities to gain access to mass-market financial services.²⁹

²⁵ On car ownership in 1949, see Federal Reserve Board, *Survey of Consumer Finances* (Washington, D.C., 1950); for home ownership in 1949, see Federal Reserve Board, *Survey of Consumer Finances* (Washington, D.C., 1960); and Federal Reserve Board, *Survey of Consumer Finances* (Washington, D.C., 2007).

²⁶ Bureau of Economic Analysis, Flow-of-Funds data. The savings rate, however, remained fairly steady during this time, averaging 8.90 percent between 1950 and 1986, after which it began to decline steadily.

²⁷ Cohen, *A Consumer's Republic*; Harrington, *Pop Finance*.

²⁸ Merton Miller, *Financial Innovations and Market Volatility* (London, 1991).

²⁹ The old adage “There’s nothing new under the sun” has a strong element of truth. Merton writes about an innovation spiral, in which one innovation creates the platform on which others build so that little is truly original. Tufano 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); and Benjamin Graham and David Dodd, *Security Analysis*, 6th ed. (New York 2009, 1st ed. 1934). Ferguson, in *The Ascent of Money*, 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.

(See Table 1.) Consumers from the 1950s would likely be surprised by the ways in which consumers fifty years later paid for goods and services (e.g., cards and electronic payments), by how and where they invested (e.g., mutual funds, at work), and by how they borrowed (e.g., revolving credit cards and innovative mortgages). Most innovations in consumer-finance products and services relied on underlying process innovations, coupled with new channels through 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 protocols for processing financial transactions.³⁰ 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.³¹ Rather than waiting in line to deposit checks, consumers could use ATMs or authorize the direct deposit of their payroll checks.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 writing and mailing checks, households could use electronic bill-payment services.³⁴ 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 ninety-eight mutual funds available in the 1950s, the options for American consumers in 2007 had expanded to the point where they could select among 8,029 U.S.-domiciled mutual funds offering every possible investment class and strategy.³⁵ During the same period, the number of stocks listed on the New York Stock

³⁰The 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. See the Federal Reserve Web site: <http://www.newyorkfed.org/aboutthefed/fedpoint/fed31.html>.

³¹W. Scott Frame and Lawrence J. White, "Technological Change, Financial Innovation, and Diffusion in Banking," Federal Reserve Bank of Atlanta working paper 2009-10 (2009).

³²Electronic Payments Network, "The Electronic Payments Network and the ACH: A History" (New York, n.d.), on-line at <http://www.epaynetwork.com/cms/documents/001743.pdf>; Daniel D. Garcia-Swartz, Robert Hain, and Anne Layne-Farrar, "The Move toward a Cashless Society: A Closer Look at Payment Instrument Economics," *Review of Network Economics* 5, no. 2 (2006).

³³Ibid.

³⁴"The Electronic Payments Network and the ACH."

³⁵Investment Company Institute, 2009.

Exchange grew from 1,057 to 2,805.³⁶ 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 have had difficulty accessing in the 1950s. Mutual-fund companies changed their distribution practices as well. Whereas in 1970 only 11 percent of long-term fund sales were direct-marketed, “no load” funds, these funds composed the majority of all funds sold by 2000.³⁷

Patterns of simple savings also were influenced by innovation. In 1950, American households held 17 percent of their financial assets in deposit products—primarily bank savings accounts and time-deposit accounts, like CDs. Virtually all these savings were held in banks. In 2008, the share of household assets held in deposit products was similar (15 percent), 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 1971.³⁸

Innovations also changed the delivery of credit. Aspiring homeowners in the 1950s had access primarily to thirty-year, fixed-rate amortizing mortgages.³⁹ Starting in the 1980s, they could 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).⁴⁰ In 2003, ARMs comprised 18 percent of all mortgages, growing to 25 percent by 2005.⁴¹ Homeowners who presented more risk to lenders had more options as well, in the form of “subprime” loans.⁴² While the subprime

³⁶ Data from <http://www.nyxd.com/factbook>, visited 4 May 2010.

³⁷ Matthew Fink, *The Rise of Mutual Funds: An Insider's View* (New York, 2008).

³⁸ Federal Reserve Board, “Flow of Funds Accounts of the United States,” series Z.1 (10 Mar. 2011). These figures include all assets of households and nonprofits.

³⁹ 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 five-to-ten 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. Richard K. Green and Susan M. Wachter, “The American Mortgage in Historical and International Context,” *Journal of Economic Perspectives* 19, no. 4 (2005): 93–114; Morris D. Crawford, “Types and Sources of Home-Mortgage Financing,” *Analysts Journal* (June 1955).

⁴⁰ 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, “The American Mortgage.” See also William H. Lacy, “Innovation Is a Key to Banks' Meeting Home-Financing Needs,” *ABA Banking Journal* (May 1982): 118–21.

⁴¹ “Characteristics of Outstanding Residential Mortgage Debt: 2006,” Mortgage Bankers Association (MBA) Research DataNotes, Jan. 2007, available at: http://www.mortgagebankers.org/files/Bulletin/InternalResource/47210_DataNoteCharacteristicsofOutstandingResidentialMortgageDebtfor2006.pdf.

⁴² See Souphala Chomsisengphet and Anthony Pennington-Cross, “The Evolution of the Subprime Mortgage Market,” *Federal Reserve Bank of St. Louis Review* (Jan./Feb. 2006). Available at: <http://research.stlouisfed.org/publications/review/06/01/ChomPennCross.pdf>.

lending market started in the 1990s, it didn't begin to take shape until shortly after 2000, when it accounted for 6 percent of all residential mortgage originations. By 2006, subprime originations comprised 25 percent of all mortgage-loan originations that year and 14 percent of the overall mortgage market.⁴³

In consumer credit, the principal product innovations appeared before World War II. Early charge cards, including the Farrington Charga-Plate, were created in the 1920s.⁴⁴ The basic retail revolving-credit account was invented in 1938.⁴⁵ What was striking in the postwar era was how quickly these innovations spread. By 1959, 88 percent of all department stores offered revolving accounts.⁴⁶ 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 million to 13 million of these were in active use.⁴⁷ Two major bank-card networks emerged: BankAmericard (later VISA) in 1965 and Interbank (later MasterCard) in 1967. By 1969, these two networks counted 44 million cardholders as customers.⁴⁸ Combining 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.⁴⁹ Over time, credit-card transactions came to rival the traditional check-based payment system. Electronic transactions (credit cards, debit cards, electronic funds transfers) surpassed check transactions in number in 2003.⁵⁰

⁴³ Federal Reserve Bank of San Francisco, "The Subprime Mortgage Market: National and Twelfth District Developments," *Annual Report*, 2007. Available at: <http://www.frbsf.org/publications/federalreserve/annual/2007/subprime.pdf>. See also Chomsisengphet and Pennington-Cross, "The Evolution of the Subprime Mortgage Market," which reports slightly different numbers, stating that the subprime market share of all originations went from 10.2 percent in 1995 to a peak of 14.5 percent in 1997 and then down to 8.4 percent in 2001.

⁴⁴ Michel Schlosser and Gérard Tardy, *Les cartes de crédit* (Paris, 1971).

⁴⁵ Recollections by Wallis B. Hocker, Retired Credit Manager, 1989, responses to clarifying questions, 6–7, JC Penney Corporate Records, Southern Methodist University, Dallas, Tex.

⁴⁶ Lelia Easson, "New Developments in Consumer Credit," *Journal of Home Economics* (Dec. 1959): 847.

⁴⁷ E. J. Kersting, *Credit Cards: Thirty Days to Reality* (Aug. 1967), box 35, folder 4, Robert L. D. Morse Papers, Kansas State University, Manhattan, Kans. [hereafter Morse papers].

⁴⁸ David S. Evans and Richard Schmalensee, *Paying with Plastic: The Digital Revolution in Buying and Borrowing* (Cambridge, Mass., 1999).

⁴⁹ Schlosser and Tardy, *Les cartes de crédit*, 13.

⁵⁰ Geoffrey R. Gerdes and Jack K. Walton II, "The Use of Checks and Other Noncash Payment Instruments in the United States," *Federal Reserve Bulletin* (Aug. 2002); Federal Reserve Board, *The 2004 Federal Reserve Payments Study, Analysis of Noncash Payments Trends in the United States: 2000–2003* (Washington, D.C., 2004). The number of check payments is estimated to have peaked in 1995 at 49.5 billion. See Stephen Quinn and William Roberds, "The Evolution of the Check as a Means of Payment: A Historical Survey," *Economic Review* 4 (2008): 23. Data provided by the *Nilson Report* no. 939 (Dec. 2009) show that

The new consumer-credit providers relied on ancillary service providers to ensure repayment. While the United States entered the postwar period with several nationwide credit-rating companies that provided assessments of businesses (e.g., Dun & Bradstreet, Standard & Poor's, and Moody's), consumer credit rating had been highly decentralized.⁵¹ 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 nonprofit cooperatives.⁵² In many communities, the local "Welcome Wagon" collected credit information on new arrivals to the town.⁵³ Over the 1960s, these local bureaus began to consolidate into national networks. The movement culminated in 1970, the year in which Fair, Isaac and Company (FICO) launched a universal credit-scoring system, and Retail Credit Company (Equifax) computerized the entire forty-five million records in its credit-ratings database.⁵⁴ 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 and approving 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.⁵⁵ 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

check volume dropped below 50 percent of the total payment volume (including cash) as of 1999. Between 2000 and 2003, the fraction of check-based transactions dropped from 58 percent to 45 percent, and the volume of these payments dropped from 66 percent to 55 percent of total volume.

⁵¹ Richard Cantor and Frank Packer, "The Credit Rating Industry," *Federal Reserve Bank of New York Quarterly Review* (Summer–Fall 1994); Ralph 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, Mass., 2003); and Bertram Wyatt-Brown, "God and Dun & Bradstreet," *Business History Review* 40, no. 4 (1966).

⁵² André Malterre, "Problème du credit à la consommation," *Journal Officiel* 20 (11 Aug. 1961): 764.

⁵³ Louis Hyman, "Debtor Nation," *Enterprise & Society* 9, no. 4 (2008).

⁵⁴ Donncha Marron, "'Lending by Numbers': Credit Scoring and the Constitution of Risk within American Consumer Credit," *Economy and Society* 36, no. 1 (2007): 103–33.

⁵⁵ Mark Furletti, "An Overview and History of Credit Reporting," Federal Reserve Bank of Philadelphia discussion paper, 2002.

the industry dynamics that supported this innovation, it is useful to characterize the evolution of consumer financial service firms in the postwar period.

Changing Boundaries of the Firm. The postwar period saw two countervailing trends in the scope of consumer-finance businesses. The first was toward a broadening, both in terms of services offered and in geographic scope. The second 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, along with state-by-state deregulation that led to the passage of the Riegle–Neal Interstate Banking and Branching Efficiency Act in 1994, banks increasingly were allowed to cross state lines.⁵⁶ 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 seventy-eight banks in twelve states, as well as ten nonbank affiliates. It was one of the nation's top ten acquirers, having completed fifty acquisitions in the previous decade.⁵⁷

Not only were banks now allowed to operate across state lines, but, in 1999, the barrier between commercial banking and investment banking was also removed, leading to even greater consolidation. For example, JPMorganChase was, by 2004, an amalgam of JP Morgan Chase Manhattan Bank, Chemical Bank, Manufacturers Hanover, Bank One, First Chicago, and National Bank of Detroit.⁵⁸ Consolidation also took place in the brokerage or wire-house business, which provided stock services to customers. After fixed brokerage commissions were outlawed in 1975, the business models of many smaller boutique firms were challenged. After nearly forty years of quiet operation, the two-partner firm of Harris, Upham & Co. grew, from 1976 to 1998, into the nationwide brokerage firm Smith Barney, which was then acquired by Citigroup.⁵⁹ New

⁵⁶ Randall S. Krosner, "The Motivations Behind Banking Reform," *Regulation* (2001): 36–41.

⁵⁷ Ben Esty, Peter Tufano, and Jonathan Headley, "Bancone Corporation: Asset and Liability Management," *Journal of Applied Corporate Finance* 7 (1994): 33–51.

⁵⁸ See the history of JPMorgan Chase at the company's Web site: <http://www.jpmorgan.com/pages/jpmc/about/history>.

⁵⁹ Smith, Barney & Co. merged with Harris, Upham & Co. in 1987; was acquired by Primercia, 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 became part of Citigroup. See Citigroup Web site: <http://www.citigroup.com/citi/corporate/history/smithbarney.htm>.

behemoth financial services companies like the Citigroup–Travelers–Smith Barney, or the ultimately unsuccessful Sears–Allstate–Coldwell Banker–Dean Witter–Discover amalgam, sold themselves as the “supermarkets” of household finance.⁶⁰

Pushing against this trend toward 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 became a private shareholder–owned corporation).⁶¹ 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 2003.⁶² 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.⁶³ Mortgage brokers and specialized mortgage originators developed a new “originate-to-distribute” model, in which even the management of loans was contracted out to specialized mortgage servicers.

Other lending activities also used this networked form. Automobile loans were first securitized in 1985; credit-card loans followed in 1986.⁶⁴ By 2006, approximately 55 percent of all mortgages, 45 percent of all credit-card loans, and 16 percent of nonrevolving loans (many of which are auto-installment loans) were securitized.⁶⁵ Over time, these networks of firms and investors displaced traditional lenders. Especially in

⁶⁰ For an “obituary” of Sears–Allstate–Coldwell Banker–Dean Witter–Discover, see J. Feder Barnaby, “Sears, Returning to its Roots, is Giving up Allstate,” *New York Times*, 10 Nov. 1994.

⁶¹ For a brief summary of Fannie Mae’s history, see the Funding Universe Web site: <http://www.fundinguniverse.com/company-histories/Fannie-Mae-Company-History.html>.

⁶² Elena Loutskina and Philip E. Strahan, “Securitization and the Declining Impact of Bank Finance on Loan Supply: Evidence from Mortgage Originations,” *Journal of Finance* 64, no. 2 (2009).

⁶³ 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).

⁶⁴ U.S. Department of Treasury, Comptroller of the Currency Liquid and Funds Management, “Asset Securitization Comptroller’s Handbook” (Washington, D.C., 1997).

⁶⁵ 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 (Chicago, 2007). Revolving and nonrevolving debt data from Federal Reserve Board, “Consumer Credit,” Federal Reserve Statistical Release, Series G19 (7 Mar. 2011) at: <http://www.federalreserve.gov/releases/g19/Current/>.

the wake of the 2008 financial crisis, much attention was focused on the ways in which changes in financial intermediation, especially in mortgages, had influenced the national and global economy.⁶⁶

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. The roles of investment managers, plan servicers, and sponsors were all 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 cards, 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).⁶⁷ This networked structure enabled merchants to obtain 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.⁶⁸

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

⁶⁶ Adam B. Ashcraft and Til Schuermann, "Understanding the Securitization of Subprime Mortgage Credit," in *Staff Reports*, Federal Reserve Bank of New York (New York, 2008); Antje Berndt and Anurag Gupta, "Moral Hazard and Adverse Selection in the Originate-to-Distribute Model of Bank Credit" (2008), available at Social Science Research Network (SSRN): <http://ssrn.com.ezp-prod1.hul.harvard.edu/abstract=1290312>; 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," National Bureau of Economic Research (NBER) working paper 13936 (2008); Amiyatosh Purnanandam, "Originate-to-Distribute Model and the Subprime Mortgage Crisis," American Finance Association Atlanta Meetings Paper, 2010, available at SSRN: <http://ssrn.com.ezp-prod1.hul.harvard.edu/abstract=1167786>; Robert J. Shiller, *The Subprime Solution: How Today's Global Financial Crisis Happened and What to Do about It* (Princeton, 2008).

⁶⁷ Evans and Schmalensee, *Paying with Plastic*.

⁶⁸ Ronald J. Mann, *Charging Ahead: The Growth and Regulation of Payment Card Markets* (Cambridge, U.K., 2006), 25–27.

that companies providing consumer financial services ended up deeply involved in state and national regulatory battles.

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 percent that had effective annual rates ranging from 20 percent to 25 percent.⁶⁹

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. Through 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 percent to 12 percent per year). Since banks supplemented their interest income with user and retailer fees, they were less sensitive to low interest rates than their retail-lending competitors, and they hoped lower caps would allow them to make inroads into the large retail-credit business. Where these reform initiatives succeeded, midsized and regional retail chains abandoned their own credit cards and accepted bank-issued cards. In the late 1970s, large retail lenders responded 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, JCPenney, Wards, and Allied Department Stores.⁷⁰

Broadening Participation of Consumers in the Financial Sector

The postwar period saw an increase in Americans' access to financial products: the "democratization" of financial services.⁷¹ 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

⁶⁹ Richard L. D. Morse, statement before the Subcommittee of the Kansas Senate Committee on Financial Institutions, 18 Dec. 1969, 2, box 212, folder 12, Morse papers.

⁷⁰ Mandell, *The Credit Card Industry*.

⁷¹ 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, 25 Oct. 1956, box 17, speeches and writings file, 1918–60, Arthur J. Morris papers, Library of Congress, Washington, D.C.

Table 2
Household Asset Holdings and Values, 1989–2007

	<i>Percentage of Families</i>				<i>Value of Holdings (2007 dollars)^a</i>			
	1989	1995	2001	2007	1989	1995	2001	2007
Own primary residence	64	65	68	69	171	156	212	302
Financial Assets								
Transaction accounts ^b	86	87	91	92	23	20	28	26
Certificates of deposit	20	14	16	16	53	49	44	56
Savings bonds	24	23	17	15	7	7	9	7
Bonds	6	3	3	2	186	250	341	574
Stocks	17	15	21	18	93	126	225	221
Pooled investment funds	7	12	18	11	77	127	153	310
Retirement accounts	37	45	53	53	61	77	122	146
Cash value life insurance	36	32	28	23	18	28	42	31
Other managed assets	4	4	7	6	189	184	353	249
Other	14	11	9	9	36	37	46	50
Any financial assets	89	91	93	94	117	135	238	236
Liabilities								
Debt on primary residence	40	41	45	49	73	88	107	149
Debt on other residence	5	5	5	6	63	79	87	177
Installment loans	50	46	45	47	14	13	17	21
Credit cards	40	47	44	46	3	4	5	7
Unsecured lines of credit	3	2	2	2	19	15	21	25
Other	7	9	7	7	14	17	21	16
Any debt	72	75	75	77	58	66	85	126

Source: Survey of Consumer Finances, 1989–2007. 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. Figures were rounded to whole numbers.

^aIn thousands.

^bTransaction accounts include checking, savings, money-market deposit accounts, money market mutual funds, and call or cash accounts at brokerages. As of 2007, 90 percent of families had checking accounts, 47 percent had savings accounts, 21 percent had money-market accounts, and 2 percent 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*, Feb. 2009.)

was held by more and different types of U.S. families, especially those with lower incomes and net worth, as well as among racial and ethnic minorities. For example, families in the lowest 20 percent of income who had checking or savings accounts rose from 55.6 percent to 74.9 percent between 1989 and 2007.⁷² Tables 3 and 4 highlight changes to

⁷²The Survey of Consumer Finances 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.

Table 3
Assets of Households by Income and Race/Ethnicity

Assets	Percentage of Families with Selected Assets			
	1989	1995	2001	2007
Stocks				
Percentile of income				
Less than 20	^a	3	4	6
20–39.9	9	9	11	8
40–59.9	12	12	16	14
60–79.9	19	18	26	23
80–89.9	29	28	37	31
90–100	55	41	61	48
Race/ethnicity				
White non-Hispanic	21	18	25	21
Nonwhite or Hispanic	5	5	11	9
Pooled investment funds				
Percentile of income				
Less than 20	^a	2	4	3
20–39.9	3	5	10	5
40–59.9	6	10	16	7
60–79.9	7	16	21	15
80–89.9	15	22	29	19
90–100	23	36	49	36
Race/Ethnicity				
White non-Hispanic	9	15	21	14
Nonwhite or Hispanic	1	4	7	6
Retirement accounts				
Percentile of income				
Less than 20	4	9	14	11
20–39.9	16	28	34	36
40–59.9	38	48	53	55
60–79.9	52	63	76	73
80–89.9	69	73	84	87
90–100	80	82	89	90
Race/ethnicity				
White non-Hispanic	43	49	58	58
Nonwhite or Hispanic	18	32	38	39

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. Figures rounded to whole numbers.

^aDenotes ten or fewer observations.

Table 4
Liabilities of Households by Income and Race/Ethnicity

Liabilities	Percentage of Families with Selected Liabilities			
	1989	1995	2001	2007
Debt on Primary Residence				
Percentile of income				
Less than 20	8	10	14	15
20–39.9	23	26	27	30
40–59.9	38	38	44	51
60–79.9	56	59	62	70
80–89.9	70	70	77	81
90–100	74	73	75	76
Race/ethnicity				
White non-Hispanic	43	44	48	52
Nonwhite or Hispanic	29	30	36	40
Credit-card debt				
Percentile of income				
Less than 20	15	26	30	26
20–39.9	28	43	45	39
40–59.9	49	53	53	55
60–79.9	57	60	53	62
80–89.9	58	61	50	56
90–100	41	47	33	41
Race/ethnicity				
White non-Hispanic	42	47	43	45
Nonwhite or Hispanic	34	48	48	48

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. Figures rounded to whole numbers.

selected assets and liabilities by income and by race and ethnicity. More striking than the increased use of basic transaction accounts is the increase in asset holdings for nonwhites and Hispanics. The share of nonwhite and Hispanic families with assets held in pooled investment funds and stocks increased from 1.0 percent to 5.8 percent and 4.6 percent to 9.4 percent, respectively, between 1989 and 2007.⁷³ For retirement-account assets, ownership share increased from 18.0 percent to 39.1 percent. Yet, while more people held a wider variety of assets, there were more people with debts as well. This was most pronounced among lower-income families. Households in the lowest two-income quintiles

⁷³ Federal Reserve Board, *Survey of Consumer Finances*, various years.

were more likely to carry credit-card debt (roughly 11 percent more of them had credit-card debt) in 2007 than in 1989, while those in the top income quintile were less likely to carry credit-card debt over this time period. Consumers at nearly all income levels had more mortgage debt, although, again, there was the least change in the top quintile. Non-whites and Hispanics were more likely to have both credit-card debt (40.6 percent) and mortgage debt (40.4 percent) in 2007 than they were in 1989 (34.4 percent and 28.9 percent, respectively).⁷⁴

The extension of credit to new groups in society was driven in part by 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 the 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 organized 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.⁷⁵ 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 government-appointed Kerner Commission, which concluded that urban blacks could be deradicalized if they were given greater access to credit at a fair price.⁷⁶

The first grassroots 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—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 request that they offer lines of credit to NWRO members. Many stores assented, including Montgomery Ward and Dillards; others did not, including JCPenney and Sears, and the NWRO held a highly publicized two-year boycott of Sears to protest their decision not to

⁷⁴ Ibid.

⁷⁵ Cohen, *A Consumer's Republic*; U.S. Riot Commission (more commonly known as the Kerner Commission), *Report of the National Advisory Commission on Civil Disorders* (Washington, D.C., 1968).

⁷⁶ David Caplovitz, *The Poor Pay More: Consumer Practices of Low Income Families* (New York, 1963); Kerner Commission, *Report of the National Advisory Commission on Civil Disorders*, 7.

participate.⁷⁷ By 1972, it had become clear that repayment rates under the NWRO program were disappointing, and the program was discontinued.⁷⁸ By that time, the campaign had already 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. Mortgage lenders frequently discounted, or even ignored, a wife's income, in the belief that she would lose her salary once she had children. 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.⁷⁹ Young unmarried women were disproportionately denied educational loans because they were thought to be less serious students. Women who divorced or were widowed commonly found themselves without credit at the moment when they needed it the most.⁸⁰

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 patterns 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 grassroots projects to promote credit use. Federally sponsored low-income credit unions (LICUs), launched by the Office for Economic Opportunity starting in

⁷⁷ Patricia Ann Kornbluh, "A Right to Welfare? Poor Women, Professionals, and Poverty Programs, 1935–1975," PhD diss., Princeton University, 2000; Andrea Jule Sachs, "The Politics of Poverty: Race, Class, Motherhood, and the National Welfare Rights Organization, 1965–1975," PhD diss., University of Minnesota, 2001.

⁷⁸ Robert H. Edelstein, "Improving the Selection of Credit Risks: An Analysis of a Commercial Bank Minority Lending Program," *Journal of Finance* 30, no. 1 (1975): 39.

⁷⁹ Billie Venable Sessoms, Suzanne Nelsen, and Patricia Smith, "A Preliminary Report on Women and Credit," report prepared by the North Carolina Chapter of National Organization for Women, Durham, N.C. chapter, 15 Oct. 1973, box 211, file 41, National Organization for Women archives, Schlessinger Library, Radcliffe Institute, Harvard University, Cambridge, Mass.

⁸⁰ 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).

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 Bedford Stuyvesant (1966) in New York.⁸¹ Women's activist groups like NOW and 9to5 counseled women on how to build their credit rating. Feminist credit unions appeared across the country to offer loans that could become the basis of a credit history.⁸² By the early 1980s, the democratization of credit had become an uncontroversial assumption on the political left and right.

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 previously either had 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, entailing 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, typically set at 10 percent. By the 1980s, required minimum monthly payments were dramatically reduced, such that a consumer could literally finance a dinner at a restaurant over a period of years.⁸³ 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.⁸⁴ 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.⁸⁵ Whereas

⁸¹The Urban Coalition, *Consumer Credit and the Low Income Consumer: Preliminary Report* (Rockville, Md., 1969).

⁸²"Sistershares, Newsletter of the Massachusetts Feminist Federal Credit Union," 2, no. 1-4 (1976-1977).

⁸³This was alleged to be the card companies' intention. David Rummel, "Secret History of the Credit Card," in *Frontline* (Public Broadcasting System, 2004).

⁸⁴Calder, *Financing the American Dream*.

⁸⁵Moeb's Services, *Survey* (2009).

the amount of cash in one's wallet might once 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 percent of the total volume of loan originations.⁸⁶ These credit innovations gave consumers more flexibility and greater control over the amounts 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 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.⁸⁷

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 and uninsured money-market funds. Even for trading individual stocks, widespread access to Internet-based discount brokerages, beginning after 2000, allowed households to bypass financial advisors all together. With these choices came the possibility for new levels of risk exposure.

The insurance function also added slightly more DIY products, giving households greater control. Historically, most life-insurance products had blended pure insurance (death benefits) with largely predetermined investments carrying 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

⁸⁶ MBA, "The Residential Mortgage Market and Its Economic Context in 2007," 30 Jan. 2007. Available at: <http://www.mba.org/pdf/2007/Residential%20Mortgage%20Market%20Report%202007.pdf>.

⁸⁷ Alan Greenspan and James Kennedy, "Sources and Uses of Equity Extracted from Homes," *Oxford Review of Economic Policy* 24, no. 1 (2008): 120–44, available at SSRN: <http://ssrn.com/abstract=1154417> or doi:10.1093/oxrep/grn003 (2008).

covered clients for their entire lives and earned “cash value” in a fixed-investment program, yet allowed more flexibility in premiums and in the size of death benefits. Variable and the hybrid variable–universal insurance plans were Securities and Exchange Commission (SEC)–registered contracts that allowed participants to direct their investments to a variety of accounts and/or stocks and bonds; by 2008, 13 percent of all insurance premiums paid were to variable plans.⁸⁸ 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.⁸⁹

Some of the most important elements of DIY consumer finance were in workplace savings plans facilitated by government policy. The largest driver was the shift by employers from defined-benefit (DB) to defined-contribution (DC) pension plans. In the former arrangement, 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 they 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 percent 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 percent was held in DC plans and 39 percent in DB plans.⁹⁰ 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 government-only portfolios, to “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

⁸⁸Based on LIMRA (a worldwide association of financial and service companies) estimates of U.S. individual life, annualized new premium market share by product, and LIMRA definitions.

⁸⁹Kaiser Family Foundation and Health Research and Educational Trust, “Employer Health Benefits 2007 Annual Survey” (Menlo Park, Calif., 2007).

⁹⁰Federal Reserve Board, “Flow of Funds Accounts of the United States,” series Z.1 (10 Mar. 2011), supplementary tables L.118b and L.118c.

Table 5
Selection of Key Legal Events

Actions with Important Implications for Consumers	
1968	Truth in Lending Act Fair Housing Act
1970	Fair Credit Reporting Act Securities Investor Protection Act Amendment to the Investment Company Act
1974	Equal Credit Opportunity Act (ECOA) Fair Credit Billing Act (Amendment to TILA) Real Estate Settlement Procedures Act Employee Retirement Income Security Act
1975	Home Mortgage Disclosure Act
1976	Amendment to ECOA Consumer Leasing Act (Amendment to TILA)
1977	Fair Debt Collection Practices Act Community Reinvestment Act
1978	Electronic Fund Transfer Act (Regulation E) Bankruptcy Reform Act
1982	Alternative Mortgage Transaction Parity Act
1986	Tax Reform Act
1991	Truth in Savings Act
1994	Home Ownership and Equity Protection Act
1996	Credit Repair Organization Act
1998	Home Owners Protection Act
1999	Gramm-Leach-Bliley Act
2003	Fair and Accurate Credit Transactions Act
2005	Bankruptcy Act (BAPCPA)
2006	Pension Protection Act
2008	S.A.F.E. Mortgage Licensing Act
2009	Credit-Card Act
Structural Regulation and Changes to Sectoral Boundaries	
1975	Amendment to Securities Act of 1934
1978	Marquette decision
1980	Monetary Control Act
1982	Garn–St. Germain Depository Institutions Act
1994	Interstate Banking and Branching Efficiency Act
1999	Gramm-Leach-Bliley Act
GSEs and Mortgages	
1968	Amendments to the National Housing Act
1970	Amendments to the National Housing Act
1984	Secondary Mortgage Market Enhancement Act
2008	Federal Housing Finance Regulatory Reform Act
Protecting the Financial System	
1970	Bank Secrecy Act
2001	Patriot Act, Section 326 Patriot Act, Title III

markets was through restrictions on product 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 5 highlights some of the major regulations during the postwar period. In consumer credit, diverse state laws governing interest rates and disclosure were supplanted by federal regulations emphasizing 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. Regulations introduced over the course of the 1970s offered consumers assurances across the range of functions. 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 critical in 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.

By the late 1970s, Congress and the courts had begun, as a part of the broader trend toward deregulation, to loosen restrictions on the kinds of products that consumer finance companies could offer. Banks were an early target. The Monetary Control Act of 1980 authorized NOW (negotiable order of withdrawal) accounts, which offered a legal work-around to interest-rate caps on bank deposits set by Regulation Q. The Garn–St. Germain Depository Institutions Act of 1982, which deregulated the Savings and Loan industry, also legalized another form of savings account, the money-market deposit account (MMDA), which began to offer higher interest rates on deposits. 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.⁹¹ 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 that liberalized interest on deposits also extended a usury exemption to all FDIC-insured banks,

⁹¹U.S. Supreme Court, *Marquette Nat. Bank v. First of Omaha Svc. Corp.*, 439 U.S. 299 (1978), no. 77-1265.

wherever they were located. In order to support domestic nonbank 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 noninterest charges, disclosures, and details of credit-account management.⁹² By the mid-2000s, U.S. consumer lenders operated in a regulatory environment that paired vast product variety with fairly aggressive regulation of transparency and accountability.

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.⁹³ Our postwar history of household financial services is broadly consistent with his characterization. A combination of innovations, broader adoption of financial products, and greater access to DIY products created a context in which households assumed greater risk. There are multiple reasons for this. 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.⁹⁴

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 employers or by the government. New electronic payments technologies offered more convenient payment options, but they also incurred a variety of charges and fees (i.e., overdraft fees, late fees, and finance charges) aimed at consumers who were not diligent about managing their accounts. Similarly, increasingly low monthly minimum credit-card payment requirements offered new flexibility but cost consumers who were undisciplined or inattentive to the need for prompt repayment.⁹⁵

⁹² Mark Furletti, "The Debate Over the National Bank Act and the Preemption of State Efforts to Regulate Credit Cards," *Temple Law Review* 77 (2004).

⁹³ 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).

⁹⁴ 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 Shiller, *The New Financial Order*. Also, as our colleague Robert Merton has noted, consumers become comfortable with risks as they increase their (successful) experience with them.

⁹⁵ Rummel, "Secret History of the Credit Card."

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. During the last sixty-five years, the level and composition of savings (i.e., the difference between post-tax disposable income and personal consumption) have changed materially. Following a rationing-induced wartime savings rate of 26 percent (1943–44), household savings in the late 1940s fell briefly below 5 percent. As a general trend, however, savings rose to roughly 10 percent by the early 1970s, remained at that level until 1985, then declined to below 0 percent for four consecutive months in 2005.⁹⁶ In response to the financial crisis of 2008, savings rates rose again, to 4.3 percent as of 2009.⁹⁷

Yet, these oft-reported low savings numbers significantly understate the rate at which total U.S. household assets grew in the postwar period.⁹⁸ 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 percent drop.⁹⁹ Stock-market increases were similarly dramatic. The Standard and Poor’s 500 total returns index rose from \$40 in 1950 to \$2,395 by 2007.¹⁰⁰ As the market grew, more families began to hold stock. The share of families holding stock rose from 8 percent in 1949, to 17 percent in 1960, to 44 percent in 1970, reaching over 80 percent in 2007.¹⁰¹ Of stockholders in 2007, 65 percent held stock through their retirement accounts; only 18 percent held stocks directly.¹⁰²

The aggregate allocation of households’ financial assets changed over time as they took 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 that is composed of equity. Figure 2 shows the

⁹⁶ Bureau of Economic Analysis, “Spendthrift Nation,” *Federal Reserve Bank of San Francisco Economic Letter* 2005–30 (2005).

⁹⁷ 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 Robert D. Manning, *Credit Card Nation: The Consequences of America’s Addiction to Credit* (New York, 2000).

⁹⁸ For accounting purposes, appreciation of financial and housing assets does not constitute “savings.”

⁹⁹ Federal Reserve Board Data, Flow-of-Funds Accounts. Includes vacant land.

¹⁰⁰ Global Financial Data on-line database, “S&P 500 Total Return Index” (with GFD extension).

¹⁰¹ Federal Reserve Board, *Survey of Consumer Finances*, 1960, 1970, and 2007. There is no weighting documentation for these surveys. Data are assumed to be self-weighting.

¹⁰² Federal Reserve Board, *Survey of Consumer Finances*, 1989–2007.

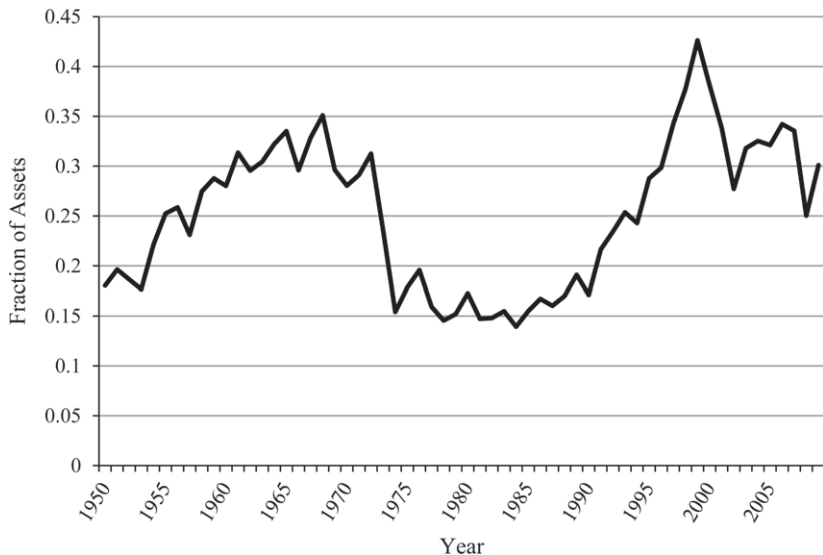


Figure 2. Fraction of household and nonprofit financial assets with direct or indirect equity exposure, 1950–2009. (Source: Federal Reserve Board Flow of Funds data, Table B. 100.e. Represents equity share excluding defined-benefit plans as a fraction of financial assets.)

fraction of financial assets that are directly or indirectly exposed to equities (excluding defined-benefit plans). This fraction has varied dramatically over the last sixty-five years, rising above 30 percent during the go-go years of the 1960s, and rising again in the late 1990s. In the latter part of the 1990s, households assumed greater equity price exposure, until at least the bursting of the dot.com bubble and subsequently of the housing bubble.

In order to assess risk, we must consider not only household assets but also household leverage. In general, 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 options of default and bankruptcy. By any measure, households took on greater leverage over the course of the postwar period. Measured as a percentage of personal income, household debt (mortgage and non-mortgage) grew sixfold from 1946 to 2008. This growth was distributed unevenly over time, demonstrating 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 percent in 1946 to 60 percent 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 percent to 125 percent.¹⁰³

The type of debt households carried also changed over time. The share of household financial liabilities represented by mortgages increased from 59 percent in 1950 to 73 percent in 2008; the share represented by consumer debt fell from 31 percent to 18 percent.¹⁰⁴ The rise in the share of mortgage debt likely reflected greater access to mortgages, facilitated through home-equity products, and increasing debt per home. Relative to other nonmortgage debt, credit-card lending also showed disproportionate growth. Between 1968, when BankAmericard was formed, and 2008, credit-card debt grew at an annual rate of 9.1 percent, compared with a 6.4 percent annual growth rate for all nonmortgage consumer credit.¹⁰⁵ The share of nonmortgage debt composed of revolving (mainly credit-card) debt grew from just 3.8 percent in 1970 to 37.5 percent in 2008.¹⁰⁶

Figure 3 shows three indicators of consumer leverage: the ratio of total household liabilities to total assets; total home-mortgage debt as a share of home values; and consumer credit measured as a percentage of disposable personal income. Although these ratios show variation over time—as periods of strong growth are 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. By 2010, American households had roughly three times more leverage than in 1950.¹⁰⁷

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 payments on all forms of debt gave rise to tax deductions. Under the Tax Reform Act of 1986, most of these deductions were removed, leaving only mortgage interest deductions on federal income taxes. These policies, combined with low interest rates, contributed to a rise in homeownership levels from 51 percent in 1949 to 69 percent in 2007.¹⁰⁸ Other forms of household borrowing also were encouraged. Loans for higher education were promoted through government-sponsored insurance,

¹⁰³ Bureau of Economic Analysis.

¹⁰⁴ Federal Reserve Board, "Flow of Funds."

¹⁰⁵ Credit-card debt from "revolving" credit figures was taken from Bureau of Economic Analysis, Flow-of-Funds data.

¹⁰⁶ Federal Reserve Board, "Consumer Credit Data," series G.19 (7 Mar. 2011).

¹⁰⁷ Ratio of liabilities to assets in 1950 (Q4) was .068 and in 2009 (Q3) it was .208. Federal Reserve Board, "Flow of Funds."

¹⁰⁸ Federal Reserve Board, *Survey of Consumer Finances*, 1960 and 2007.

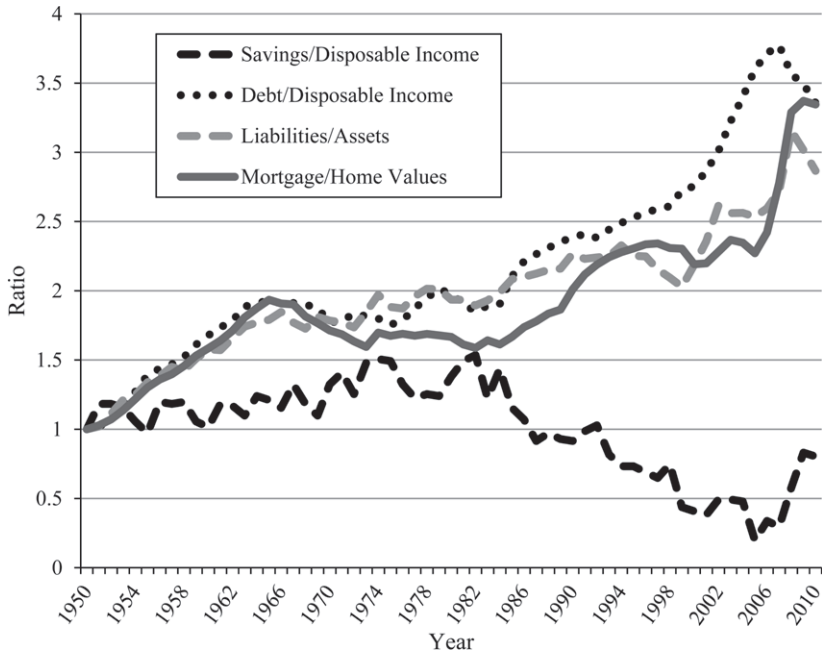


Figure 3. Consumer debt and savings rates, 1950–2010 (1950 = 1). (Sources: Debt data are from the Federal Reserve’s Flow of Funds for households and nonprofits. Disposable income data are from the Bureau of Economic Analysis. Savings/Disposable Income is the ratio of household savings to disposable personal income [DPI]. Debt/disposable income is the ratio of total mortgage and nonmortgage debt to DPI. Liabilities/assets is the ratio of total liabilities to total assets. Mortgage/Home Values is the ratio of mortgage liability to home values at current prices. Ratios as of 2010 were as follows: Savings/Disposable Income [.057], Debt/Disposable Income [1.23], Liabilities/Assets [.196], Mortgages/Home Values [0.54].)

and these left students with high balances to repay upon graduation. In 1996, 58 percent 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 \$23,000.¹⁰⁹

To supply a rough sense of the rise in the riskiness of U.S. households’ finances over time, Figure 4 reveals the standard deviation of annual changes in per capita Consumer Price Index–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;

¹⁰⁹ Matthew Reed and Diane Cheng, *Student Debt and the Class of 2008* (Berkeley, 2009).

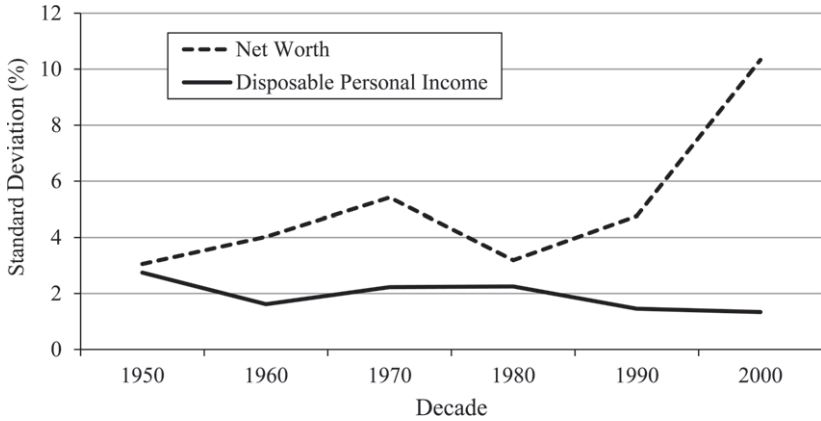


Figure 4. Standard deviation of annual percentage changes in U.S. household sector per capita CPI-adjusted net worth and disposable personal income by decade, 1950–2009. (Sources: Federal Reserve Flow of Funds, B.100 report, Bureau of Economic Analysis population statistics, Bureau of Labor Statistics CPI multiplier [1982–84 = 100].)

the inflation-adjusted results may vary by type of deflator; and the “household” sector includes a small fraction of nonprofit activities. Nevertheless, the story of the household sector is not about increasing aggregate variability in personal income. To the contrary, this variation eased off, albeit modestly, over the period. The real change is the substantial increase in variability in per capita 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.

Implications

Attention to subprime mortgages in the wake of the 2008 financial crisis and the subsequent debate over the founding of the Bureau of Consumer Financial Protection raised awareness of the consumer-finance space. However, the events of the 1990s and early 2000s that led up to the crisis are only part of a longer and richer story. An expanded account of postwar American consumer finance places mortgage lending in the context of a fuller set of consumer financial decisions, revealing 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 witnessed a rise in do-it-yourself consumer finance, leading to the assumption of increasing levels of risk by households in aggregate over the postwar 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 the point 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 to expand wealth), or keeping their risk exposure low (by, for example, keeping their debt loads down).¹¹⁰ Most Americans fail to understand basic financial concepts, including how to calculate simple interest, how to account for inflation, and how to understand loan and mortgage terms.¹¹¹ 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 study of debt literacy (i.e., knowledge of fundamental concepts related to debt) found a strong positive relation between a surfeit of indebtedness and inadequate knowledge of debt fundamentals.¹¹² In short, as Americans have been given more options and have been asked to make their own financial decisions, they remain ill equipped to make choices that foster household financial health or contribute to the development of a healthier national economy.¹¹³

¹¹⁰ Annamaria Lusardi, Daniel Schneider, and Peter Tufano, “Households @ Risk: A Cross Country Study of Household Financial Risk,” in *Papers Presented to the 2010 American Economic Association Meeting* (Denver, Colo., 2010).

¹¹¹ Marianne A. Hilgert, Jeanne M. Hogarth, and Sondra Beverly, “Household Financial Management: The Connection between Knowledge and Behavior,” *Federal Reserve Bulletin* (July 2003); Annamaria Lusardi and Olivia S. Mitchell, “Financial Literacy and Planning: Implications for Retirement Wellbeing,” Michigan Retirement Resource Center working paper no. 2006-144, 2006; Danna Moore, “Survey of Financial Literacy in Washington State: Knowledge, Behavior, Attitudes, and Experiences,” Technical Report no. 03-39, Social and Economic Sciences Research Center, Washington State University, 2003.

¹¹² Annamaria Lusardi and Olivia S. Mitchell, “Planning and Financial Literacy: How Do Women Fare?” *American Economic Review* (May 2008); Annamaria Lusardi and Peter Tufano, “Debt Literacy, Financial Experience, and Overindebtedness,” Harvard Business School working paper, 2008.

¹¹³ See also Ferguson, *The Ascent of Money*. On page 12 he states, “A society that expects most individuals to take responsibility for management of their own [finances, 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.”

There is not a lot of evidence to suggest that financial institutions are prepared or willing to take responsibility for these problems. The overleveraging of the American household, beginning in the 1990s, was clearly supported by mortgage brokers, lenders, and investors. While some firms seemed committed to educating consumers and improving the quality of decision making, evidence from the brokerage industry calls into question whether this sector is willing to support improved consumer decision making. In addition, industry resistance to adopting fiduciary standards for brokers suggests an unwillingness to take on stricter obligations to clients. In the payment, credit, and savings space, 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 pressure to enhance financial decision making will likely become more urgent with the aging of the U.S. population. In 2008, 13 percent (36.9 million people) of the U.S. population was sixty-five or older, but by 2020, this fraction is expected to rise to 16 percent (54.8 million people).¹¹⁴ While this demographic bulge gives rise to pressures on Social Security, it will also require a massive number of elderly citizens to make one of the most complex financial calculations they will have ever faced (the rate of decumulation from retirement plans) at a time when they are perhaps most sensitive to financial risk and have diminished cognitive abilities, a sobering fact established by neuroscientists.¹¹⁵ How business practice—and evolving regulation—addresses these issues will determine the arc of the next few decades of consumer finance history.

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¹¹⁴ U.S. Bureau of the Census.

¹¹⁵ Sumit Agarwal, John C. Driscoll, Xavier Gabaix, and David Laibson, “The Age of Reason: Financial Decisions over the Lifecycle,” NBER Working Paper no. 13191, 2007.

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