

# TECHNOLOGY, INFORMATION, AND BANKRUPTCY

*Douglas G. Baird\**

*Financial innovations, spurred by the growth of information technology, have transformed the consumer lending industry. Today lenders have unfettered access to a wider spectrum of borrowers and are better able to assess the likelihood that these borrowers will repay the debt they incur. Consequently, the level of consumer household debt has risen dramatically in the past three decades, and will continue to rise, which will lead naturally to an increase in bankruptcy filings. Although our initial intuition tells us that bankruptcies are bad, the author advances the idea that this development is inevitable and that instead of focusing on amending bankruptcy laws, reformers should ask instead whether regulations can help consumers make better borrowing decisions.*

Much can be gained by taking the long view. Although it is true that the number of bankruptcy cases doubled during the 1990s, it also tripled in the 1950s, almost doubled in the 1960s, and tripled again during the 1980s.<sup>1</sup> Only in the 1970s, a period marked by double-digit inflation, did the rate remain relatively flat.<sup>2</sup> Americans have been hearing for decades that they are drowning in a sea of debt and are succumbing too quickly to the lure of easy credit.<sup>3</sup> While we can debate the whys and wherefores of recent increases in bankruptcies, we should not lose sight of a long-term trend in borrowing that has little to do with changes in bankruptcy law.<sup>4</sup>

---

\* Harry A. Bigelow Distinguished Service Professor, University of Chicago Law School. I thank Erik Hurst, Leslie Keros, and David Lander for their help and am grateful to the John M. Olin Foundation for research support.

1. CONG. BUDGET OFFICE, PERSONAL BANKRUPTCY: A LITERATURE REVIEW 6 fig.1 (2000), available at <http://www.cbo.gov/ftpdocs/24xx/doc2421/Bankruptcy.pdf>.

2. *Id.*

3. Indeed, it was an old story even in the 1950s. See, e.g., Robert E. Lewis, *Some Factors in the Growth of Consumer Credit*, 11 J. FIN. 249, 249 (1956) ("In the rapidly growing field of consumer credit, however, there is not much novelty in disturbing changes.").

4. Law, of course, can spark technological innovation. The *Marquette* decision, allowing national banks located in one state to do business in others, deregulated consumer lending and may have itself made possible much of the financial innovation in credit card lending that we saw in the 1980s and 1990s. See *Marquette Nat'l Bank v. First of Omaha Serv. Corp.*, 439 U.S. 299, 301 (1978). *Mar-*

In this article, I suggest that a single engine is driving much of the long-term increase in bankruptcies. Over the past sixty years, the financial innovations brought on by information technology have continually transformed the consumer lending industry. It has become increasingly easier to find potential borrowers and to assess the likelihood that they will repay their loans. Securitization and credit scoring are the latest tools used by creditors to help decide whether and to whom to extend credit. The level of consumer debt has increased almost continuously from 1945, when consumer debt in this country stood at \$5.7 billion, until the present day, when it approaches \$2 trillion.<sup>5</sup>

Many assume that the recent growth in the number of bankruptcies is bad. But default and bankruptcy are the inevitable consequences of borrowing. Holding everything else constant, as consumers borrow more, defaults increase and bankruptcy filings rise.<sup>6</sup> Asserting that the long-term increase in bankruptcies is bad implicitly assumes that the increase in borrowing is bad. But how do we know this? And if technology is fueling the rise in consumer debt, does bankruptcy reform make things better or worse?

In this article, I try to answer these questions. Parts I and II address two simple questions: why people borrow and how changes in technology allow them to borrow more. Part III answers those questions in the context of law reform. Part IV suggests that, once the partisan dust settles, much of the challenge in the regulation of consumer credit revolves around incorporating the lessons of behavioral economics. Although lawmakers cannot make decisions for consumers, they can ensure that borrowing is done in an environment that promotes sensible decision making.

## I. WHY BORROW?

Business borrowing and consumer borrowing are utterly different from each other. A business lender is merely one species of investor, someone who contributes capital to a joint venture. In this context, calling a particular investor a creditor is a shorthand way of describing her cash flow rights and control rights. A creditor has few control rights, relinquishes much of the upside return, and takes fewer of the downside

---

*quette* itself may have thus affected the bankruptcy filing rate. See Diane Ellis, *The Effect of Consumer Interest Rate Deregulation on Credit Card Volumes, Charge-Offs, and the Personal Bankruptcy Rate*, BANK TRENDS, Mar. 1998, at 1–12, available at [http://www.fdic.gov/bank/analytical/bank/bt\\_9805.pdf](http://www.fdic.gov/bank/analytical/bank/bt_9805.pdf).

5. See LENDOL CALDER, FINANCING THE AMERICAN DREAM: A CULTURAL HISTORY OF CONSUMER CREDIT 291 (1999); DAVID S. EVANS & RICHARD SCHMALENSEE, PAYING WITH PLASTIC: THE DIGITAL REVOLUTION IN BUYING AND BORROWING 49 (2d ed. 2005).

6. Default occurs only where there is borrowing. Increase borrowing and default also increases. As my colleague Elizabeth Warren puts it, in a world where there are no cars, there are no car accidents. Increase the number of cars and you increase the number of accidents.

risks. A shareholder exercises some control and enjoys much of the upside while taking the brunt of the risk if things turn out badly.

But these labels can be misleading. Modern finance tells us that the boundary dividing debt and equity is entirely permeable. Indeed, debt-holders of a public company can acquire derivatives that, together with their note, give them exactly the same cash flow rights as equity holders; likewise, equity holders, through the right combination of derivatives, can enjoy the same cash flow rights as debt holders.<sup>7</sup> Similarly, debt holders, through covenants, can acquire control rights comparable to or even greater than those associated with equity—and the control rights of equity can be cut back to exactly the same extent.<sup>8</sup> Indeed, high-yield convertible bonds and preferred stock may be indistinguishable and take the form they do only because of tax laws or other features of a given jurisdiction. Investors who make identical deals may become creditors or equity holders depending on the jurisdiction in which the deal is done.<sup>9</sup>

Lending to individuals is a different matter altogether, at least when they are not engaged in business.<sup>10</sup> An account of consumer bankruptcy must begin with an understanding of the reasons for borrowing in the first instance. Most obviously, and least controversially, consumers borrow to buy a house.

In 1940, about 44% of households owned their homes.<sup>11</sup> In 2000, about 66% did.<sup>12</sup> Moreover, the value of residential homes has quadrupled since 1940.<sup>13</sup> Living in one's own home is often touted as an integral part of the American Dream, and promoting homeownership is often an explicit government policy.<sup>14</sup> Homeownership, however, brings debt with

---

7. See generally Hans R. Stoll, *The Relationship Between Put and Call Option Prices*, 24 J. FIN. 801, 801–04 (1969) (providing a description of the mechanics of derivatives and explaining how risks on cash flows can be managed by both debt holders and equity holders).

8. I make this point in a paper with Robert Rasmussen. See Douglas G. Baird & Robert K. Rasmussen, *Private Debt and the Missing Lever of Corporate Governance*, 154 U. PA. L. REV. 1209 (2006).

9. See Steven N. Kaplan et al., *How Do Legal Differences and Learning Affect Financial Contracts?* 17–19 (Nat'l Bureau of Econ. Research, Working Paper No. 10097, 2003), available at <http://www.nber.org/papers/w10097>.

10. Of course, many individuals who file for bankruptcy generate some income from self-employment. In some cases, the income-generating activity is scarcely more than a hobby and does not constitute a principal source of income. But many other individuals run sole proprietorships, and the businesses they run have the same need to borrow money that any other business does. Drawing the line between consumer debt and business debt is not easy to begin with and is getting harder. For purposes of this paper, however, I focus entirely on consumer debt.

11. JEANNE WOODWARD & BONNIE DAMON, U.S. CENSUS BUREAU, HOUSING CHARACTERISTICS: 2000 3 fig.3 (2001), available at <http://www.census.gov/prod/2001pubs/c2kbr01-13.pdf>.

12. *Id.*

13. U.S. CENSUS BUREAU, HIST. CENSUS OF HOUSING TABLES HOME VALUES (2004), <http://www.census.gov/hhes/www/housing/census/historic/values.html> (last visited Oct. 12, 2006).

14. MICHAEL COLLINS, MILLENNIAL HOUS. COMM'N, PURSUING THE AMERICAN DREAM: HOMEOWNERSHIP AND THE ROLE OF FEDERAL HOUSING POLICY 4 (2002), <http://www.nw.org/network/pubs/studies/documents/pursuingAmDreamCollins2002.pdf> (last visited Oct. 12, 2006).

it as surely as night follows day. Home mortgages represent more than 70% of all household debt.<sup>15</sup>

Individuals also borrow to acquire human capital. Borrowing to acquire human capital is similar to buying any other kind of capital asset. Someone who attends college and pays for it out of accumulated savings is exchanging one asset (cash) for another (increased future earnings). Someone who borrows to attend college is likewise exchanging one asset (a share of future earnings) for another (again, increased future earnings). The expectation is that the amount of money borrowed is less than the amount by which the education increases future earnings.

Like homeownership, education is typically lauded and often a favored creature of overt government policy. One of the most robust empirical results in the social sciences is the benefit of education.<sup>16</sup> The more education one acquires, the greater the expected lifetime earnings. But just as one can lose a lot of money by buying the wrong type of house, the same can happen with spending money on education. Indeed, the latter problem is more acute. Once bought, human capital cannot be sold or returned. Individuals who borrow \$100,000 to attend law school cannot sell their legal education after discovering that law is not their vocation. Nor can they turn over the asset to the lender and walk away from the debt. Nevertheless, we should not lose sight of the big picture. Borrowing to pay for an education is, as a general matter, a sensible thing to do.

Over the course of their lives, individuals make decisions that have enormous repercussions—for example, whether and whom to marry, and whether to have children. Deciding where to live and whether to train for one career over another can have consequences that, like marrying or starting a family, last for years or decades. But such decisions must be made one way or another. The ability to borrow money to buy a house or acquire an education merely gives people more choices. One may, of course, buy a house that turns out to be too costly or obtain an education that is ultimately unsuitable. But the world is not a better place if everyone is a renter with a high school diploma. If we adopt a policy that encourages more people to borrow to buy a home and acquire an education—as most think we should—an increase in defaults and bankruptcies will follow.

---

15. See Brian K. Bucks et al., *Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances*, FED. RES. BULL., 2006, at A32 tbl.12, available at <http://www.federalreserve.gov/pubs/bulletin/2006/financesurvey.pdf>. Another way to see the increasing importance of home mortgages is to look at total mortgage debt in this country relative to total household income. It was equal to 20% of household income in 1949, 46% in 1979, and 73% in 2001. See Richard K. Green & Susan M. Wachter, *The American Mortgage in Historical and International Context*, 19 J. ECON. PERSP., Fall 2005, at 93, 93.

16. The literature on this subject is vast. See, e.g., Theodore W. Schultz, *Investment in Human Capital*, 51 AM. ECON. REV. 1 (1961).

Just as individuals borrow to acquire a capital asset such as a house, they borrow to acquire a durable good such as an automobile. More Americans own cars than houses,<sup>17</sup> and the ability to borrow and use the car as collateral has been a fixture of our economy since the 1920s.<sup>18</sup> Car loans constitute a large portion of consumer debt,<sup>19</sup> but the car is typically subject to a security interest whose value is rarely much more than the amount of the loan. To be sure, a bankruptcy petition triggers negotiations between the car financier and the debtor. Bankruptcy principles governing reaffirmation matter, of course, as do questions of valuation when the debtor is in chapter 13 and seeks to keep the car.<sup>20</sup> But the stakes are not very high. The asset and the corresponding liability are usually in balance with each other, and the potential deadweight costs are small compared with those involved in a foreclosure on a home.

When people express concern over the huge rise in consumer debt, their focus is usually not on homeownership, education, or even durable goods such as automobiles, but rather on borrowing against future earnings to finance present consumption. In the past, many found such borrowing irresponsible. If one did not have the money to pay for consumption, one should not have consumed. From the perspective of those such as William Blackstone, such borrowing was a species of fraud.<sup>21</sup> Those who borrow ought to have the resources to pay it back. As Blackstone explained,

the law holds it to be an unjustifiable practice, for any person but a tradesman to encumber himself with debts of any considerable value. If a gentleman . . . at the time of contracting his debts, has a sufficient fund to pay them, the delay of payment is a species of dishonesty . . . . [I]f, at such time, he has no sufficient fund, the dishonesty and injustice is the greater.<sup>22</sup>

The logic here follows naturally from the way Blackstone looked at the world. An honest debtor is always able to pay creditors back so long as he holds on to his assets. Once having borrowed, a debtor should not engage in any activity (such as gambling) that would diminish the value of his assets, thereby leaving him unable to pay his creditors. Someone who cannot pay his creditors is necessarily at fault. And, as Blackstone

---

17. See Bucks et al., *supra* note 15, at A22 tbl.8b (showing that 86.3% of all families own vehicles, while 69.1% own homes).

18. See CALDER, *supra* note 5, at 184–99.

19. Vehicle loans constitute 6.7% of all debt. This is twice the percentage of education debt and the largest source of debt other than that associated with residential property. See Bucks et al., *supra* note 15, at A32 tbl.12.

20. See, e.g., *Assocs. Commercial Corp. v. Rash*, 520 U.S. 953, 955–56 (1997). BAPCPA further limits the ability of an individual debtor to strip down the lien securing a car loan. See, e.g., Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA) of 2005, Pub. L. No. 109-8, § 306(b), 119 Stat. 23, 80 (codified at 11 U.S.C. § 1325(a)(5)(B)(i)).

21. WILLIAM BLACKSTONE, 2 COMMENTARIES \*471, \*473–74.

22. *Id.*

notes, “[h]e cannot therefore murmur, if he suffers the punishment which he has voluntarily drawn upon himself.”<sup>23</sup>

There is a difference between borrowing to buy a house, to buy a car, or to finance one’s education, and borrowing to pay for current consumption. In the former cases, the borrowing does not change the balance sheet. An asset—the house, the car, and the enhanced future earnings stream—offset the liability. Indeed, at least in the case of a house and education, history suggests that the asset is likely to more than offset the liability. To draw the analogy with a creditor of a business, the loan is like an investment that, in expectation at least, is likely to pay off handsomely. By contrast, borrowing for current consumption brings with it no corresponding asset. Notably, this type of borrowing has increased dramatically in recent years and has fueled much of the rise in consumer debt and bankruptcy filings.<sup>24</sup> When people raise concerns about consumer debt, such borrowing is usually what they have in mind.

This type of borrowing, however, is not necessarily problematic. Risk-averse individuals are better off when they can enjoy a constant standard of living even if their income is not constant over time.<sup>25</sup> Consider a writer who takes three years to write a book; each book reliably generates \$280,000 in income in its first year and only \$10,000 in the two years that follow. It makes no sense for this writer to live in near poverty for two years and in clover the next. She is better off organizing her life and making her consumption decisions as if she made \$100,000 year in and year out. Similarly, a seasonal worker should average her income out over the entire year, rather than engage in regular belt tightening and loosening.

This idea of consumption smoothing extends more generally to those who can anticipate changes in their earnings over the course of their careers. Those who attend professional school in their twenties have almost no current income but can still anticipate, with considerable confidence, substantial future earnings. They will maximize their happiness over the course of their lives by consuming today against future income. Thus, the money people earn when they are fifty years old should be shared with the people they were at age twenty-five and the people they will be at age seventy-five.

Borrowing against future earnings to pay for present consumption on a large scale is a relatively recent phenomenon.<sup>26</sup> Financing consumer durables or even an education is one thing. Financing a vacation is something else. My parents’ generation, raised during the Depression, would never dream of such a thing. For the economist, however, the newfound ability to borrow for this purpose is a good thing. It is axiomatic that

---

23. *Id.* at \*474.

24. See Ellis, *supra* note 4.

25. MILTON FRIEDMAN, A THEORY OF THE CONSUMPTION FUNCTION (1958).

26. See CALDER, *supra* note 5, at 9–10; EVANS & SCHMALENSSEE, *supra* note 5, at 49.

someone is never worse off when her opportunity set expands.<sup>27</sup> The individual consumer is best positioned to decide which house to buy, what career to pursue, and how much to consume today or defer until later. I shall address the wisdom of this view in Part IV. First let us examine how it came to be, then let's consider the pressures it places on bankruptcy and consumer lending regulation more generally.

## II. THE TECHNOLOGY OF LENDING

Consumer lending is largely a problem of matchmaking. Those with funds to lend must find those who want to borrow and then assess the likelihood that the borrower will repay the loan. The legal system, of course, has a role to play in facilitating this matchmaking. Lenders are more likely to lend, and to do so on cheaper terms, in a legal system that enforces debts than in one that does not. But the *amount* of lending that takes place is not greatly affected by the legal system. Most people pay their debts if they can. Even during the worst year of the Depression, only five of every hundred cars sold on an installment plan were repossessed.<sup>28</sup> When lenders are not paid, it is usually not a failure of the legal system or the availability of bankruptcy relief. Most often, borrowers simply lack the money to repay.<sup>29</sup>

Changes in the law have had comparatively little effect on the level of consumer debt.<sup>30</sup> Consumer debt has increased over the past six decades largely because of the technological changes that make it easier for lenders to find borrowers and assess the likelihood that borrowers will repay what they owe.<sup>31</sup> The slow but steady rise in homeownership is a case in point. Fannie Mae created a secondary mortgage market in 1938.<sup>32</sup> Banks extending home loans were able to access capital of others in this country and abroad.<sup>33</sup> A lender in Amsterdam previously had no easy way to determine whether a debtor in Peoria would be able to make his mortgage payments or how easy it would be to foreclose if the debtor did not. Fannie Mae eliminated this risk. Consumers were better off and no one was worse off. Because it held a large pool of mortgages, Fannie

---

27. See DAVID M. KREPS, *A COURSE IN MICROECONOMIC THEORY* 27–28 (1990) (discussing Houthakker's axiom of revealed preference).

28. See CALDER, *supra* note 5, at 267.

29. See NAT'L ASSOC. OF CONSUMER BANKR. ATT'YS, *BANKRUPTCY REFORM'S IMPACT: WHERE ARE ALL THE "DEADBEATS"?* 2 (2006) ("Almost none of those seeking bankruptcy protection are able to repay their debts.").

30. Of course, to say that it has had comparatively little effect is not to say it has had no effect. See, e.g., Michelle J. White, *Abuse or Protection? Economics of Bankruptcy Reform Under BAPCPA*, 2007 U. ILL. L. REV. 275.

31. JOINT CTR. FOR HOUSING STUDIES, HARVARD UNIV., *THE STATE OF THE NATION'S HOUSING 2004* 17 (2004) [hereinafter *HOUSING STUDY 2004*], available at <http://www.jchs.harvard.edu/publications/markets/son2004.pdf>.

32. Fannie Mae, *Understanding Fannie Mae: Our Charter*, <http://www.fanniemae.com/aboutfm/understanding/charter.jhtml> (last visited Oct. 12, 2006).

33. See *HOUSING STUDY 2004*, *supra* note 31, at 16.

Mae could establish underwriting standards and fairly price the expected level of defaults. As a result, Fannie Mae paid its own way. With Fannie Mae as an intermediary, an investor who knew nothing about mortgage lending could provide the financing and receive a competitive return on the investment. Before Fannie Mae, a lender in Amsterdam had no way of making the loan to Jones in Peoria. Financial intermediation, therefore, overcame a significant information barrier.

Technological innovation has accelerated over the past two decades. Initial fees and charges have dropped from 2.6% of loan value in the early 1980s to less than 0.5% in 2003.<sup>34</sup> Only 40% of single-family mortgages were securitized in 1990.<sup>35</sup> Almost 60% are today.<sup>36</sup> Changing technology has enlarged the pool of individuals who are eligible for a real estate loan and broadened the terms on which such loans are extended.

Recent technology has enhanced lenders' ability to assess the likelihood that a particular borrower will repay a certain loan.<sup>37</sup> Advances in data processing allow information about debtors to be collected on a massive scale. It is now possible to look at a particular debtor, identify characteristics such as age, marital status, education, and length of stay at current employer, compare that debtor with others for whom there is a credit history, and make a confident prediction about the likelihood that the debtor will repay a loan.

In 1990, only 3% of conventional mortgages had down payments of 5% or less.<sup>38</sup> Since then, this number has more than tripled.<sup>39</sup> The borrowers themselves are riskier too. The share of subprime loans has grown from under 1% in the early 1990s to 6% today.<sup>40</sup> Of course, the ability to make loans to high-risk borrowers and require little in the way of a down payment brings with it a higher risk of default. Remarkably few holders of prime mortgages foreclose on their assets (only about 0.5%);<sup>41</sup> subprime lenders foreclose at ten times that rate.<sup>42</sup>

In the 1980s, Fannie Mae accepted only low-risk loans and did not vary the rate it charged with the risk of the loans it acquired. In the mid-1990s, Fannie Mae introduced credit-scoring technologies that allowed it to price individual loans.<sup>43</sup> This new technology expanded the pool of

---

34. *Id.* at 16–17.

35. *Id.* at 17.

36. *Id.*

37. *Id.*

38. JOINT CTR. FOR HOUSING STUDIES, HARVARD UNIV., THE STATE OF THE NATION'S HOUSING 17 (2005) [hereinafter HOUSING STUDY 2005], available at <http://www.jchs.harvard.edu/publications/markets/son2005/son2005.pdf>.

39. *Id.*

40. HOUSING STUDY 2004, *supra* note 31, at 16.

41. *Id.* at 17.

42. *Id.*

43. See WENDY EDELBERG, FIN. & ECON. DISCUSSION SERIES, RISK-BASED PRICING OF INTEREST RATES IN HOUSEHOLD LOAN MARKETS 3 (2003), <http://www.federalreserve.gov/pubs/feds/2003/200362/200362pap.pdf> (last visited Oct. 12, 2006).

borrowers to whom such credit was available, but, of course, with riskier borrowers comes a higher rate of default.

While consumer debt has risen steadily over the past six decades,<sup>44</sup> the most striking feature of this rise has been the increase, over just the past three decades, in the amount of debt incurred for something other than a home or a car.<sup>45</sup> Much of the debt was used to smooth consumption. In 1970, fewer than one in five American households had a credit card; now almost three out of every four households do.<sup>46</sup> In 1970, credit card debt represented 4% of nonmortgage consumer borrowing;<sup>47</sup> by 2002, however, the proportion had soared to 42%.<sup>48</sup> American households hold credit lines, in the aggregate, worth more than \$4 trillion.<sup>49</sup>

Technology allows credit decisions to be made automatically with respect to ever smaller transactions. Instead of filling out paperwork in front of an officious bank lender (the type of person my father called “an \$8000-a-year snob”), one produces a piece of plastic. For many individuals—indeed now for the vast majority of the population—the decision to smooth consumption is entirely a matter of personal choice. To put the point differently, it is possible to float securitized debt on global capital markets to cover the purchase of a single cup of coffee. We do it when we use a credit card at Starbucks.

Technological change has also made it possible for consumers to use the equity in their homes to facilitate consumption smoothing. Not only are smaller down payments required, but it is much easier now to cash out the equity held in the home. The proportion of home owners with home equity lines of credit increased from 11.2% in 2001 to 17.8% in 2004.<sup>50</sup> Although 45% of these loans are used to finance home improvements, more than 30% go toward consolidating debt.<sup>51</sup> As technology lowers the cost of refinancing a mortgage, such borrowing is likely to increase.<sup>52</sup>

The sheer amount of consumer debt—now standing at more than \$1.8 trillion<sup>53</sup>—is impressive, but it is important to look at what is going on beneath the surface. For the typical household, the changes over the past quarter-century have not been as dramatic as the rise in consumer debt might suggest. The debt-service ratio—the relationship between

---

44. See EVANS & SCHMALENSEE, *supra* note 5, at 49.

45. See *id.* fig.2.4.

46. See *id.* at 89.

47. See *id.* at 97.

48. *Id.*

49. See *id.* at 95.

50. See Bucks et al., *supra* note 15, at A29.

51. *Id.*

52. *Id.* at A28. Tax laws also induce debtors to use the equity in their homes as a source of finance.

53. See EVANS & SCHMALENSEE, *supra* note 5, at 49.

debt-service obligations and disposable income—has risen modestly, from 11.12% at the start of 1980 to 13.35% at the start of 2005.<sup>54</sup>

For those at the margin, however, small aggregate changes have significant consequences. The picture is decidedly bleak for lower-middle-class individuals, who have historically comprised the bulk of those who file for bankruptcy. Among debtors whose income places them in the bottom quintile, 27% have debt payments exceeding 40% of their income.<sup>55</sup> For those in the second lowest quintile, it is 18.6%.<sup>56</sup> By contrast, it is less than 4.2% for those in the top quintile.<sup>57</sup> Moreover, another measure of financial distress—the percentage of those with payments more than sixty days past due—has increased markedly for those in the bottom two quintiles (from 10.2% and 10.1% to 15.9% and 13.8%, respectively) and has decreased for those in the top quintile.<sup>58</sup>

Information technology allows creditors to make money lending more accessible to lower-income individuals. Nevertheless, the risk of default is high, and a large number of these debtors will default. In the end, bankruptcy reform will do little to alter this fact. Given that the force at work is technological change, not a moral failing of the American character, the question then is what sort of legal reforms should we advocate?

### III. THE BRAVE NEW WORLD OF CONSUMER CREDIT

Now we turn to the challenges that advances in information technology pose for the legal system. When we look at the law governing consumer debt, three questions naturally present themselves. First, does it make sense to regulate the way in which lenders use information? Next, how does technological change affect home mortgages? And, finally, how does this change affect debt used to facilitate consumption smoothing?

#### A. *Regulation of Consumer Credit Information*

Regulation limits how lenders use information, not how they use information technology. The most obvious example of the former is the inability to use a bankruptcy discharge that is more than ten years old.<sup>59</sup> Such a rule effectively pools some borrowers (those who have filed for bankruptcy once) with other, presumably lower-risk, borrowers. As a

---

54. FEDERAL RESERVE BOARD, HOUSEHOLD DEBT SERVICE AND FINANCIAL OBLIGATIONS RATIOS (2006), <http://www.federalreserve.gov/releases/housedebt/default.htm> (last visited Oct. 12, 2006).

55. Bucks et al., *supra* note 15, at A35.

56. *Id.*

57. *Id.* at A34 tbl.14.

58. *Id.* at A35.

59. See 15 U.S.C. § 1681c(a)(1) (2000).

result, the former pay relatively less and the latter relatively more for what they borrow.

The virtues of such regulation, however, are easily overstated. Credit information that is more than ten years old is not likely to be of much value anyway. As credit models become more sophisticated and rigorous, a credit score will incorporate information only to the extent that it proves useful. If information is merely one component in a mathematical model that is designed solely to predict default, the case for limiting its use becomes weak. And as more information is gathered, individual data becomes less important. Regulators who want to put different borrowers in the same pool face an arms race with lenders that they are unlikely to win, as they are unlikely to have the same expertise in understanding how the models work or in assessing the function of any particular piece of information.

More importantly, the effect of denying lenders relevant information is to lump riskier borrowers with less risky ones. These less risky borrowers will not be the wealthy, but rather other high-risk borrowers who are better credit risks. Even if it were desirable to subsidize some high-risk borrowers, it is hard to imagine that other high-risk borrowers should be the ones forced to do it. In any event, the advances of technology, far from excluding high-risk borrowers, make lending to them easier.

### *B. Bankruptcy and the Home Mortgage*

Over the past four decades, homeownership has increased at a comparatively slow rate, from 62.9% in 1965 to 69.1% in 2005.<sup>60</sup> But the size of the increase greatly understates the impact of this change on the bankruptcy system. First-time home buyers—those in the bottom 20–30% of the income distribution—belong to the cohort that is also the most likely to file a bankruptcy petition.<sup>61</sup> In a previous era, homeownership and the forced savings associated with it might have served as a bulwark against bankruptcy. But new current patterns of lending may be having the opposite effect. Nowadays home owners come with little in the way of an equity cushion, and the availability of refinancing makes it easy to extract whatever equity develops over time.<sup>62</sup>

Borrowing to acquire a home is becoming increasingly double-edged. To be sure, this sort of borrowing is different from borrowing to pay for a vacation. In the former case, the liability is associated with an asset. The net worth of the individual who buys a house remains un-

---

60. U.S. Census Bureau, Housing Vacancy Survey, Historical Table 14: Homeownership Rates for the U.S. and Regions, <http://www.census.gov/hhes/www/housing/hvs/historic/hist14.html> (last visited Oct. 12, 2006).

61. See TERESA A. SULLIVAN, ELIZABETH WARREN & JAY WESTBROOK, *THE FRAGILE MIDDLE CLASS: AMERICANS IN DEBT* (2000).

62. I am grateful to David Lander for pointing out these dynamics to me.

changed. Indeed, as the house increases in value and principal on the mortgage is paid down, the house goes from being a liability to being the individual's largest asset. But there is a downside to homeownership, particularly in a world in which the owner's equity is razor thin and their financial condition is otherwise precarious.

Selling a house is expensive. Broker's fees alone often exceed 5%. A person who rents an apartment that proves too large or expensive can move at relatively low cost. A person who buys the same apartment loses 5–10% of its value when forced to sell it. To put it differently, being forced to sell a house requires one to give up an amount equal to 15% or more of one's annual income.<sup>63</sup> A renter who encounters hard times, on the other hand, is more readily able to adjust consumption to meet new conditions, all else being equal. As individuals increasingly borrow to buy homes, they will have greater difficulty if an exogenous shock changes their financial circumstances.

Bankruptcy is likely to become a popular forum in which people in financial distress figure out what to do with their house. We may see greater use of chapter 13, not because of anything in BAPCPA, but rather because of new challenges that homeownership poses for debtors in financial distress.

### C. *Consumer Credit and Consumption Smoothing*

When debtors borrow to smooth consumption, they have no current assets available to satisfy their loans, and creditors will likely be unable to reach future earnings. The bankruptcy petition forces everyone to recognize the inevitable. The creditors themselves benefit from the process, for it exposes the debtors' affairs to scrutiny and gives them some assurance that assets will not be hidden from them. The bankruptcy process generally produces no assets, nor does it take them away. With respect to the typical debtor, the lower-middle-income worker, little of the discharged debt is collectable.<sup>64</sup>

To a large extent, consumer bankruptcy in this environment merely ensures that bad debt insurance is a part of every credit contract. The inability to pay is the consequence of misfortune, the unexpected event that unsettles the reasonable expectations of both the creditor and the debtor at the time the loan was made. Borrowers are risk averse and would be willing to pay to be relieved of their obligation. Consumer bankruptcy is like a forum that allows a consortium of insurers to gather and honor policies to a single insured. The right to a discharge is the in-

---

63. The typical homeowner's house has a value of more than three times that individual's annual income. See HOUSING STUDY 2005, *supra* note 38, at 2 fig.2. If the costs of selling a home are only 5% of its purchase price, it constitutes 15% of annual household income.

64. See generally Douglas G. Baird, *Discharge, Waiver, and the Behavioral Undercurrents of Debtor-Creditor Law*, 73 U. CHI. L. REV. 17–18 (2006).

surance policy, and the bankruptcy procedure is the vehicle that allows the policy to be honored.

The rising rates of bankruptcy among debtors who have borrowed to smooth consumption does not suggest that bankruptcy abuse is on the rise. To the contrary, one would expect abuse to go down as information gathering improves, and there is some evidence to support this. The percentage of cases in which there have been challenges to discharge, for example, has steadily declined even as the number of bankruptcy petitions has gone up.<sup>65</sup>

For a long time, we have believed that chapter 7 is designed in such a way that it is used only by those for whom the fresh start is intended. To obtain a fresh start, individuals must turn over to creditors all assets other than clothing, wedding rings, and similar types of exempted property that creditors are unable to reach outside of bankruptcy.<sup>66</sup> This obligation weighs particularly heavily on those whom we want to keep out of the system—those with substantial income and significant assets. For them, the price of bankruptcy is too high. They would rather pay off existing debt out of future income than give up assets.<sup>67</sup>

Yet in recent years, doubts have begun to surface about whether this self-sorting mechanism works. To the extent that borrowing is done solely to smooth consumption, the debtor necessarily has significant future earnings that the lender believes will pay off the loan. If bankruptcy imposed no costs and debtors had no compunctions about using it, consumption smoothing would be impossible. Lenders would have no way of assuring themselves that they would ever be repaid. The price of credit would increase and become less available.

One might think that the law should be changed to increase the cost of bankruptcy, but the evidence again points in the opposite direction. The economic argument in favor of making bankruptcy costly rests on the notion that credit is too hard to come by and too expensive. Most people, even those who favor bankruptcy reform, have the opposite intuition—that people are now borrowing too much and that credit is too easy to come by.<sup>68</sup>

Information technology itself may suggest why borrowing to smooth consumption can flourish even when the cost (including the stigma it brings) associated with filing for bankruptcy is comparatively low. Much

---

65. For all practical purposes, the only adversary proceedings in consumer cases are challenges to discharge, and these fell, from about 4% during the early 1990s to about 1.5% in 2002. Such evidence is only suggestive and not much can be made of it. Nevertheless, it points against an increase in bankruptcy abuse. See Douglas G. Baird & Edward R. Morrison, *Adversary Proceedings in Bankruptcy: A Sideshow*, 79 AM. BANKR. L.J. 951 (2005).

66. See Thomas H. Jackson, *The Fresh-Start Policy in Bankruptcy Law*, 98 HARV. L. REV. 1393, 1439–40 nn.147–48 (1985).

67. *Id.* Those with high expected future earnings are also likely to have existing assets—from expensive cars to vacations homes—that they do not want to give up, which bankruptcy would require.

68. See Oren Bar-Gill, *Seduction by Plastic*, 98 NW. U. L. REV. 1373, 1383–86 (2004).

of the credit extended today is revolving credit.<sup>69</sup> Consumer borrowers, even those who expect to be net debtors for a long time, must repeatedly enter credit markets in a world in which one's credit history is universally available.<sup>70</sup> The cost of filing for bankruptcy includes the higher cost of future borrowing. The benefit of a twenty-something yuppie filing for bankruptcy today must be offset against future difficulties in obtaining credit, including the costs associated with borrowing to finance a home.

Perhaps the phenomenon of homeownership itself is as important as technology. Those who now engage in consumption smoothing use home equity as collateral for their loans.<sup>71</sup> Lenders are willing to take a home credit line even when the amount exceeds the value of the equity cushion because the home itself provides a suitable hostage. The illiquidity of the asset and the costs (financial and otherwise) that the debtor faces in losing it make it an excellent hostage.<sup>72</sup>

#### IV. BEHAVIORAL ECONOMICS AND TOO MUCH BORROWING

Many who care about consumer bankruptcy begin with the intuition that modern credit markets lead to too much borrowing. Something is wrong with the economic axiom that expanding consumer choice is a good idea. Ulysses was better off being tied to the mast and not having the option of following the Siren's call.<sup>73</sup> The problem, as Richard Thaler eloquently puts it, is that life is not like *Groundhog Day*, the movie in which Bill Murray gets the chance to live the same day (February 2) over and over again.<sup>74</sup> He makes mistakes (killing himself on innumerable occasions) until, in the end, he finally has learned enough to make all the choices perfectly. With respect to our own lives, we do not have a similar chance to experiment. Many life decisions—such as whom we marry or where we go to college—are ones that most of us make only once. We are not afforded the opportunity for rehearsals, and for the most part we do not have do-overs.<sup>75</sup>

In a world where people are unable to practice major life decisions, there may be some types of mistakes they are particularly prone to make. For this reason, admonitions against borrowing to finance consumption are valuable. In calculating how to engage in consumption smoothing,

---

69. *Id.* at 1373–74 n.2.

70. See EVANS & SCHMALENSEE, *supra* note 5, at 106–07.

71. See Erik Hurst & Frank Stafford, *Home Is Where the Equity Is: Mortgages Refinanced and Household Consumption*, 36 J. MONEY, CREDIT & BANKING 985, 987–89 (2004).

72. See Robert E. Scott, *A Relational Theory of Secured Financing*, 86 COLUM. L. REV. 901, 930 (1986).

73. See JON ELSTER, *ULYSSES AND THE SIRENS: STUDIES IN RATIONALITY AND IRRATIONALITY* vii, 36 (1979) (supporting the idea that consciously limiting the range of possible choices can facilitate rational behavior).

74. See Richard H. Thaler, *From Homo Economicus to Homo Sapiens*, 14 J. ECON. PERSP. 133, 135–36 (2000).

75. *Id.*

consumers are prone to making systematic errors, and creditors tend to exploit these errors.<sup>76</sup> Indeed, competitive pressures force them to.<sup>77</sup> The question then arises: how might the law account for the possibility that consumers make systematic mistakes when they borrow?<sup>78</sup>

However well the law may have responded in the past, law reform may be necessary once again given the way technological change is compounding the problem. One heuristic that can guard against improvident decision making is compartmentalization—treating assets discretely rather than as a fluid mass against which we can borrow. In the old days, for example, we did not borrow against the house. It was hard to do so.<sup>79</sup> Moreover, we regarded our home equity as an asset separate from those against which we could borrow. The effect of this compartmentalization was to make ourselves feel poorer than we were, and thus to offset in some measure our temptation to borrow more than we could afford. Once borrowing against a home became easy and the difference between it and other assets became blurred, we lost this crutch.

In the past, the act of borrowing itself required reflection. The burden of having to fill out paperwork and gather documentation served what Lon Fuller called a cautionary function.<sup>80</sup> The process of making the decision to borrow forced us to reflect on what we were doing. The deliberation itself provided a guard against our own improvidence. Nonetheless, the costs of refinancing prevent a form of consumption smoothing that is itself valuable. Being able to tap into accumulated equity in the home to weather bad times is a good thing.<sup>81</sup>

An important question for the law reformer today is how to protect consumers from their own cognitive biases without unduly limiting consumer choice at the same time. We know, for example, that we can induce workers to put aside more money for their retirement merely by the way we present choices to them. Workers who would not otherwise save will check a box that allocates a portion of future pay raises to savings.<sup>82</sup> Moreover, they will not undo this choice when they receive their pay increase even when completely free to do so.<sup>83</sup> We can manipulate choices in the same way to limit borrowing.

---

76. Bar-Gill, *supra* note 68, at 1373 (“Absent legal intervention the sophisticated seller will often exploit the consumer’s behavioral biases.”).

77. *Id.*

78. I am, of course, far from being the first to link the lessons of behavioral economics to bankruptcy. See, e.g., Jackson, *supra* note 66, at 1405–18.

79. See David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q.J. ECON. 443, 444–45 (1997) (showing how illiquid assets are themselves a commitment device).

80. See Lon L. Fuller, *Consideration and Form*, 41 COLUM. L. REV. 799, 800 (1941). I discuss this idea at greater length in Baird, *supra* note 64.

81. See Hurst & Stafford, *supra* note 71, at 985 (noting that refinancing “provides a net economic stimulus” by liquidity constrained households).

82. See Richard H. Thaler & Shlomo Benartzi, *Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving*, 112 J. POL. ECON. S164, S170–79 (2004), available at <http://www.journals.uchicago.edu/JPE/journal/issues/v112nS1/112118/112118.web.pdf>.

83. See *id.* at S173.

The same technologies that allow us to borrow easily might also be used to check our impulses.<sup>84</sup> For example, credit card companies might be required to set the credit line below what the credit scoring models would permit. Consumers would be able to increase their credit limit, but they would have to take a conscious step in order to do so, such as by going online, accessing a lender's Web site, and changing their credit line.

There are many ways in which a consumer's decision to borrow might be influenced without actually engaging in hard paternalism that constrains consumer choice.<sup>85</sup> In the example above, the screen could automatically generate information such as the amount of additional interest needed each month to pay off the loan or what sort of credit line others who are similarly situated typically use. None of this would prevent the consumer from borrowing from a willing lender, but it would respond, in part at least, to the problem of poor individual decision making.

Many other mechanisms could be put in place. These mechanisms would work not only by providing consumers with information, but also by combating the bias inherent in their decision making. As my colleague Cass Sunstein has observed, the same tools private employers now use to induce workers to save more for tomorrow can be used to induce them to borrow less today.<sup>86</sup>

## V. CONCLUSION

Much legal scholarship looks at the question of how a change in law might lead to changes in the world outside. In this article, I invert that question. I ask how changes in the world should affect the way we think about the law. In the realm of consumer finance, two changes with long-lasting implications must be confronted. One is that individuals are more closely tied to their homes than ever before. Lower-middle-income consumers who face some financial reversal must now deal with the problem of holding a costly and illiquid asset in which they have little equity. Homeownership compounds the problem of sorting out the financial distress the consumer faces, whether inside of bankruptcy or out. Second, technology has transformed the world of credit. As lenders gather more information and make more sophisticated use of it, consumer credit becomes ever more widely available. People borrow more, and defaults and bankruptcy increase. In the end, the most daring legal reforms are likely not dramatic changes to bankruptcy law proper, but rather changes to the way in which consumer lending can be regulated to protect con-

---

84. See Cass R. Sunstein, *Boundedly Rational Borrowing*, 73 U. CHI. L. REV. 249 (2006).

85. Ronald Mann has done path-breaking work here. His proposal requiring minimum monthly payments may work in a similar fashion. See Ronald J. Mann, *Optimizing Consumer Credit Markets and Bankruptcy Policy*, 7 THEORETICAL INQUIRIES L. 395 (2006), available at <http://www.bepress.com/til/default/vol7/iss2/art5>.

86. Sunstein, *supra* note 84, at 266–67.

No. 1]      TECHNOLOGY, INFORMATION, AND BANKRUPTCY      321

sumers without ultimately limiting their freedom to make their own decisions.

