Seduction by Plastic

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ABSTRACT

In consumer contracts highly sophisticated corporations will often exploit consumers’ behavioral biases. Competition cannot cure such exploitation. On the contrary, competitive forces compel sellers to take advantage of consumers’ weaknesses. This general theme is demonstrated through a detailed case study of the credit card market. In designing the credit card contract, issuers deviate from efficient marginal-cost pricing in order to take advantage of consumers’ underestimation of their future borrowing. This prevalent bias explains several unique features of the credit card contract, including high interest rates, zero annual and per transaction fees, teaser rates, high late and over-limit fees, benefits programs, and low (and even negative) amortization rates. The identified market failure suggests that legal intervention may be required to protect consumers and to increase social welfare. Several specific policy responses are considered, including disclosure, regulation of unsolicited offers, unbundling of transacting and borrowing services, and usury ceilings. The role of contract law and bankruptcy law is also examined. More broadly, the credit card case study demonstrates that pricing patterns can be used as indicators of a behavioral market failure, signaling a potential role for legal intervention.

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INTRODUCTION......................................................................................1
I. THE CREDIT CARD ............................................................................8
 A. The Two Functions of Credit Cards ...........................................8
 B. The Development and Importance of the Credit Card ..........8
 1. History .....................................................................................8
 2. Economic Significance..........................................................11
 C. The Credit Card Industry ..........................................................14
 1. Structure ................................................................................14
 2. Competition...........................................................................15
II. CREDIT CARD PRICING...................................................................17
 A. Disaggregating the Credit Card Price.......................................17
 1. High Interest Rates ................................................................17
 2. No Annual or Per-Transaction Fees ......................................20
 3. Teaser Rates ..........................................................................21
 4. Late and Over-Limit Fees .....................................................22
 5. Low Minimum Monthly Payments .......................................23
 B. A Unifying Pattern....................................................................23
III. A BEHAVIORAL THEORY OF CREDIT CARD PRICING.....................24
 A. Underestimating Future Borrowing..........................................24
 1. Underestimation of Self-Control Problems...........................24
   a) Imperfect Self-Control ......................................................24
   b) Hyperbolic Discounting ....................................................25
   c) Borrowing a Little at a Time .............................................28
 2. Underestimation of Contingencies Bearing Economic
   Hardship .....................................................................................29
 3. Underestimation of Forgetfulness .........................................30
 B. Explaining Credit Card Pricing ................................................31
 1. High Interest Rates .................................................................31
 2. No Annual or Per-Transaction Fees ......................................32
 3. Teaser Rates ..........................................................................35
 4. Late and Over-Limit Fees .....................................................37
 5. Low Minimum Monthly Payments .......................................38
 C. The Rational Choice Critique ...................................................38
 1. A Rational Choice Theory?...................................................39
 2. The Ad-hoc Critique..............................................................40
IV. REASONS FOR INTERVENTION IN THE CREDIT CARD MARKET......41
 A. Efficiency Costs .........................................................................41
 1. Increasing the Costs of Financial Distress ......................42
2. Inefficient Use of Credit Cards .............................................44
B. Distributional concerns .............................................................45
C. Freedom of Contract and Its Failure .........................................45
V. POLICY IMPLICATIONS ............................................................47
A. Ex Ante Regulation .................................................................47
  1. Warnings, Disclosures, and the Truth-In-Lending Act ..........48
  2. Default Rules and Unsolicited Offers ...................................51
  3. Unbundling ........................................................................52
  4. Reconsidering Usury ............................................................53
B. Ex Post Judicial Review ...........................................................54
  1. Contract Law .................................................................54
     a) Unconscionability ........................................................55
     b) The Penalty Doctrine .....................................................56
  2. Bankruptcy Law ...............................................................57
     a) Maintaining Consumer Access to Bankruptcy Relief ......57
     b) Limiting the Rights of Credit Card Issuers ....................58
VI. BEYOND CREDIT CARDS ........................................................59
A. Pricing Anomalies and Behavioral Explanations .....................60
B. Cell Phones ...........................................................................61
C. Other Contracts .....................................................................62
  1. Williams v. Walker-Thomas Furniture .................................62
  2. Pro-Seller Provisions in Breach Contingencies ....................65
VII. CONCLUSION .........................................................................66
INTRODUCTION

Consumer contracts are characterized by an asymmetry between the two parties, the seller of a good or the provider of a service on the one hand and the consumer on the other. One party is usually a highly sophisticated corporation, the other—an individual, prone to the behavioral flaws that make us human. Absent legal intervention, the sophisticated seller will often exploit the consumer’s behavioral biases. The contract itself, commonly designed by the seller, will be shaped around consumers’ systematic deviations from perfect rationality. Such biased contracting is not the consequence of imperfect competition. On the contrary, competitive forces compel sellers to take advantage of consumers’ weaknesses.

This broad theme is developed within a detailed case study of the credit card market and the credit card contract. Credit cards present a significant socio-economic phenomenon. In 2000, consumers used 1.44 billion credit cards, i.e. almost 14 cards per household, to purchase an estimated $1,463 billion of goods and services. The average household completed $14,000 of credit card transactions, about 33 percent of the median household income. Not only are credit cards important, they are also dangerous. Credit card debt, which amounted to $683 billion in 2000, is a notoriously prominent component of overall consumer debt, and a leading culprit in consumer bankruptcy cases.

Congress has repeatedly debated different policy responses to the credit card problem. Recent legislation targets surprise jumps in

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2 Statistical Abstract, supra note 1, tbl. 1164-65. See also Thomas A. Durkin, CONSUMERS AND CREDIT DISCLOSURES: CREDIT CARDS AND CREDIT INSURANCE, FED. RESERVE BULL., April 2002, at 202 (“Much of the growth of consumer credit in recent years has been in the form of revolving credit, of which credit card credit is the largest component.”); TEREISA A. SULLIVAN, ELIZABETH WARREN & JAY LAWRENCE WESTBROOK, THE FRAGILE MIDDLE CLASS: AMERICANS IN DEBT 129 (2000) (“As the fastest growing proportion of consumer debt, credit card debt has led the way to bankruptcy for an increasing number of Americans . . . .”); Charles A. Docter, IMPACT OF CREDIT CARD USE ON CONSUMER BANKRUPTCIES, 1998 ABI JNL. LEXIS 25 (citing a May 1997 CNN/USA Today/Gallop Poll as well as other evidence suggesting that credit card bills are the foremost cause of consumer bankruptcy); Hae Won Choi & Gordon Fairclough, PAYBACK TIME: AFTER CREDIT BINGE IN SOUTH KOREA, BIG BILL COMES DUE, WALL STREET JOURNAL, 1/20/04, pp. A1, A10 (Mounting credit card debt rocks the South Korean financial system).
Credit cards also figure prominently in the pending bankruptcy reform legislation. The Supreme Court is similarly concerned about the credit card market, having recently granted certiorari to consider issues pertaining to the definition of finance charges under the Truth-in-Lending Act. Last but not least, the academic literature has engaged the credit card debate, examining the need for legal intervention in the credit card market, and proposing different policy solutions to the credit card problem.

This Article seeks to reframe the credit card debate and, using insights from behavioral law and economics, to offer a fresh perspective on the causes and potential cures of the credit card problem. As a first step, the Article offers a broader perspective on the credit card contract, extending beyond the interest rate dimension. Several unique features of the credit card contract, such as low introductory rates that appear alongside high long-term interest rates, zero annual and per-transaction fees, large penalties for late payment and for deviations from the credit limit, and low (and even negative) amortization rates, must all be considered. In particular, a theory of credit card pricing must explain why (non-introductory) interest rates, as well as late and over-limit fees, are set well above marginal cost, while annual and per-transaction fees are set below marginal cost (and, accounting for the benefits programs associated with most credit cards, might even amount to setting a negative price).

The behavioral theory developed in this Article explains the staggering levels of credit card borrowing, and sheds light on the unique design of the credit card contract. At the foundation of the proposed theory is a combination of behavioral biases that results in the underestimation of future borrowing.

The first underlying bias involves imperfect self-control, or an underappreciated weakness of the will. Perhaps the first story of imperfect self-control is that of Ulysses and the Sirens. Ulysses ordered his crew to tie him to the mast of the ship, knowing that while he wished to avoid the danger of the Sirens, the sound of their enchanting song would cause him to disregard all danger and steer ship and crew towards certain doom. But not everyone has Ulysses’ foresight. While on the treadmill, the dieter may promise himself that he will forsake dessert when he dines out that evening. But at the restaurant, when the dessert cart is steered past the table and his

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6 See Pfennig v. Household Credit Services, Inc., No. 00-4213 (6th Cir., July 2, 2002), cert. granted Household Credit Services, Inc. v. Pfennig, No. 02-0857 (June 27, 2003).
mouth starts to water, he caves in and orders the chocolate cake. How many New Years’ resolutions to regularly attend the gym or health club are quickly forgotten when February replaces January (or even earlier)? How often are alarm clocks set with best intentions in mind, only to be turned off and ignored the next morning? Imperfect self-control also plagues consumption and savings decisions, accounting for the rampant problem of insufficient saving for retirement. And weakness of the will also explains consumers’ underestimation of their future borrowing. Often the consumer will end up borrowing on her credit card, despite her ex ante intentions not to borrow.

The second bias underlying the underestimation of future borrowing is the optimism bias. Consumers tend to underestimate the likelihood of adverse events that might necessitate borrowing. Optimistic individuals tend to underestimate the probability of being involved in an accident that might generate high medical bills or other liquidity needs. Similarly, individuals tend to underestimate the probability that either they or a loved one will become ill and require costly treatment (that is not covered, or not entirely covered by their insurance plan). Finally, individuals tend to underestimate the likelihood that they will lose their job, or the time it will take them to find a new job. These and other manifestations of the optimism bias lead consumers to underestimate the likelihood that they will incur a liquidity shock that necessitates a resort to credit card borrowing.

The underestimation bias can explain the unique pricing patterns in the credit card market. If consumers underestimate their future borrowing, issuers can be expected to raise the long-term, borrowing-contingent elements of the credit card price. Thus, interest rates as well as late and over-limit fees are set above marginal cost, since consumers are insufficiently sensitive to variation in these long-term elements of the credit card price. On the other hand, competition in

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the credit card market forces issuers to compensate for these high long-term prices by under-pricing the short-term, non-contingent elements of the credit card contract, which are not subject to the underestimation bias. To attract consumers, issuers must resort to below-marginal-cost (and even negative) prices in setting annual and per-transaction fees as well as introductory, short-term interest rates (teaser rates).

The analysis in this Article portrays the credit card contract as a tool designed to exploit consumers’ underestimation bias. Interestingly, if the credit card market is indeed as competitive as it appears to be, issuers have to exploit consumers’ imperfect rationality in order to survive in this market. Issuers that do not take advantage of the underestimation bias, and offer lower interest rates instead of short-term perks, would not succeed in the marketplace. Consumers, failing to appreciate the value of reduced interest rates, would take their business elsewhere.

The ongoing debate over the need to regulate the credit card market has largely focused on the profitability of credit card issuers. Proponents of regulation argue that high interest rates generate supra-competitive profits for issuers. Opponents of legal intervention argue that supra-competitive profits are a myth. The analysis in this Article suggests that the focus on profits is misguided. According to the behavioral theory developed here, it is perfectly plausible that issuers, operating in a highly competitive market, are exploiting consumer biases without making supra-competitive profits. The underestimation bias does not eliminate the competition in the credit card market; it diverts competition from the interest rate to other, short-term components of the credit card contract. Competition still dissipates supra-competitive rents, but it does so through low (and even negative) per-account and per-transaction fees, teaser rates, and frequent flyer miles, rather than through lower interest rates.

Even in the absence of supra-competitive profits, legal intervention may be required to prevent the potentially significant welfare costs generated by the underestimation bias. Competition in the credit card market is distorted by this bias. Instead of bringing down interest rates, and eliminating late and over-limit fees, competition is focused only on short-term perks: annual and per-transaction fees, teaser rates, and benefits programs. While consumers undeniably enjoy these transitory perks, the long-term costs outweigh any short-term benefit, because the long-term costs hit

the consumer when she is most vulnerable, when financial distress forces her to borrow.

In addition, the biased competition in the credit card market leads to distorted incentives. When price equals marginal cost, a buyer will buy if and only if she values the good or service more than its cost. Marginal-cost pricing aligns private incentives with the social objective of welfare maximization. Goods and services are produced only when the benefit exceeds the cost, and an optimal allocation of resources is achieved.

In the credit card market, prices systematically deviate from marginal cost. The underestimation bias distorts competitive forces leading to above-marginal-cost pricing of long-term price elements, and to below-marginal-cost pricing of short-term price elements. Importantly, the below-marginal-cost pricing of some elements does not compensate for the above-marginal-cost pricing of other elements. Each type of deviation generates its own independent distortion. Zero annual and per-transaction fees, coupled with benefits programs, result in too many credit cards and in excessive use of these cards. And, teaser rates lead to excessive pre-distress borrowing, which in turn renders the consumer more vulnerable to financial hardships. Moreover, benefits programs offered by credit card issuers might skew prices and distort incentives beyond the credit card market, leading to over-consumption.

Not only efficiency is threatened by the distorted pricing in the credit card market. The systematic overpricing of credit services and underpricing of transacting services means that transactors are being cross-subsidized by borrowers. This troubling distributive effect further suggests the need to consider legal intervention in the credit card market.

These welfare costs provide a prima facie case for legal intervention. The underestimation bias that underlies the identified welfare costs also qualifies the no-intervention presumption of the freedom-of-contract paradigm. If a contracting party misconceives the future consequences of the contract, then the normative power of contractual consent is significantly weakened.

This Article challenges the no-intervention position. It does not make an affirmative case for intervention. To make such a case would require a comprehensive cost-benefit analysis of the proposed policy response. Rather, the Article identifies the major legal avenues available to policymakers concerned with the repercussions of the underestimation bias.

Starting with the least controversial mode of legal intervention, the Article considers the potential role of disclosure. The underestimation model suggests, however, that merely disclosing the interest rate in the credit card offer, even in a salient way, is not enough. If a consumer believes that she will not borrow on her card, she will not mind the high interest rate, no matter how large the font. To be effective, the required disclosures must target consumers’
underestimation bias. For instance, the Truth-in-Lending Act\textsuperscript{14} can be amended to require that personalized warnings of projected debt and its consequences be added to the monthly credit card bill.

A second mild form of intervention focuses on the design of default rules. In the credit card market, the ubiquitous unsolicited credit offers provide a natural target for default-rule-type regulation. For instance, it may be desirable to categorically prohibit the use of excessive late and over-limit fees, negative amortization rates and even some types of teaser rates in unsolicited offers. Since a sophisticated consumer, who really wants a high interest rate, can get it by requesting and completing an application, even strict regulation of unsolicited offers is tantamount to a default rule, thus alleviating many anti-regulation concerns.

A third form of legal intervention targets the bundling of transacting and financing services achieved by the credit card. This bundling facilitates the pricing distortions observed in the credit card market. Absent financing and penalty revenues, issuers would not be able to offer free cards and generous benefit programs. The Article considers the role of charge cards and debit cards in affecting the desired unbundling, concluding that without regulatory help these competitors can expect only limited success vis-à-vis the credit card. A second unbundling policy, forcing issuers to offer an automatic payment option from the consumer’s checking account, is also considered.

A fourth, more controversial policy, usury ceilings, is considered next. While no affirmative case for usury caps is made, the underestimation theory qualifies the traditional objection to usury ceilings, namely that such price regulation would only limit the availability of credit, hurting the very consumers it sets-out to protect. The proposed theory suggests that a credit card usury cap will likely induce issuers to readjust their pricing practices—to place more weight on the short-term elements of the credit card price. The overall price of credit, and thus the availability of credit, need not change. Moreover, credit card usury caps should be distinguished from a broad usury law applicable to all forms of financing. The credit card law might induce substitution from credit card financing, which is uniquely vulnerable to the underestimation bias, to alternative forms of financing (e.g. bank loans); it should not significantly limit the overall availability of credit.

The Article also considers the potential role of ex post judicial review of credit card contracts, specifically through contract law and bankruptcy law. Courts have occasionally upheld common law claims against card issuers. Generally, however, they have been reluctant to intervene in the credit card market. This hands-off approach is likely justified. Given the institutional limitations of

\textsuperscript{14} 15 U.S.C. §§ 1601 et seq.
common law adjudication, ex ante regulation should be the preferred mode of legal intervention in the credit card market.

As argued at the outset, the credit card problem is just one example, though an important one, of a much broader phenomenon. Many consumer contracts are controlled by sophisticated sellers, who design these contracts to exploit consumers’ limited will-power and imperfect rationality. Market forces cannot be relied upon to cure this problem; in fact, they exacerbate it. From a policy perspective, the credit card case study demonstrates that observed pricing patterns can be used as indicators of such a behavioral market failure. Specifically, deviations from marginal-cost pricing in what otherwise appears to be a competitive market should draw policymakers’ attention.

Applying this logic, I identify the cell phone market as another market where an underestimation bias distorts competition, suggesting that legal intervention should be considered. The framework developed in this Article applies also to contracts signed outside the scope of a well-developed market (such as the credit card or cell phone markets).

Even where pricing anomalies would be more difficult to identify, the proposed behavioral theory can single out specific provisions and contracting practices for special scrutiny. For instance, the underestimation theory provides a novel perspective on the casebook favorite, *Williams v. Walker-Thomas Furniture Co.*, where the conscionability of the repossession clause in an installment purchase contract was reviewed. More broadly, the commonly-observed pro-seller provisions governing breach contingencies can be explained as the rational response to consumers’ underestimation bias.

The remainder of this Article is organized as follows. Section I presents the credit card—its functions, history and economic significance, the credit card industry, and the credit card market. Section II describes the unique patterns in credit card pricing, focusing on the systematic deviations from marginal-cost pricing. Section III develops the underestimation theory, and uses it to explain credit card pricing. Section IV identifies the welfare costs of the biased competition in the credit card market, and suggests that legal intervention should be considered. Section V explores specific policy responses. Section VI draws the broader lessons from the credit card case study, and applies them to the cell phone market and to other contractual settings. Section VII concludes.

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16 350 F.2d 445 (D.C. Cir. 1965).
17 See infra Section VI.C.2.
I. THE CREDIT CARD

A. The Two Functions of Credit Cards

What is a credit card? It is a flat, 3 7/8" by 2 5/8" piece of plastic engraved with a name and an account number. But it is also a representation that allows its holder to perform two distinct tasks – to transact quickly and efficiently, and to borrow, to finance a specific purchase, business, or way of life. The transacting and financing functions, while combined in one piece of plastic, are very different. They constitute two distinct services provided by the credit card issuer – two services purposefully linked together in one plastic card.\(^\text{18}\)

The credit card holder need not make use of both functions. Some transact, but do not borrow. These transactors use the credit card only as a method of payment. While the transactors group is by no means insignificant, the majority of cardholders use both the transacting and financing services provided by their plastic card.\(^\text{19}\)

B. The Development and Importance of the Credit Card

1. History

Where does the phrase “credit card” come from? The term was coined by Edward Bellamy in his 1887 utopian socialist novel, Looking Backward. Bellamy provides a futuristic account of the year 2000, when credit cards had entirely supplanted cash.\(^\text{20}\)

The history of consumer credit, in the modern sense, begins in the early twentieth century, when Sears, Roebuck and Company was lending money to its customers so that they could buy the goods Sears had to sell. Thus, the merchant card (or retail card) was born.\(^\text{21}\) The

\(^{18}\) The implication of this bundling of transacting and borrowing services are discussed in Section III.B.2 infra.
\(^{19}\) See Ausubel, supra note 12, at 71-2 (“typically three-quarters of active credit card accounts at major banks are incurring these high finance charges . . . .”); Sullivan, Warren & Westbrook, supra note 2, at 110 (“[T]hree out of four of [all households that have at least one credit card] also carry credit card debt from month to month.”); Evans & Schmalensee, supra note 13, at 211 (transactors “comprise roughly a third of cardholders but account for about half of charge volume”); Ana M. Aizcorbe et al., Recent Changes in U.S. Family Finances: Evidence from the 1998 and 2001 Survey of Consumer Finances, Fed. Reserve Bull., January 2003, at 24-5 (According to 2001 SCF data, 44.4% of households carry credit card debt; among the 72.7% of households holding at least one bank card, 53.7% carry a balance.)
\(^{21}\) Sullivan, Warren & Westbrook, supra note 2, at 109 (“Sears, and then other retailers, gave consumers the credit that banks would not give them.”)
The path to the modern credit card proceeds through the so-called Travel & Entertainment (T&E) cards, special-purpose charge cards that in time evolved into all-purpose cards. The Diner’s Club card led the way, first appearing in 1949, followed by American Express and Carte Blanche, which entered the market in 1958.\footnote{Id. See also Lewis Mandell, The Credit Card Industry: A History 1-3 (1990) (an historical account of the conception of the Diner’s card); Evans & Schmalensee, supra note 13, at 10-11 (describing the entry of the American Express and Carte Blanche cards).} The T&E cards, while gradually evolving into all-purpose cards, were still charge cards, rather than credit cards – the balance on these cards was due in full at the end of each month.\footnote{Id. See also Lewis Mandell, The Credit Card Industry: A History 1-3 (1990) (an historical account of the conception of the Diner’s card); Evans & Schmalensee, supra note 13, at 10-11 (describing the entry of the American Express and Carte Blanche cards).}

In the mid-1960s, with the advent of the Visa and MasterCard systems, the modern credit card was born, combining the all-purpose feature of the evolved T&E cards with the credit feature of the merchant cards.\footnote{See Sullivan, Warren & Westbrook, supra note 2, at 109. See also Evans & Schmalensee, supra note 13, at 10-11 (describing the entry of the all-purpose bankcards).} The Visa and MasterCard bankcards grew rapidly, adding more and more bank-issuers and merchants to their networks. American Express joined the credit card scene with its Optima card in the late 1980s. In 1985, Sears Roebuck & Co. introduced its own all-purpose credit card, the Discover card.\footnote{See Evans & Schmalensee, supra note 13, at 1-3 (1990) (an historical account of the conception of the Diner’s card); Evans & Schmalensee, supra note 13, at 10-11 (describing the entry of the American Express and Carte Blanche cards).}

Yet, the initial steps on the road to success were somewhat shaky. With strict usury laws in place, issuers were initially losing money on their credit card business.\footnote{See Evans & Schmalensee, supra note 13, at 10-11. See Sullivan, Warren & Westbrook, supra note 2, at 109. Recently, store cards seem to be regaining momentum.} The banking industry sought to overcome the strict interest rate ceilings in an ingenious way. Rather than lobbying each state legislature for more lenient usury laws, the industry targeted, in the Federal courts, the jurisdictional issue of the company’s first application form asked, “How long at your present address?” and “How many cows do you milk?” \footnote{See Evans & Schmalensee, supra note 13, at 68-9, 73. See also Lawrence M. Ausbel, Credit Card Defaults, Credit Card Profits, and Bankruptcy, 71 Am. Bankr. L.J. 249, 260-61 (1997) (“Before 1982, credit card interest rates were subject to usury ceilings in most states. These ceilings on interest rates limited credit card profitability during periods, such as 1974-1975 and 1980-1981, when market interest rates on Treasury bills and corporate bonds spiked upward. This led to a sharply-reduced or negative return on assets for credit card activity during such years.”)}
“exportation” of interest rates; the question being “which state’s usury ceiling constrains the interest rate if a bank located in one state issues a credit card to a consumer in a different state.”

Finally, in 1978, the exportation question reached the United States Supreme Court. The Court, in *Marquette National Bank v. First of Omaha Service Corporation*, ruled that the applicable usury ceiling was the one set by the state where the issuing bank was located. In effect, the Supreme Court “gave banks the option of shifting their credit card operations to wholly owned subsidiaries situated in states without usury laws.” The *Marquette* decision fired the opening shot in the inter-state race to attract credit card issuers. To win this race, or at least to prevent an exodus of banks from the state, many states substantially increased their interest caps, or revoked their usury laws altogether. The *Marquette* decision produced a functionally deregulated credit card market. Moreover, the decision enabled credit card issuers to operate on a national level and thus to enjoy scale economies.

The sky-high inflation of the late 1970s and early 1980s lifted the final barrier to the profitability of the credit card industry. With the effective abolition of usury laws, credit card interest rates rose to match the high inflation rates. In fact, the causation probably worked in both directions; the high inflation rates were likely instrumental in bringing about the legal changes (specifically the *Marquette* decision) that triggered the effective abolition of usury ceilings. Either way, credit card interest rates rose with inflation.

As high inflation justified raising interest rates in the late 1970s and early 1980s, the subsequent decline in the inflation rate starting in 1982-83 might have been expected to produce a reduction in credit card interest rates. This reduction, however, never came.

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28 See Ausubel, supra note 27, at 260-61.
31 Ausubel, *supra* note 12, at 52.
34 See Sullivan, Warren & Westbrook, *supra* note 2, at 248-9 (“All that changed with the sky-high inflation of the late 1970s and early 1980s. With inflation in double digits, Congress and the Supreme Court effectively legalized what had been usury, overriding the restrictive state laws.”)
35 Sullivan, Warren & Westbrook, *supra* note 2, at 255 (“[T]he single biggest cost for a credit card issuer is the cost of funds for the money it lends to borrowers who repay over time. Between 1980 and 1992, the rate at which banks borrow money fell from 13.4 percent to 3.5 percent. During the same time, the average credit card interest rate rose from 17.3 percent to 17.8 percent. Thus during the period that the credit card issuers’ largest cost was plummeting, they were raising the price of credit to their consumers.”)
The history of the credit card industry is marked by declining costs and sticky interest rates. These high interest rates, which stubbornly fail to keep up with the declining cost of funds, have allowed credit card issuers to offer more credit and to target less credit-worthy consumers. The result was an explosion of consumer credit, leading to a dramatic expansion of consumer debt and also to an increase in consumer bankruptcy rates. Ensuing attempts to reinstate some form of usury law have all failed.

2. Economic Significance

Credit cards are a major method of payment, and their prevalence and importance is only growing. By 1995, credit cards had already surpassed cash as a method of payment. In 2000, consumers used 1.44 billion credit cards, i.e. almost 14 cards per household, to purchase an estimated $1,463 billion of goods and services. The average household completed $14,000 of credit card transactions, about 33 percent of the median household income. In a recent study, Gross and Souleles note that “[a]bout 20 percent of aggregate personal consumption is already being purchased using credit cards . . .”

The credit card industry has experienced a significant growth rate – as measured by transaction volume, number of cards in circulation, and total credit card transactions. The growth rate has been driven by increased issuance of credit cards, expansion of credit card features, and improved customer service. The credit card industry has become a major player in the world economy, and its growth has had a significant impact on consumer spending and economic growth.

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36 Id. at 18-19, 248-49; Ausubel, supra note 12, at 53-55; Mandell, supra note 22, at 79.
37 Alternatively, the declining cost of funds lead issuers to extend credit to less credit-worthy consumers, and the increased risk prevented the decline in interest rates.
38 Diane Ellis, The Effect of Consumer Interest Rate Deregulation on Credit Card Volumes, Charge-Offs and the Personal Bankruptcy Rate, 98-05 Bank Trends (1998) (identifying the link between the repeal of usury rates, the increase in consumer credit, and the rise in bankruptcy filing rates). The historical link between the rise of the credit card and the explosion of consumer debt is quite significant. See James Medoff & Andrew Harless, The Indebted Society: Anatomy of an Ongoing Disaster 9 (1996) (“Since the introduction of credit cards, the debt level of the typical American has risen far out of proportion to his or her income.”).
39 See supra note 3.
40 See Sullivan, Warren & Westbrook, supra note 2, at 108; Evans & Schmalensee, supra note 13, at 25-6. In 2001, payment cards were used in 32% of purchased value, as compared to a 43% use of checks and a 19% use of cash. See Statistical Abstract, supra note 1, tbl. 1162. Unless noted otherwise, the data presented in this Article is U.S. data. For an excellent comparative account, see Ronald J. Mann, Credit Card Policy in a Globalized World (2004) (unpublished manuscript, on file with author).
41 See supra note 1.
or outstanding balances. And with the rise of e-commerce there is reason to expect that the industry will continue to experience significant growth.

For most consumers, credit cards have become a way of life. While in 1970 only 16% of households had credit cards (and half of these households were among the top 25% in terms of income), all but the poorest households had ready access to credit cards as early as the 1980s. A recent study by Laibson et al. reports that 80% of households have at least one credit card (including store cards). The average monthly household charge was over $1100 in 2000, as compared to only $125 in 1970 (in current dollars). The ratio of charges to income grew from just under 4% in 1970 to about 33% in 2000. And this growth is not solely attributable to the phenomenon of credit cards displacing other methods of payment. A growing body of evidence suggests that credit cards encourage spending.

43 See Evans & Schmalensee, supra note 13, at 235-36 ("Between 1971 and 1997, the number of cards in circulation increased by more than 900 percent, while the number of households increased by only 54 percent. The total dollar value of credit card transactions increased by 2,630 percent in that same period while personal consumption expenditures increased by 125 percent. Finally, outstanding balances increased by 2,700 percent while total consumer credit outstanding increased by 140 percent . . . . Payment cards have grown at the expense of other means of payment and other sources of credit.") 44 See Gross & Souleles, supra note 42, at 151; Card Industry Directory, 2002 Edition 10-11 (Sandra L. Budde ed., 2001). The continued growth of the credit card industry is also based, to a large degree, on international prospects. See Evans & Schmalensee, supra note 13, at 52.

45 Sullivan, Warren & Westbrook, supra note 2, at 19, 111 (noting a change in popular culture geared toward more purchasing and debt).


47 See David I. Laibson et al., A Debt Puzzle, in Knowledge, Information, and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps 230 (Philippa Aghion et al. eds., 2003) (based on the 1995 Survey of Consumer Finance (SCF)). See also Gross & Souleles, supra note 42, at 151 ("About 2/3 of households have at least one bankcard"); Durkin, supra note 22, at 202 (72% of households held a bank card in 2001).

48 See Statistical Abstract, supra note 1, tbls. 652, 1165 (for 2000 figures); Evans & Schmalensee, supra note 13, at 87 (for 1970 figures).

49 See Lloyd Klein, It’s In The Cards: Consumer Credit and The American Experience 26 (1999) ("Credit cards facilitated the rise of consumer spending for consumer products or services."); Elizabeth C. Hirschman, Differences in Consumer Purchase Behavior by Credit Card Payment System, 6 J. Consumer Res. 58 (1979) (people who own more credit cards make larger purchases per department store visit); Richard A. Feinberg, Credit Cards as Spending Facilitating Stimuli: A Conditioning Interpretation, 12 J. Consumer Res. 384 (1986) (restaurant tips are larger when payment is by credit card); Drazen Prelec & Duncan Simester, Always Leave Home Without It: A Further Investigation of the Credit-Card Effect on Willingness to Pay, 12 Marketing Letters 5 (2001) (respondents offered significantly higher prices for Celtics and Red Sox tickets when paying by credit card). These studies preclude a liquidity constraints explanation for the credit card effect. See, e.g., id. at 10.
Not only do credit cards encourage spending, they encourage borrowing as well. As noted by Sullivan, Warren & Westbrook:

“Credit card debt has become as much a part of American life as has the credit card itself . . . . Of the three-quarters of all households that have at least one credit card, three out of four of them also carry credit card debt from month to month . . . . Increasingly . . . . [Americans] do not pay [with their credit cards] – they finance. Quietly, without much fanfare, Americans have taken to buying school shoes and pizza with debt— and paying for those items over months or even years.”

Credit cards are now the leading source of unsecured consumer credit/debt. Moreover, not only consumers use credit card financing: Many self-employed owners of small businesses turn to high-interest credit card debt to finance their businesses. Total credit card borrowing amounted to about $683 billion in 2000. The average credit card debt per household in the US amounted to over $6,500 in 2000. Restricting attention to the 80% of households with credit cards, average debt per household rises to over $8,000, and the average debt per indebted household is over $12,500. Credit card debt has exhibited an extraordinary growth rate, gradually taking over the entire consumer debt category. This growth in credit card debt...

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50 See, e.g., Gross & Souleles, supra note 42, at 151 (Of all households with at least one bankcard “at least 56 percent – a remarkably large fraction – are borrowing on their bankcards, that is, paying interest, not just transacting.”). These figures, which are based on SCF data, significantly understate the percentage of households with credit card debt, since SCF households substantially underreport their credit card debt. Id. at n. 2.

51 Sullivan, Warren & Westbrook, supra note 2, at 110-11. See also Klein, supra note 49, at 29 (“[t]he “me generation,” actualized through credit card utilization, was transformed into a debt carrying “greed generation” wanting and buying everything in sight.”).

52 See Sullivan, Warren & Westbrook, supra note 2, at 115-7; Evans & Schmalensee, supra note 13, at 34, 103-7.


54 This figure is derived by dividing the total consumer credit card debt, $638 billion (see supra note 53), by the number of households, 104,705,000 (see Statistical Abstract, supra note 1, tbl. 51).

55 The fraction of households with at least one credit card that are borrowing on their credit cards is 63%. See Laibson et al., supra note 47, at 231. Focusing on bankcard debt, Gross & Souleles report that “[c]onditional on borrowing, the median bankcard account is borrowing over $2000, with about another $5000 of balances on other cards... These are large magnitudes in the context of typical household balance sheets.” Gross & Souleles, supra note 42, at 151.
also accounts for the steady increase in the ratio of consumer debt to income.\textsuperscript{56} It is, therefore, not surprising that credit card debt plays a notoriously important role in consumer bankruptcy. Credit card defaults are highly correlated with personal bankruptcies.\textsuperscript{57} Based on their thorough empirical investigation of consumer bankruptcy filings, Sullivan, Warren & Westbrook conclude that: “[a]s the fastest growing proportion of consumer debt, credit card debt has led the way to bankruptcy for an increasing number of Americans . . . .”\textsuperscript{58} Careful statistical analysis undertaken by Ronald Mann in a recent study verifies the causal relationship between credit card debt and consumer bankruptcy filings.\textsuperscript{59}

C. The Credit Card Industry

1. Structure

A first cut divides the credit card market into the major credit card brands, Visa, MasterCard, American Express and Discover. The bankcard brands, Visa and MasterCard, share a common and more complex structure. These are in fact joint ventures of banks, comprising thousands of distinct issuers.\textsuperscript{60} While many of these bank-issuers operate only at the local level, a significant number of issuers participate at the regional and national levels. In the 1990s a new group of players entered the credit card scene - the nonbank issuers, such as AT&T. While formally these nonbank issuers are necessarily affiliated with a Visa or MasterCard issuing bank and the issued credit card is a co-brand card, e.g. of AT&T and MasterCard, the major strategic decisions are undertaken by the nonbank issuer.\textsuperscript{61}

Focusing on the bankcard brands, it is interesting that the Visa and MasterCard associations are quite decentralized. Lawrence Ausubel observed that “most relevant business decisions are made at the level of the issuing bank [rather than at the Visa or MasterCard

\textsuperscript{56} See supra note 2; SULLIVAN, WARREN & WESTBROOK, supra note 2, at 18 (“[R]eal consumer debt has risen dramatically over a long period during which real incomes for many people have stayed the same or declined.”)


\textsuperscript{58} SULLIVAN, WARREN & WESTBROOK, supra note 2, at 129. See also SULLIVAN, WARREN & WESTBROOK, supra note 2, at 119-20; EVANS & SCHMALENSEE, supra note 13, at 5.

\textsuperscript{59} Mann, supra note 40.

\textsuperscript{60} See EVANS & SCHMALENSEE, supra note 13, at 4, 48. See also Ausubel, supra note 12, at 51 (there are more than four thousand card-issuing banks). MasterCard recently registered as a private share corporation, owned by its member banks. See http://www.mastercardintl.com/corporate/corp_governance.html.

\textsuperscript{61} See EVANS & SCHMALENSEE, supra note 13, at 49, 75-77.
organizations level]. Individual banks own their cardholders’ accounts and determine the interest rate, annual fee, grace period, credit limit, and other terms of the account.”

Visa and MasterCard set only the interchange fee, the transfer from the merchant’s bank to the card-issuing bank, which does not seem to constitute a major source of revenue for the issuers. In addition, the bankcard associations operate on a break-even basis, only covering their cost of operation, while the banks-issuers get all the profits. Still the Visa and MasterCard organizations play an important role in making system-wide decisions, in promoting the association’s brand name, specifically through advertising, and in leading the competition with the other bankcard brands.

2. Competition

There are two intertwined levels of competition within the credit card industry. At the upper level, the major credit card brands—especially Visa, MasterCard, American Express and Discover—compete among themselves. Visa is the industry leader both in terms of charge volume and in terms of credit extended, with MasterCard following closely behind. American Express and Discover occupy the more distant third and forth places, respectively. The evidence regarding the intensity of competition at the network level is mixed. While the four brands are clearly competing against each other, the series of antitrust challenges against Visa and MasterCard suggests that the leading brands have taken steps to limit competition at the network level.

62 Ausubel, supra note 12, at 51.
63 Id. See also EVANS & SCHMALENSEE, supra note 13, at 199.
64 See EVANS & SCHMALENSEE, supra note 13, at 197.
65 See infra. The role played by the associations in terms of investment in product development and brand recognition is the subject of serious debate between the larger and smaller issuers. While the small issuers would like the associations to invest more, the large issuers view such investments as competing with their private brand and product development.
66 See Card Industry Directory, supra note 53, at 14-15 (In 2001, the U.S. credit card market was divided among these issuers as follows: Visa – 44.5 percent with $591.9 billion in charge volume, MasterCard – 31.6 percent with $421 billion in charge volume, American Express – 16.9 percent with $224.5 billion in charge volume, and Discover – 7 percent with $93.3 billion in charge volume. Focusing on credit extended by the four major brands, the 2001 market shares were: Visa – 45.3 percent with $274 billion of outstanding credit, MasterCard – 41.3 percent with $249.7 billion of outstanding credit, Discover – 8.1 percent with $49.3 billion of outstanding credit, and American Express – 5.3 percent with $32 billion of outstanding credit.)
67 In particular, the Second Circuit recently struck down Visa and MasterCard bylaws that prevented member banks from issuing American Express and Discover cards. See United States v. Visa U.S.A., Inc., 344 F.3d 229 (2nd Cir. 2003).
While competition at the network level might be less than perfect, it is difficult to deny the intensity of competition at the issuing level, where thousands of banks, as well as American Express and Discover (as issuers) compete for consumers. Beyond the sheer number of competitors, the conclusion that competition in the issuing market is robust is supported by evidence regarding the ease of entry into this market, the low level of concentration in the market, the availability of information that facilitates comparison among the many different card issuers, and the arguably small cost of switching from one card/issuer to another.

Despite the evidence of competition in the industry, some commentators, relying on evidence of high interest rates exceeding the issuers’ cost of funds, have argued that high supra-competitive profits exist in the credit card industry, indicating imperfect competition.

summary of the different antitrust challenges faced by Visa and MasterCard over the years—see EVANS & SCHMALENSEE, supra note 13, ch. 11.

68 Indeed, the Second Circuit specifically noted that “competition . . . is robust at the issuing level.” See United States v. Visa U.S.A., Inc., 344 F.3d 229, 240 (2nd Cir. 2003). Commentators observe that the bankcard associations do not facilitate collusion among the member banks. See, e.g., Ausubel, supra note 12, at 51. It is noteworthy that many of the issuers distribute their cards nationally or regionally. See Federal Reserve, Survey of Credit Card Plans (July 31, 2003) (http://www.federalreserve.gov/pubs/shop/tablwbp.pdf). While competition on the issuer-consumer side of the credit card market seems quite robust, the evidence regarding the intensity of competition on the merchant side of the market is less conclusive. On the one hand, Evans and Schmalensee document evidence of competition on the merchant discount dimension (the fee that merchants pay per credit card transaction). See EVANS & SCHMALENSEE, supra note 13, at 129, 206. On the other hand, in a recent class action antitrust suit against Visa and MasterCard merchants successfully challenged Visa and MasterCard’s tying of credit and debit services with their so-called honor-all-cards rules. See In re Visa Check/Mastermoney Antitrust Litig., 2003 U.S. Dist. LEXIS 22898 (E.D.N.Y., Dec. 19, 2003) (the district court approved a settlement requiring Visa and MasterCard to abandon their honor-all-cards rules).

69 See EVANS & SCHMALENSEE, supra note 13, at 228-233. The steady increase in the number of issuers provides further support for the claim that entry into this market is easy. Id. at 226-9. This relatively low level of concentration persists despite a series of recent mergers in the credit card industry. See Card Industry Directory, supra note 53, at 13, 45.

70 See Survey of Credit Card Plans, supra note 68. See also EVANS & SCHMALENSEE, supra note 13, at 233 (“Newspapers publish lists of low-rate cards, and since 1990 the Federal Reserve has published a survey of credit card plans for about 150 issuers.”).

71 See EVANS & SCHMALENSEE, supra note 13, at 234-5. Still, the existing switching cost may hinder competition. See infra Sections II.A.3 and III.B.3.

72 See Ausubel, supra note 1212, at 50, 56, 64 (Based on data from the 1980s and early 1990s, Lawrence Ausubel found that “the credit card business earned 3-5 times the ordinary rate of return in the banking industry.”); SULLIVAN, WARREN & WESTBROOK, supra note 22, at 135-36 (arguing that “[i]nterest drives profitability,” and describing the high profits of credit card issuers); FDIC QUARTERLY BANKING PROFILE, 4th Quarter, 2002, at 2 (at year-end 2002 credit card issuers continue to
In what follows I show that the central failure in the credit card market—consumers’ underestimation of their future borrowing—leads to inefficiencies that cannot be cured even by perfect competition. Therefore, there is reason to place the credit card industry under scrutiny even if it is subject to intense competition that dissipates any supra-competitive rents.

II. CREDIT CARD PRICING

Credit card pricing patterns are indicative of a behavioral market failure. In this Section, I describe the relevant features of credit card pricing. In the following Section, I develop a behavioral theory that can explain the observed pricing scheme.

A. Disaggregating the Credit Card Price

1. High Interest Rates

A central element of credit card pricing is the interest rate charged on credit card debt. Credit card contracts set high interest rates. The average credit card interest rate was 16.44 percent in 2003. In fact, “[c]redit cards are the most expensive form of debt available.” In the early 1990s, evidence of high and sticky interest rates led to the introduction of several bills to cap credit card interest rates in the United States Congress and several state legislatures. These high interest rates, are even more surprising when compared to the costs faced by credit card issuers. The evidence lead the banking industry in profitability, registering an average return-on-assets of 3.69 percent—three times the industry average.

74 I focus on pricing on the consumer side of the credit card market. It should be noted, however, that the credit card market—being a two-sided network market—exhibits interesting pricing patterns also on the merchant side of the market and between the two sides of the market (namely, the interchange fee that acquirers pay to issuers). For a recent survey of the literature that studies these other aspects of credit card pricing—see Sujit Chakravorti, Theory of Credit card Networks: A Survey of the Literature, 2 REV. NETWORK ECON. 50 (2003).

75 See www.CardWeb.com/cardtrak/news/2004/january/29a.html. See also Laibson et al., supra note 47, at 228-29 (The average interest rate paid on credit card debt “has been approximately 16% in the last five years, implying a real interest rate of 14%.” This is a debt-weighted interest rate that includes teaser rates.); Gross & Souleles, supra note 42, at 153, 179; Federal Reserve Statistical Release, Consumer Credit (Feb. 2003) (In 2002 and 2003 the average credit card interest rate charged by commercial banks and finance companies was between 13.13 percent and 13.65 percent.)

76 SULLIVAN, WARREN & WESTBROOK, supra note 2, at 117. See also EVANS & SCHMALENSEE, supra note 13, at 248 (“Credit card interest rates are usually higher than the interest rates on many other types of consumer loans.”) But see Zywicki, supra note 13, at 100 (arguing that “[c]ompared to realistic and comparable alternatives, credit card interest rates do not appear to be high”).
suggests that prices in the credit card market significantly exceed costs, and that credit card interest rates are not responsive to cost declines.\textsuperscript{78}

Some have tried to justify the high credit card interest rates as a response to the high default rates that issuers face (which can be viewed as another cost element).\textsuperscript{79} However, as Sullivan, Warren & Westbrook observe, “there is no evidence that consumer interest rates have risen and fallen with the rates of defaulted consumer debts, so there is no basis to think that fewer defaults would produce lower interest rates for the rest of us.”\textsuperscript{80} Moreover, even accounting for default rates, which measure the risk involved in credit card lending, and adding the risk premium to the issuers’ cost of funds, credit card interest rates seem quite high. In particular, in 2003 the cost of funds for a financial institution was approximately 2%.\textsuperscript{81} Dividing by one minus the default rate, as measured by the average charge-off rate of 7.28%,\textsuperscript{82} yields a risk-adjusted interest rate of 10%, which is significantly lower than the average credit card interest rate of 16.44%.\textsuperscript{83} Finally, evidence of 18% premiums on the resale of credit card debt proves that credit card interest rates substantially exceed the risk adjusted marginal cost of funds.\textsuperscript{84}

It has been argued that high credit card interest rates are needed to cover other cost elements, specifically the cost of building a viable credit card portfolio, operating expenses (e.g. rent and salaries) and the cost of services other than lending that the card provides.\textsuperscript{85} But while these fixed costs—or, at least, costs that are fixed with respect to lending—can explain above marginal cost pricing, they cannot

\textsuperscript{78} See Ausubel, \textit{supra} note 27, at 261 (“Throughout the remainder of the 1980s, credit card interest rates displayed a profound unresponsiveness to changes in the cost of funds.”); \textit{Evans & Schmalensee, supra} note 13, at 248 (“Not only are credit card interest rates high, they do not always move as quickly as other interest rates in response to changes in the cost of the funds that banks raise to support their lending activities.”) Evans & Schmalensee argue that the increase in variable-rate plans in the 1990s represents greater responsiveness to changes in the cost of funds. \textit{Id.} at 251.

\textsuperscript{79} See \textit{Evans & Schmalensee, supra} note 13, at 249-50 (“[Credit card loans] are riskier than other consumer loans and require a higher interest rate to compensate for this higher risk.”) Issuers’ costs break down to 40% costs of funds and 32% charge-offs/fraud. \textit{Id.} at 214-15.

\textsuperscript{80} \textit{Sullivan, Warren & Westbrook, supra} note 2, at 255.

\textsuperscript{81} \textit{Federal Reserve Statistical Release, Selected Interest Rates} (Sept. 5, 2003).

\textsuperscript{82} See \texttt{www.CardWeb.com/cardtrak/news/2004/january/29a.html}. In fact, the charge-off rate overestimates issuers’ risk, since issuers manage to recover some of the debt that is initially charged-off.

\textsuperscript{83} \textit{Id.}

\textsuperscript{84} See \textit{Card Industry Directory, supra} note 53, at 39 (Reporting an average premiums in excess of 18 percent on acquisitions of credit card portfolios in 2000 and 2001). The concept of a premium in a sale of a credit card portfolio is explained in Ausubel, \textit{supra} note 12, at 65.

\textsuperscript{85} See \textit{Evans & Schmalensee, supra} note 13, at 249-50, 254-55. \textit{See also} Zywicki, \textit{supra} note 13, at 120 (operating costs, rather than the cost of funds, are the main component of issuers’ costs.)
explain why, of all possible dimensions of the credit card price, issuers choose to use high interest rates to cover their fixed costs. In particular, why not use annual rates or per-transaction fees?

Viewed in isolation from other elements of the credit card price, the high interest rates charged on credit card debt are quite puzzling. Such above-marginal-cost pricing is inconsistent with the seemingly intense competition in the credit card industry. As a result, some commentators have concluded that in fact there is very little competition on this important dimension of credit card pricing. As I demonstrate below, high interest rates that exceed the marginal cost of funds, while implying limited competition on the interest rate dimension, are nevertheless consistent with intense competition in the credit card market.

Perhaps the true puzzle surrounding credit card interest rates is rooted in the demand side of the market. Given these high interest rates, the extent of credit card debt is quite surprising. Why would a rational consumer choose “the most expensive form of debt available”? A preliminary response might be that these consumers have no access to less-expensive sources of funds. But this response is not supported by the evidence. In fact, ninety-five percent of consumers that carry credit card balances have access to cheaper sources of financing.

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86 See Ausubel, supra note 27, at 261-62 (“The economic puzzle surrounding the credit card market of the 1980s was why competition among the more than four thousand card-issuing banks did not lead credit card interest rates to follow decreases in the cost of funds.”).

87 SULLIVAN, WARREN & WESTBROOK, supra note 2, at 254-55 (“For reasons that are not entirely clear, the consumer credit market is not very competitive as to interest rates….“). This view, however, is not uncontested. Evans and Schmalensee argue that there is evidence of price competition in the credit card industry. See EVANS & SCHMALENSEE, supra note 13, at 238-39. See also Glenn B. Canner & Charles A. Luckett, Developments in the Pricing of Credit Card Services, 78 FED. RESERVE BULL. 652 (1992) (finding some competition based on interest rate reduction).

88 See infra Section III.

89 SULLIVAN, WARREN & WESTBROOK, supra note 2, at 117.

90 See Zywicki, supra note 13, at 95-96 (many consumers do not have superior borrowing alternatives).

91 Gross & Souleles, supra note 42, at 180 (“Conditional on borrowing on their bankcards, 95 percent of households have positive net worth and so could have paid some of their expensive credit card debt by drawing down various assets. For instance, almost 70 percent have positive housing equity, and so would be better off using lower cost home-equity debt (currently charging around 7-9 percent, not including tax deductions). Over 90 percent have positive holdings of financial assets, even excluding illiquid, tax-favored retirement assets. Most puzzling of all, over 90 percent of people with credit card debt have some very liquid assets in checking and savings accounts, which usually yield at most 1-2 percent…. [And about 1/3 of households with credit card debt] have over one month’s income in liquid assets [even for high-income and high-education households].”); EVANS & SCHMALENSEE, supra note 13, at 107-08 (“Most consumers who finance purchases with credit card loans could find a cheaper source of financing. They are probably earning a lower rate of return on their savings—even, in most years, if it is invested
2. No Annual or Per-Transaction Fees

Another dimension of credit card pricing is the annual fee. But while most card issuers used to charge annual fees for their cards, it is now common for issuers to charge no annual fee. In comparison, charge cards, such as the American Express Green card, do charge substantial annual fees.

It is also noteworthy that credit card pricing does not include any per-transaction fee. In fact, when considering the benefits or rewards programs associated with most credit cards, issuers are setting negative per-transaction fees. The proliferation of membership-rewards programs, frequent flyer miles, car rental and luggage insurance, discounts on future purchases and cash-back grants demonstrates the competitive forces at play on this dimension of the credit card contract.

Even though they incur positive costs in maintaining credit card accounts and processing transactions, issuers commonly set a zero (or even a negative) price for these services. These observations suggest that issuers are charging below-marginal-cost prices on the annual fee and per-transaction fee dimensions of the credit card contract.

in the stock market—than the interest rate they are paying on their credit card debt. They could also probably obtain cheaper loans by obtaining a personal loan from their bank or, even better, a home equity loan.”)

92 In 1990 only about 150 issuers, out of over 4,000 issuers (see Ausubel, supra note 12, at 50), offered no-fee cards. See EVANS & SCHMALENSEE, supra note 13, at 159. Now, no-fee cards are common. See Stefano DellaVigna & Ulrike Malmendier, Contract Design and Self-Control: Theory and Evidence, 119 QUAR. J. ECON. tbl. 3, col. 3 (2004). See also EVANS & SCHMALENSEE, supra note 13, at 27 (Citibank Visa card, one of the most widely used credit cards, sets a zero annual fee); https://www.citibank.com/us/cards/index.jsp (Currently Citibank offers several MasterCard credit cards with no annual fee.)

93 See DellaVigna & Malmendier, supra note 92, n. 14 (“the American Express charge card, the most common in the US, has an annual fee of $55 or $75 (if Gold).”). See also EVANS & SCHMALENSEE, supra note 13, at 27.

94 When merchants, in response to fees levied (directly or indirectly) by issuers, charge higher prices for credit card purchases, this price differential constitutes a de facto per-transaction fee for credit card transactions. Charging different prices as a function of the payment method is, however, quite rare (and in most jurisdictions either illegal or effectively prevented by card networks’ no discrimination rules). See, e.g., Chakravorti, supra note 74, at 55-56.

95 Evans & Schmalensee cite survey evidence suggesting that 20% of consumers consider rewards and rebates to be the prime selection criterion in their credit card choice. See EVANS & SCHMALENSEE, supra note 13, at 225.

96 See Chakravorti, supra note 74, at 52 (noting the below marginal cost pricing implied by the absence of per-transaction fees). This does not necessarily imply that issuers are losing money on the transacting component of the card product. The question is whether merchant fees (passed on to issuers via the interchange fee in the Visa and MasterCard systems) are sufficiently high to cover the cost of the transacting services. Unfortunately, the poor data available on the costs of different payment systems, does not allow for a conclusive answer.
3. Teaser Rates

In the last few years it has become common for credit card issuers to offer low introductory rates – often called teaser rates – typically for a period of six months, before the high long-term interest rate kicks in. Some cards even offer a zero interest rate during the introductory period (also a zero interest rate on balance transfers is common).

The invention of teaser rates would surely be beneficial for consumers if consumers would transfer their balance to a new card with a low teaser rate as soon as the old card reverted to the high post-introductory rate. While balance transfers do occur, available evidence suggests that substantial borrowing occurs at the post-introductory rates. In fact, a recent study found that most borrowing is done at the high post-promotion rates, rather than at the low teaser rates.

The teaser strategy works. Despite the fact that most borrowing is done at the high post-promotion rates, consumers appear to be extremely sensitive to teaser rates. In a recent study, Ausubel found that “consumers are at least three times as responsive to changes in the introductory interest rate as compared to dollar-equivalent changes in the post-introductory interest rate.” Survey evidence suggests that more than a third of all consumers consider an attractive introductory interest rate to be the prime selection criterion in credit card choice. Moreover, Gross and Souleles found that “[t]he elasticity [of debt to the interest rate] is larger for decreases in interest rates than for increases.” This finding further bolsters the efficacy of the teaser rate as a profit-maximizing strategy for credit card issuers.

Teaser rates emphasize the disparity between credit card interest rates and the underlying cost of funds. Usually, the issuers’ costs do not increase over time, and they definitely do not suddenly double after six months. The low, and even below-marginal-cost teaser rates,

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97 See DellaVigna & Malmendier, supra note 92, tbl. 3; Ausubel, supra note 27, at 262.
98 See Gross & Souleles, supra note 42, at 171, 179. See also Ausubel, supra note 27, at 263 (“a substantial portion of credit card borrowing still occurs at postintroductory interest rates”; “finance charges paid to credit card issuers have not dropped as much as the introductory offers might suggest.”); Laibson et al., supra note 47, at 228-29 (finding that consumers pay high effective interest rates “[d]espite the rise of teaser interest rates”).
99 Lawrence M. Ausubel, Adverse Selection in the Credit Card Market 21 (1999) (unpublished manuscript, on file with author). Moreover, “consumers are two to three times as responsive to changes in the introductory interest rate as compared to dollar-equivalent changes in the duration of the introductory offer.” Id. at 22.
100 See EVANS & SCHMALENSEE, supra note 13, at 225.
101 See Gross & Souleles, supra note 42, at 152.
102 Cf. H.R. 975, 108th Cong., § 1303 (2003) (Concerned with the prevalence and impact of introductory rates, Congress is currently considering to enhance the disclosure requirements for teaser rates).
while perhaps puzzling when viewed in isolation, fit well within the behavioral theory of credit card pricing developed below.

4. Late and Over-Limit Fees

Credit card issuers typically collect sizeable fees and increased interest rates from consumers who either run late on their monthly payments, or run over the credit limit. Importantly, the magnitude of these penalties is often measured in fixed dollar amounts, typically around $30, regardless of the degree of deviation from the credit line or tardiness in making the payment. Thus, for example, a cardholder might pay a $30 penalty, if she misses the due date on a $10 balance by a few days.

Late fees and over-limit fees are a major source of revenue for credit card issuers, nearly 8 percent of total card revenues. “Many credit card issuers respond to a customer who is exceeding his or her credit limit by charging a fee – and raising the credit limit. The practice of charging default rates of interest, which often run into the 20 and 30 percent range, makes customers who give the clearest sign of trouble – missing payments – among the most profitable for the

103 See DellaVigna & Malmendier, supra note 92, at 27, tbl. 3; EVANS & SCHMALENSEE, supra note 13, at 27, 141-43 (a card-holder who is tardy on her payments is often subject to increased interest rates); SULLIVAN, WARREN & WESTBROOK, supra note 2, at 19 (“Many creditors now impose a “default” rate on interest on the consumers who fall behind, compounding the balance owed at rates of 24 percent and higher.”); http://www.citibank.com/us/cards (Citibank’s basic credit card, Citi Platinum Select Card, sets a default interest rate of 27.99%, as compared to the non-default APR 9.99%).

104 See DellaVigna & Malmendier, supra note 92, tbl. 3, cols. 7, 8. See also Pfennig v. Household Credit Services, Inc., No. 00-4213 (6th Cir., July 2, 2002) ($29 over-limit charge for every month the balance remained over the credit limit, regardless of the degree of deviation from the credit limit); SULLIVAN, WARREN & WESTBROOK, supra note 2, at 23 (“penalty fees added on at $50 a pop”); Bob Herbert, Caught in the Credit Card Vise, nytimes.com, Sept. 22, 2003 (late fees average $29); http://www.citibank.com/us/cards (Citibank’s basic credit card, Citi Platinum Select Card, sets fixed late and over-limit fees of $35).

105 See Card Industry Directory, supra note 5327, at 11 (In 2001, revenues from penalty fees amounted to $7.3 billion, out of a total $92.5 billion of bank card revenues). See also NATIONAL CONSUMER LAW CENTER, TRUTH IN LENDING 27 (2002 Cumulative Supplement) (“Over-limit fees are a major source of revenue for many credit card issuers.”); Herbert, supra note 104 104(late fees are the fastest growing source of revenue for the credit card industry). Penalty fees have been growing rapidly since 1996 when the Supreme Court extended the Marquette rule to include late and over-limit fees. See Smiley v. Citibank, 517 U.S. 735 (1996). See also Tamara Draut & Javier Silva, Borrowing to Make Ends Meet: The Growth of Credit Card Debt in the ’90s, p. 35 (Demos, 2003) (hereinafter “Demos”) (Late fees are the fastest growing source of revenues for issuers).
issuers.106 Issuers have also been shortening grace periods to further enhance revenues from penalty fees.107

The high fees that issuers charge for late payments and for exceeding the credit limit have no basis in the extra cost to issuers of extending the loan period or increasing the amount loaned, even accounting for the potentially heightened risk of accommodating a consumer who failed to pay on time or to remain within the specified credit line. This disparity between price and cost is especially striking when the late and over-limit fees are set at fixed dollar amounts, irrespective of the tardiness of the payment or the magnitude of the deviation from the credit limit.

5. Low Minimum Monthly Payments

Credit card issuers often require only a very small minimum monthly payment, even for large outstanding balances.108 On its face it would seem that this strategy benefits consumers; but does it really? In fact, it is in the financial interest of credit card issuers that consumers pay as little as possible each month. Lower monthly payments “increase total revenues by increasing the time it takes to repay the loans and hence the total interest eventually repaid,”109 especially when interest rates are set so high. It is therefore not surprising that issuers have been gradually lowering the minimum payment requirement.110

B. A Unifying Pattern

The identified components of observed credit card pricing can be broadly divided into two categories: a long-term contingent price category and a short-term non-contingent price category. The post-introductory interest rate is the main long-term contingent element, with low amortization rates bolstering the effect of the high interest rate. Penalties for late payments and for deviations from the credit line limit also figure prominently in this category. On the other hand, annual rates are the most salient non-contingent element. I classify

106 SULLIVAN, WARREN & WESTBROOK, supra note 2, at 115. See also Dēmos, supra note 105, at 35 (Late payment as an excuse to cancel low introductory rates and to impose high(!) penalty rates).
107 See Dēmos, supra note 105, at 35; Credit Card Fees Soar Again, CNNMoney, August 18, 1998. See also Pfennig v. Household Credit Services, Inc., No. 00-4213 (6th Cir., July 2, 2002). Cf. H.R. 975, 108th Cong., § 1305 (2003) (Concerned with the problem of late fees, Congress is currently considering to enhance the disclosure requirements for such fees).
108 Moreover, “major credit card issuers are slowly lowering their minimum monthly payments.” Teresa Dixon Murray, Small Payment Is a Big Problem: Struggling Out of Credit Card Debt, CHICAGO TRIBUNE, June 11, 2002, at Business, p. 5. And “[p]laying the minimum is a common phenomenon.” Id.
109 SULLIVAN, WARREN & WESTBROOK, supra note 2, at 247-48.
110 See Dēmos, supra note 105, at 37.
per-transaction fees also in the non-contingent price category, since the focus is on the borrowing contingency and not on the transacting contingency. Teaser rates are a short-term price element, but they are nevertheless contingent on borrowing. Since, as I demonstrate below, the operative behavioral bias is less severe in the short run, it is helpful to classify teaser rates as a short-term non-contingent price element.

This classification reveals the unifying pattern of credit card pricing: over-pricing of long-term contingent price elements and under-pricing of short-term non-contingent price elements. The long-term elements, most importantly the (long-term) interest rate, but also late and over-limit fees, are set above marginal cost. And the short-term elements, namely annual and per-transaction fees, as well as teaser rates, are set below marginal cost.

### III. A Behavioral Theory of Credit Card Pricing

#### A. Underestimating Future Borrowing

The distinct pricing scheme characterized in Section II can be traced to a behavioral bias on the demand side of the credit card market—to consumers’ systematic underestimation of their future borrowing.111 Before elaborating how this behavioral theory explains credit card pricing, I first explore the underlying foundations of the underestimation bias.

1. Underestimation of Self-Control Problems

Imperfect self-control provides one major explanation for consumers’ underestimation of their future borrowing. Many consumers overestimate their ability to resist the temptation to finance consumption by borrowing, and consequently underestimate future borrowing.

a) Imperfect Self-Control

What happened before credit cards? The consumer could apply for a bank loan equal to her credit card balance. But would she?

Juxtaposing the traditional bank loan and the incremental credit card loan reveals the critical role of self-control (or lack thereof).

111 See Ausubel, supra note 12, at 70-1 (“[T]here are consumers who do not intend to borrow but continuously do so.”) In a recent study, Ausubel empirically tests and confirms the “underestimation hypothesis”. See Ausubel, supra note 99, at 20. But see Thomas F. Cargill & Jeanne Wendel, Bank Credit Cards: Consumer Irrationality versus Market Forces, 30 J. CONSUMER AFF. 373, 386 (1996) (SCF evidence suggests that consumers anticipate future borrowing).
When a consumer takes-on a close-end loan all the parameters of the loan contract, including the amount of the loan, are determined up-front. No discretion is reserved for a later period, and thus self-control is not an issue. The credit card, on the other hand, separates the decision to obtain a card, and the decision which card to obtain, from the actual borrowing decision (or decisions). The amount of the loan is left open. And an open-end loan inevitably also opens the door to self-control problems.

When obtaining a credit card the consumer may intend to use the card for transacting only, or to limit her borrowing to a certain amount. But this limit is not specified in the credit card contract, and therefore is not binding on the consumer’s future self, the self that will make the borrowing decision. And with imperfect self-control, this future self may well exceed the intended limit. A close-end loan serves as a commitment device—enabling the consumer to constrain her future self by pre-committing to a maximum amount of debt. The credit card does not provide such a commitment device.\[112\]

b) Hyperbolic Discounting

Why would a consumer end up borrowing more than she had initially anticipated? What is the source of such weakness of the will? Hyperbolic discounting provides the answer.\[113\]

A consumer is said to be a hyperbolic discounter if her short-run discount rate is larger than her long-run discount rate.\[114\] Put differently, at a given point in time, \(t\), a hyperbolic discounter heavily discounts costs and benefits that will materialize in the near future, at

\[112\] Many accounts of credit card borrowing mention consumers’ weakness of will, or imperfect self-control. The notion is that consumers do not intend to borrow, but end up doing so anyway. See, e.g., Ausubel, supra note 27, at 262. The credit card borrower is sometimes compared to an alcoholic, who is aware of the dangers inherent in her drinking problem, yet cannot avoid purchasing another bottle. Another common analogy compares the credit card borrower to a failed dieter. The dieter wants to lose weight, but when that chocolate cake presents itself, he cannot resist the temptation. The alcoholism and dieting analogies highlight the self-control problem. See SULLIVAN, WARREN & WESTBROOK, supra note 2, at 120, 247, 250.

\[113\] In a recent study, Laibson et. al. show that allowing for hyperbolic discounting helps explain the large fraction of households that borrow on their credit cards. See Laibson et al., supra note 47, at 229-30. See also George-Marios Angeletos et al., The Hyperbolic Consumption Model: Calibration, Simulation, and Empirical Evaluation, 15 J. ECON. PERSPECT. 47 (2001) (“[H]ouseholds with hyperbolic discount functions are very likely to borrow on their credit cards to fund instant gratification. Thus households with hyperbolic discount functions are likely to have a high level of revolving debt, despite the high cost of credit card borrowing.”); DellaVigna & Malmendier, supra note 92 passim.

\[114\] Neoclassical economics traditionally assumes that individuals discount the future at a constant rate, an assumption captured by an exponential discount function. See, e.g., Paul Samuelson, A Note on Measurement of Utility, 4 REV. ECON. STUD. 155 (1937); Tjalling C. Koopmans, Stationary Ordinal Utility and Impatience, 28 ECONOMETRICA 287 (1960).
t+1, but assigns only a smaller additional discount for costs (and benefits) that will materialize in the more distant future, at t+2. This systematic disparity between people’s short-term and long-term discount rates has been consistently demonstrated both in the laboratory and in real-world settings.\(^{115}\) When a hyperbolic discounter is naïve about the nature of her time preferences, she will overestimate her will-power, and consequently underestimate her future borrowing.

Consider a consumer who decides to obtain a credit card at T=0. From the T=0 perspective, this consumer considers the likelihood of borrowing on the credit card at T=1. The consumer weighs the future benefit from a credit card purchase at T=1 against the more distant T=2 cost of debt repayment, including payment of interest charges.\(^{116}\) Recall that from the T=0 perspective the discount between T=1 and T=2 is relatively small. Hence, given the substantial costs of credit card borrowing, even though the costs of borrowing lie in the more distant future, at T=0 the consumer would prefer not to borrow at T=1. And assuming she thinks that this ex ante preference will be followed, at T=0 the consumer believes that no borrowing will take place at T=1.

To examine the validity of this belief, let us proceed down the time-line to T=1, when the actual borrowing decision takes place. Now T=1 is the present and T=2 is the near future. As explained above, hyperbolic discounting implies that from the T=1 perspective the T=2 costs will be heavily discounted. Therefore, even if the future (T=2) cost of borrowing is substantially higher than the present (T=1) benefits, the consumer, at T=1, may decide to borrow on her credit card.


\(^{116}\) Other indirect, yet potentially substantial costs of credit card borrowing, include (a) the cost of later resorting to borrowing with higher interest rates, when the indebtedness caused by borrowing on a credit card with more favorable financing terms (and the resulting decline in the consumer’s credit rating) leads the consumer to later obtain credit cards with less favorable financing terms; and (b) the increased probability of bankruptcy and all the collateral costs associated with it. See Amanda E. Dawsey & Lawrence M. Ausubel, *Informal Bankruptcy* (2002) (unpublished manuscript, on file with author).
This preference reversal – a T=0 preference not to borrow evolving into a preference and a decision to borrow at T=1 – is an immediate implication of hyperbolic discounting. Figure 1 illustrates the reversal of preferences with respect to credit card borrowing.

The vertical line at T=1 represents the T=1 value of the benefits from borrowing. The curved line descending from this vertical line (to the left) represents the discounted value of these benefits at any point in time prior to T=1, and especially at T=0. Similarly, the vertical line at T=2 represents the T=2 value of the costs associated with credit card borrowing. And the curved line descending from this vertical line (to the left) represents the discounted value of these costs at any point in time prior to T=2, and especially at T=1 and at T=0. As illustrated in figure 1, the two curved lines start with a steep descent, which then levels off as the temporal distance from the curve’s point of origin increases. This varying slope of the discounted present value curves captures the hyperbolic discounting phenomenon.

Looking at figure 1 we see that at T=0 the curve representing the discounted present value of the costs of borrowing lies above the curve representing the discounted present value of the benefits from borrowing. Hence, at T=0 the consumer would prefer not to borrow (at T=1). However, between T=0 and T=1 the relative position of the two curves switches, and at T=1 the benefits curve lies above the costs curve, implying that the consumer will in fact choose to borrow at T=1.

Fig. 1: Preference reversal in credit card borrowing
Figure 1 illustrates the temporal inconsistency resulting from hyperbolic discounting. At $T=0$ the consumer does not wish to borrow, but ends up doing so at $T=1$ anyway. Note, however, that temporally inconsistent preferences do not necessarily entail inaccurate ex ante beliefs. A sophisticated consumer, who is aware of her hyperbolic discounting, would anticipate the preference reversal. At $T=0$, such a consumer, while preferring not to borrow at $T=1$, would nevertheless know that she will end up borrowing at $T=1$. Unfortunately, not many consumers are that sophisticated with respect to their inter-temporal preferences. Many consumers are (at least partially) naïve, at $T=0$, about their ability to effectuate, at $T=1$, their $T=0$ preferences (i.e. they might fail to take into account the $T=1$ preference reversal when making the $T=0$ decision). A naïve hyperbolic discounter thus believes ex ante that she will not borrow, but actually does borrow on her credit card ex post. More generally the hyperbolic discounter underestimates her future borrowing.

c) Borrowing a Little at a Time

Imperfect self-control leading to the underestimation of future borrowing has been traced back to the temporal separation between the decision to obtain a credit card and the decision to borrow on the credit card. But, in fact, there is not one, but rather many borrowing decisions. Each time the consumer swipes her card a new loan is entered-into. This piecemeal borrowing phenomenon, or “a-little-at-a-time borrowing,” exacerbates the self-control problem.

Sullivan, Warren & Westbrook observe that “[d]ebtors who never dream of seeking a $5,000 bank loan might run up $5,000 in charges of $50 at a time.” The distinction between the traditional discrete loan and the gradually accumulating credit card debt should not be underestimated: “One need not have a deep understanding of human nature to appreciate the risks of incremental foolishness. There are

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117 See, e.g., Madrian and Shea, supra note 11 (evidence from 401(k) investments); DellaVigna & Malmendier, supra note 9 (evidence from health club attendance). Naivety may result from overconfidence regarding one’s self-control—a manifestation of the well-documented optimism about positive personal traits. See, e.g., Laurie Larwood & William Whittaker, Managerial Myopia: Self-Serving Biases in Organizational Planning, 62 J. APPLIED PSYCH. 194 (1977); Neil D. Weinstein, Unrealistic Optimism about Future Life Events, 39 J. PERSONALITY AND SOC. PSYCH. 806 (1980); Ola Svenson, Are We All Less Risky and More Skillful than Our Fellow Drivers?, 47 ACTA PSYCHOLOGICA 143 (1981).

118 See SULLIVAN, WARREN & WESTBROOK, supra note 2, at 130 (“[C]redit cards make it far easier to incur consumer debt by encouraging a-little-at-a-time borrowing and too-little-at-a-time repayment.”)

many mistakes we would not make all at once that we will make a little at a time . . .”

As fallible decision-makers, we inevitably make mistakes. But we will try harder to avoid such mistakes—and rationally so—when the stakes are higher (or appear to be higher). This general observation is applicable to the decision whether to incur additional debt: “The debt itself is incurred a little bit at a time, so that even large amounts of debt do not involve a single, sober decision to take on $25,000 or even $2,500 of debt.”

Credits cards opened the door to “the seductiveness of incremental irresponsibility,” as manifested in a-little-at-a-time borrowing. The outcome of such borrowing behavior is often detrimental to consumers. Sullivan, Warren & Westbrook describe a category of debtors, whom they call “sliders”: “[m]any people slide into debt, falling a little farther behind on their cards every month until bankruptcy is the only way out.”

2. Underestimation of Contingencies Bearing Economic Hardship

Underestimation of future borrowing may also result from an optimism bias that might lead consumers to underestimate the likelihood of contingencies bearing economic hardship. Specifically, consumers might underestimate the likelihood of adverse events that might generate a need to borrow. Optimistic individuals tend to underestimate the probability of being involved in an accident that might generate high medical bills or other liquidity needs. Similarly, individuals tend to underestimate the probability that either they or a loved one will become ill and require costly treatment (that is not covered, or not entirely covered, by their insurance plan).

\[\text{\small 120} SULLIVAN, WARREN & WESTBROOK, supra note 2, at 247.\]
\[\text{\small 121} Which involves a comparison of the costs and benefits of additional debt.\]
\[\text{\small 122 SULLIVAN, WARREN & WESTBROOK, supra note 2, at 245-46.}\]
\[\text{\small 123 SULLIVAN, WARREN & WESTBROOK, supra note 2, at 119, at 179.}\]
\[\text{\small 124 See SULLIVAN, WARREN & WESTBROOK, supra note 2, at 250 (Consumers “want things and they want them now”; and many are “foolish enough to ignore” future costs and risks.); Rougeau, supra note 32, at 35 (“Credit cards make impulse buying easy and financially painless.”); EVANS & SCHMALENSEE, supra note 13, at 109 (“[R]eal people have trouble keeping track of [card] balances during the month and resisting the ever-present temptation to use future income to enjoy life a bit more today.”); THOMAS H. JACKSON, THE LOGIC AND LIMITS OF BANKRUPTCY LAW 234, 238-99 (1986) (hereinafter “Logic and Limits”) (arguing that individuals underestimate "the risks that their current consumption imposes on their future wellbeing," and invoking the “human tendency to lack impulse control”—that is, a tendency "to choose current over postponed gratification, even if it is known that the latter holds in store a greater measure of benefits").\]
\[\text{\small 125 See SULLIVAN, WARREN & WESTBROOK, supra note 2, at 111.}\]
\[\text{\small 126 See, generally, Weinstein, supra note 117. See also Thomas H. Jackson, The Fresh-Start Policy in Bankruptcy Law, 98 H ARV. L. REV. 1393, 1411-12 (1985) (hereinafter “Fresh-Start”) (incomplete heuristics lead to systematic underestimation of risks).}\]
Finally, individuals tend to underestimate the likelihood that they will lose their job, or underestimate the length of time it will take them to find a new job. These and other manifestations of the optimism bias will lead consumers to underestimate the likelihood that they will be forced to resort to credit card borrowing.

Of course, the optimism explanation and the imperfect willpower explanation are not mutually exclusive. In fact, they reinforce one another. Imperfect willpower might push the consumer into a fragile financial condition, rendering her more vulnerable to adverse events, such as an accident, illness, or job loss.

3. Underestimation of Forgetfulness

While this Article focuses on the underestimation of future borrowing, a related bias that bolsters the explanatory power of the proposed theory should be mentioned. One troubling feature of the credit card contract is the exorbitant penalty structure specified for late payments and for deviations from the credit limit. A consumer may be forced to exceed her credit line or to defer payment beyond the due date as a result of an accident, an illness or unemployment, as discussed above. But the consumer might also miss the due date simply because she forgot about it. Similarly, she might exceed her credit line simply because she lost track of her total balance. Since forgetfulness is a common trigger of the penalty clauses in the credit card contract, optimism regarding the extent of such forgetfulness is important in explaining this feature of credit card pricing. Therefore, underestimation of forgetfulness, leading to underestimation of

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127 SULLIVAN, WARREN & WESTBROOK, supra note 2, at 25, 114 ("The recently unemployed, hopeful that they will be back at work in a matter of days or weeks, may not be prepared to tell the children there will be no new soccer shoes this season or no back-to-school clothes."). A related manifestation of the optimism bias concerns self-employed individuals and artists who take on credit card debt waiting for their "big break."


129 See SULLIVAN, WARREN & WESTBROOK, supra note 2, at 113-5 (Many consumers reach a state of indebtedness that renders them vulnerable to unexpected costs). See also Bruce A. Markell, Sorting and Sifting Fact From Fiction: Empirical Research and The Face of Bankruptcy: The Fragile Middle Class: Americans in Debt By Teresa A. Sullivan, Elizabeth Warren and Jay Lawrence Westbrook, 75 AM. BANKR. L.J. 149 (2001) (book review) ("Americans who file bankruptcy generally have incurred debt beyond a rational ability to repay, and are thus vulnerable to economic events that challenge their fragile condition."); Charles G. Hallinan, The "Fresh Start" Policy in Consumer Bankruptcy: A Historical Inventory and an Interpretive Theory, 21 U. RICH. L. REV. 49, 115-16 (1986) (At the time of borrowing, debtors typically underestimate the likelihood of events that might render repayment difficult).

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incurred penalties, should be considered in conjunction with the underestimation of future borrowing.

B. Explaining Credit Card Pricing

1. High Interest Rates

If consumers underestimate future borrowing, they will also undervalue the cost of borrowing, specifically the high financing charges. As a result issuers can, and in a competitive market must, shift more weight onto the interest rate element. On the other hand, consumers fully appreciate the costs of the short-term non-contingent price elements. Therefore, issuers focus competition on these elements.\footnote{Cf. Russell Korobkin, Bounded Rationality, Standard Form Contracts, and Unconscionability, 70 U. Chi. L. Rev. 1203, 1218 (2003) (arguing, in a related context, that not only will bounded rationality prevent market pressure from forcing sellers to provide efficient terms, “under plausible assumptions, market pressure actually will force sellers to provide low-quality form terms, whether or not those terms are either socially efficient or optimal for buyers as a class”).} Consider the following example:

Credit card issuers need to set the levels of two price elements: the interest rate and the annual fee. These issuers are competing for a single consumer, who will borrow $1,000 a year (for simplicity, assume that the consumer will retain an average balance of $1,000 during the year). The annual cost to an issuer of maintaining the consumer’s account is $20. The cost of funds to the issuer, which determines the issuer’s financing costs, is 5% (which means that the cost of lending $1,000 is $50).

In a well-functioning, competitive market, the issuers in this example would set an annual fee of $20 and an interest rate of 5%.\footnote{To be precise, in the simplified example discussed in the text any combination of an annual fee and an interest rate according to which the consumer pays $70 overall can be sustained in a competitive market. However, as soon as the example is extended to more than one consumer and heterogeneity with respect to the amount borrowed is allowed, the ($20, 5%) combination emerges as the only feasible contract.} But what if the consumer underestimates her future borrowing? To take an extreme case, assume that when signing the credit card contract, the consumer believes that she will not borrow on her card, and will use only its transacting feature. With such underestimation, the $20 annual fee and the 5% interest rate scheme cannot be sustained in equilibrium. Specifically, in competition between the issuers, an issuer that offers a card with no annual fee and a 7% interest rate will get the consumer’s business. This price scheme will be more appealing to the underestimating consumer, and will still cover the issuer’s overall costs. Since the consumer believes that she will not borrow on her card, she is insensitive to the interest rate (in this extreme example she would not mind even a 100% interest rate),
but she is sensitive to the non-contingent annual fee. Thus, comparing the ($20, 5%) contract to the ($0, 7%) contract, the latter seems more attractive.  

Underestimation of future borrowing shifts the competition in the credit card market from the long-term contingent price elements to the short-term non-contingent price elements. Since competition is biased away from the interest rate dimension, the puzzle of high interest rates is solved. 

Importantly, the high interest rates equilibrium can be sustained even if only a subset of all consumers underestimate their future borrowing. In such a heterogeneous environment, by lowering the interest rate, issuers will attract consumers who fully intend to borrow and are therefore sensitive to the interest rate. These consumers are, on average, bad credit risks, as implied by their inability to obtain less expensive credit. This adverse selection problem suggests that lowering interest rates may reduce the issuers’ profits. 

2. No Annual or Per-Transaction Fees 

I have shown that credit card issuers, as profit maximizing firms, have a very good reason for setting low annual fees. Due to the underestimation bias, consumers are insensitive to interest rates. They are, however, quite sensitive to the annual fee. Thus, competition concentrates on the annual fee dimension. Issuers attract consumers by offering low (or zero) annual fees; and then extract significant interest payments from those consumers.

132 From the issuer’s perspective, on the other hand, both contracts provide identical revenues – just large enough to cover the issuer’s costs. This is a feature of the competition between the many credit card issuers. In a competitive credit card market competition dissipates issuers’ rents, and the only question is how these rents are dissipated. In standard markets supra-competitive rents are dissipated through price competition, which benefits consumers and increases welfare. In the credit card market, prices remain high, and rents are dissipated through increased costs. Issuers’ costs increase as they compete by offering various short-term perks, or more importantly by lowering the standards for issuing credit.

133 The preceding analysis assumes that consumers underestimate future borrowing regardless of the level of the interest rate. This assumption might not be realistic, especially when the underestimation bias derives from consumers’ hyperbolic discounting. If the interest rate is not too high, the consumer will both borrow at \( T=1 \) and correctly anticipate such borrowing at \( T=0 \). Only when the interest rate is raised above a certain threshold does the preference reversal phenomenon occur, leading consumers to underestimate future borrowing. This suggests a second rationale for high interest rates. Not only do high interest rates exploit consumers’ underestimation of future borrowing, but also high interest rates may play an important role in generating the underestimation bias.

134 See Ausubel, supra note 12, at 70-71. See also Evans & Schmalensee, supra note 13, at 250 (arguing that issuers’ fear of adverse selection, i.e. attracting consumers who are more likely to default, prevents them from reducing credit card interest rate).

135 See Ausubel, supra note 12, at 72 (“[T]he experience of credit card marketers is that consumers are much more sensitive to increases in the annual fee than to
For a similar reason issuers do not charge per-transaction fees and, in fact, set a per-transaction price that is negative, once the benefits or rewards commonly attached to credit card purchases are taken into account. The issuers forgo the per-transaction fee and give out these costly benefits, knowing that they will recoup their investment through long-term interest payments. Specifically, benefits that are either non-contingent or contingent on transacting, but not on borrowing, are not subject to the underestimation bias. Therefore, issuers compete on the benefits dimension of the credit card contract.

For consumers who use their credit card solely for transacting (and do not borrow at all), the credit card is essentially free. But most consumers are not pure transactors. As noted above, approximately three-quarters of credit-card holders borrow on their credit cards, and credit card issuers make the bulk of their revenues from finance charges paid by these borrowers. Consequently, while there may be some cross-subsidization between borrowers and transactors, issuers are not losing from the absence of annual and per-transaction fees.\(^{136}\)

The absence of annual and per-transaction fees highlights the bundling of transacting and financing services – a central feature of the credit card. Without this bundling issuers could not afford to set zero annual and per-transaction fees. While they sacrifice some revenues that could be extracted from pure transactors, the issuers more than compensate for these lost revenues by charging high interest rates from the borrowers.\(^{137}\)

The underestimation theory suggests that many consumers may obtain a credit card primarily for its transacting service, believing that commensurate increases in the interest rate.”); \textit{Evans \& Schmalensee, supra} note 13, at 225 (the prime selection criterion in credit card choice for 15\% of consumers is the “no annual fee” term); \textit{id.} at 247 (evidence of competition on the annual rate dimension). A lower annual fee is also instrumental in increasing other revenue sources (beyond financing charges), such as late fees and over-limit fees. See \textit{id.} at 260 (“It is certainly possible, in theory, that issuers who reduce their annual fees may raise other fees less visible to consumers. Available data on annual and service fees [e.g. late fees, over-limit fees] strongly suggest that, over time, issuers in the aggregate have done just this.”).

Finance charges (i.e. interest payments) constitute 78\% of the revenues earned by credit card issuers. See \textit{Evans \& Schmalensee, supra} note 13, at 164-65. Evans \& Schmalensee report that “[c]redit card issuers have chosen to collect a larger portion of their revenues from finance charges.” \textit{id.} at 167. But issuers extract revenues indirectly also from pure transactors, through the fee that merchants pay to the issuer whenever they complete a sale charged to the consumer’s credit card. See \textit{Evans \& Schmalensee, supra} note 13, at 160-61.

137 Charge cards, on the other hand, cannot manipulate this tradeoff. A comparison between the division of revenues of credit card and charge card issuers is instructive. Revenues of credit card issuers are divided as follows: 78\% finance charges (interest), 10\% interchange fees, 6\% late and other fees, 4\% cash advance fees, and 2\% annual fees. On the other hand, for American Express, who has a major charge card business, 66\% of revenues come from merchant discount fees, 19\% from card fees and only 15\% from finance charges. See \textit{Evans \& Schmalensee, supra} note 13, at 164-65.
they will not use the financing service (or substantially underestimating the extent to which they will use the financing service). But after the credit card is already in her purse, the consumer does in fact borrow on the credit card. A sharper separation between transacting and financing could mitigate the underestimation problem.

Arguably, the market has already provided for the requisite unbundling of transacting and borrowing. A consumer who believes that she will not borrow at all can get a debit card or a charge card that provides only transacting services. Later on, if the consumer realizes that she does need to borrow, she can obtain a credit card; but at this stage underestimation is no longer a problem.

This solution, however, suffers from an important shortcoming. Since credit card issuers can exploit consumers’ underestimation of financing charges to lower the annual fee, they will be able to secure a competitive advantage relative to the issuers of charge cards. Bundling of transacting and financing services creates unfair competition on the annual fee dimension between credit card issuers on the one hand and charge card issuers on the other hand. The underestimation theory thus provides an explanation for the market shift from charge cards to credit cards.

Unlike the charge card, the debit card shares the no-annual-fee attribute of the credit card. Credit card issuers’ fear of the debit card may explain the substantial delay in the introduction of debit cards in the United States. As argued above, credit card issuers benefit from the bundling of transacting and financing services, and thus had an incentive to resist debit cards, which threaten such bundling. But even debit cards do not solve the bundling problem. While typically charging no annual fee, debit cards cannot compete with the other benefits offered by credit card issuers. Again, credit card issuers can afford to offer more lucrative benefits thanks to the financing revenues they extract from consumers.

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138 The bundling of transacting and financing may also constitute illegal tying in violation of Section 3 of the Clayton Act, and/or Section 1 and/or Section 2 of the Sherman Act, as argued in a recent antitrust class action suit attacking Visa and MasterCard’s honor-all-cards rule. See supra note 68. See also Sujit Chakravorti & Alpa Shah, A Study of the Interrelated Bilateral Transactions in Credit Card Networks, FED. RESERVE BANK OF CHI. EMERGING PAYMENTS OCCASIONAL PAPER SERIES, 2001, No. 2, at 23-24.

139 For instance, American Express, whose charge card preceded the Visa and MasterCard credit cards, has fallen behind in the competition with Visa and MasterCard. See supra Section I.C.2.

140 See EVANS & SCHMALENSEE, supra note 13, at 55, 76-77 and ch. 12 (“[D]ebit cards languished [in the United States] until the mid-1990s.”).

141 See Mann, supra note 40 (describing the disadvantages of debit cards, specifically no float, no benefits and fewer legal protections); See Chakravorti & Shah, supra note 138, at 23 (debit cards do not offer the benefit programs, extended warranties and free credit (until the end of the billing cycle) that credit cards offer). Moreover, since “[u]nlike credit cards, debit cards can generally be issued only to a
3. Teaser Rates

Why are teaser rates so effective? The answer is that a consumer with a current financing need will take the teaser rate bait. For such a consumer, who has already decided that she will soon incur debt on her new credit card, the interest rate on this debt will be important. Moreover, if the new card permits balance transfers from old cards, the switch may present a current benefit. On the other hand, the consumer, who underestimates her future borrowing, will not mind the steep jump in the interest rate from the low teaser rate to the high post-introductory level.\footnote{See Ausubel, supra note 27, at 262-63 ("consumers may have become more realistic about their current levels of borrowings, but the underestimation hypothesis may still powerfully apply to borrowings beyond the introductory period. The most desirable group of customers would then be strongly attracted by the promise of a low interest rate today, but would underestimate the relevance of the much higher interest rate some months down the road.") But, why would a consumer, who has already accumulated debt on a card with a high post-introductory rate, not transfer the balance to a new card with a low introductory rate? One answer is that with the information available to issuers it is unlikely that a consumer carrying significant debt on one card would be offered a new low rate card (especially not one with a balance transfer option). A different answer returns to the underestimation bias. The indebted consumer might underestimate the true cost of her debt—the present value of the expected stream of interest payments plus late and over-limit fees. The consumer might also underestimate the period that it would take her to pay-off the debt. See infra subsection 5.}

To better understand the operation of teaser rates, let us return to the hyperbolic discounting model. Consider two pairs of points on a time line starting at $T=0$, such that the temporal distance between the two points in the first pair is equal to the temporal distance between the two points in the second pair, and the first pair is closer to $T=0$ relative to the second pair. Hyperbolic discounting implies that the discounting, from the $T=0$ perspective, between the two points in the first pair will be greater than the discounting between the two points in the second pair. Consequently, the likelihood of a preference reversal is greater for the temporally distant pair. Returning to teaser rates, this implies that the likelihood of unanticipated borrowing is increasing in the temporal distance between $T=0$ and the point in time when the actual borrowing decision will be made. This means that consumers are less likely to underestimate their short-run level of borrowing, which would make them more sensitive to short-term interest rates.

Figure 2 offers a graphic illustration of short-run borrowing ($T=1,2$), as compared to long-run borrowing ($T=3,4$). While a preference reversal is obtained with respect to long-term borrowing, leading to underestimation of future borrowing, there is no preference reversal with respect to short-run borrowing. The consumer both
believes at $T=0$ that she will borrow, and indeed borrows at $T=1$. Since there is no underestimation of short-run borrowing, the consumer would be more sensitive to short-run interest rates. This explains the emerging competition between credit card issuers on the teaser rate dimension.

Another related explanation for the prevalence of teaser rates is based on the concept of switching costs. In its simple form, the argument is that the costs of switching from one credit card to another prevent such switching, at least to a certain degree. Therefore, issuers can lure consumers with low introductory interest rates, counting on switching costs to prevent (at least some) consumers from switching to another card once the introductory period is over.\footnote{See Ausubel, supra note 27, at 263 (“[E]conomic theory suggests that firms in a market with substantial search/switch costs will find advantage in utilizing introductory offers or sign-up bonuses to lure new customers.”). In the credit card market there may be non-trivial switching costs. See NATIONAL CONSUMER LAW CENTER, TRUTH IN LENDING 262 (4th ed. 1999). Rewards programs based on the accumulation of points or frequent flyer miles generate additional switching costs. Interestingly, while the teaser rate strategy surely relies on switching costs to limit defection at the end of the introductory period, one of the main purposes of teaser rates is to induce switching.}

The underestimation theory suggests a more persuasive version of the switching cost story. Even if consumers anticipate lock-in, they still underestimate the cost of lock-in, since they do not expect to borrow (or to borrow as much) in the future. Hyperbolic discounting
reinforces this revised version of the switching cost argument. Naïve hyperbolic discounters may wrongly anticipate that they would switch to a new card, but in fact will not switch when the introductory period ends. From an ex ante perspective, when both the switching costs and the benefits from switching lie in the future, a naïve hyperbolic discounter might believe that she will switch to a new card at the end of the introductory period offered by the old card. However, when the introductory period offered by the old card ends, the switching costs are imminent while the benefits from switching still lie in the future. Thus, applying the high short-term discount rate, the consumer may decide not to switch. This more sophisticated version of the switching cost argument helps explain consumers’ heightened sensitivity to teaser rates and the resulting prevalence of teaser rates in credit card offers.

4. Late and Over-Limit Fees

As described above, credit card contracts often include extremely high fees and penalties for late payment and for deviations from the credit line. Why do consumers acquiesce to such penalties? Why don’t they push issuers to lower these penalties or do away with them altogether? If consumers were more sensitive to late fees and other penalties in their credit card choice, then issuers would not include such provisions. The problem is that these penalties are largely invisible to consumers. And underestimation—of future borrowing and of forgetfulness—provides the invisibility cloak. Consumers undervalue the costs of these penalty clauses, since they underestimate the probability of paying late or exceeding their credit limit.

If consumers underestimate the probability of incurring penalties, then profit-maximizing issuers will set high penalties. Indeed, in Beasley v. Wells Fargo Bank, the bank’s “Credit Card Task Force” proposed increasing “late” and “overlimit” fees as a “good source of

144 See DellaVigna & Malmendier, supra note 92, at 26-7 (naïve agents underestimate the probability that they will ‘renew the contract,’ i.e. continue to borrow after the introductory period). Cf. Gal Zauberman, The Intertemporal Dynamics of Consumer Lock-In, J. Consumer Res. (forthcoming Dec. 2003) (consumers fail to anticipate the impact of future switching costs; hence even the reduced search costs in internet-driven shopping can generate lock-in).

145 See Evans & Schmalensee, supra note 13, at 211 (“Service fees (such as late fees, over-limit fees, and finance charges on cash advances) provide revenues to issuers but are likely to be largely invisible to most consumers trying to choose between different credit card plans.”); Elizabeth Warren & Jay Lawrence Westbrook, The Law of Debtors and Creditors 458 (2001) (Consumers are not very concerned about late and over-limit fees). See also Korobkin, supra note 130. Korobkin argues that consumers do not consider non-salient terms. The underestimation theory explains why penalty terms are not salient to consumers.

revenue.\textsuperscript{147} Penalty fees are perceived as a “good source of revenue,” because the industry perceives—in line with the underestimation theory—that “[t]here (are) very few cardholders that switch cards because the late fee is too high.”\textsuperscript{148}

5. Low Minimum Monthly Payments

The practice of setting low amortization rates targets consumers’ underestimation of the period it will take them to repay their credit card debt. The hyperbolic discounting phenomenon, which accounts for the underestimation of future borrowing, also explains consumers’ underestimation of the repayment period. A hyperbolic discounter would anticipate a quick repayment schedule, but when actual payments need to be made she might revert to the minimum payment, underestimating the resulting future finance charges. According to one account: “Each month the debtor might make the small minimum payment with a vow to start paying off the balance the next month.”\textsuperscript{149} More generally, the same reasons that lead a consumer to underestimate her future borrowing will lead her to overestimate her ability to repay quickly.

Since issuers profit from slow repayment, they often design the credit card bill such that the minimum payment figure is more salient than the total balance figure, in order to “persuade” consumers to pay only the minimum payment. For instance, the “minimum payment” box is often closer to the “actual payment” box and emphasized with a distinct color or font size, while the “total balance” box is further away and deemphasized. Or, the minimum payment figure is the only figure appearing on the payment stub itself.\textsuperscript{150}

C. The Rational Choice Critique

The behavioral theory developed in this Article accounts for the systematic pricing patterns observed in the credit card market. Specifically, this theory explains why competition focuses on the short-term elements of the credit card contract driving the price of these elements below marginal cost, and pushing the long-term price elements above marginal cost. Despite its explanatory power, the underestimation theory, as a behavioral economics theory, will likely encounter some resistance from ardent rational choice scholars. This

\textsuperscript{147} Id. at 1389.

\textsuperscript{148} Credit Card Fees Soar Again, CNNMoney, August 18, 1998 (quoting Peter Davidson, Executive VP at Speer & Associates in Atlanta). The trend of shortening grace periods further bolsters the revenue-generating power of penalty fees, exploiting consumers’ forgetfulness. See supra note 107.

\textsuperscript{149} Sullivan, Warren & Westbrook, supra note 119, at 178.

\textsuperscript{150} I wish to thank Benjamin Roin for pointing out this common feature of the credit card bill.
subsection argues that the underestimation theory withstands the rational choice critique.

1. A Rational Choice Theory?

Can the pricing patterns observed in the credit card market be explained by a non-behavioral theory? Dagobert Brito and Peter Hartley have argued that high credit card interest rates can be explained by the transaction costs involved in obtaining credit from alternative, lower interest rate sources, specifically bank loans.\(^{151}\) Transaction costs may well play an important role, but they cannot account for the observed pricing patterns in the credit card market. For one, with current technology it is no longer clear why the cost of providing a close-end loan would be greater than the cost of maintaining a credit card account. In addition, this transaction costs model only explains why credit card issuers can set a higher overall price; it does not explain why issuers systematically choose to use interest rates rather than annual or per-transaction fees to achieve this higher price. Other rational choice models similarly focus on the interest rate dimension, and thus cannot account for the multi-dimensional pricing patterns identified in this Article.\(^{152}\)

An alternative explanation that is not confined to the interest rate dimension relies on the notion of rational ignorance. According to this theory, consumers do not read their credit card contract, and therefore are insensitive to variations in different provisions of this contract. But consumers are extremely sensitive to some components of the credit card contract, specifically to the short-term components.\(^{153}\) Moreover, information on post-introductory interest rates and other long-term elements of the credit card price is readily available.\(^{154}\)

\(^{151}\) Dagobert L. Brito & Peter R. Hartley, Consumer Rationality and Credit Cards, 103 J. POL. ECON. 4000 (1995). See also Zywicki, supra note 13, at 100.

\(^{152}\) For instance, Loretta Mester, using a screening model with collateralized loans and unsecured credit card loans, explains why credit card interest rates are not sensitive to reductions in the bank’s cost of funds. See Loretta J. Mester, Why Are Credit Card Rates Sticky? 4 ECON. TH. 505 (1994). Mester, however, does not explain why credit card interests exceed the risk-adjusted cost of funds, nor does she explain the other pricing patterns identified in this Article. Other models offer rational choice explanations for high interest rates, assuming close-end credit. See, e.g., Christine A. Parlour & Uday Rajan, Competition in Loan Contracts, 91 AMER. ECON. REV. 1311 (2001) (high interest rates are sustained in equilibrium, as the fear of triggering default—by offering a contract with a lower rate but an increased amountand thus inducing more borrowing—restricts price competition); Thorsten Broecker, Credit-Worthiness Tests and Interbank Competition, 58ECONOMETRICA 429 (1990) (deriving above-marginal-cost interest rates in a general credit market model with adverse selection).

\(^{153}\) See supra Sections B.2 and B.3.

\(^{154}\) Federal regulations mandate salient disclosure of such terms. See infra Section V.A.1. And numerous websites, as well as off-line publications, provide immediate comparisons between cards on the interest rate and other dimensions.
Therefore, imperfect information cannot account for the observed equilibrium in the credit card market.\footnote{Cf. Korobkin, supra note 130, at 1217-18 (“Efficiency requires not only that buyers be aware of the content of form contracts, but also that they fully incorporate that information into their purchase decisions.”).}

Finally, the rational choice models cannot explain why consumers, who are very sensitive to prices charged on most other goods and services, are simply insensitive to a central element of the credit card price—the interest rate. There is considerable evidence that consumers are not deterred by the high interest rate charged on credit card debt.\footnote{See supra notes 98-99 (Consumers are three times more sensitive to introductory rates, compared to long-term rates, yet most borrowing is done at the high post-introductory rates); Gross & Souleles, supra note 42, at 171 (finding only limited responsiveness of consumers to changes in the interest rate). See also SULLIVAN, WARREN & WESTBROOK, supra note 2, at 133 (Reporting testimony of bankrupt consumers who admit to “not fully appreciating the implications of high interest rates.”); WARREN & WESTBROOK, supra note 145, at 458 (Consumers are not very concerned about how high interest rates might be). Consumer insensitivity to interest rates is not unique to credit cards. White and Munger found that recipients of new car loans were extremely insensitive to interest rates. See James J. White & Frank W. Munger, Consumer Sensitivity to Interest Rates: An Empirical Study of New-Car Buyers and Auto Loans, 69 Mich. L. Rev. 1207 (1971).}

And issuers admit that consumers’ insensitivity to the long-term elements of the credit card price drives their business strategy.\footnote{See Ausubel, supra note 12, at 72 (“[T]he experience of credit card marketers” is that “consumers are much more sensitive to increases in the annual fee than to commensurate increases in the interest rate.”) The fact that finance charges (i.e. interest payments) constitute 78% of the revenues earned by credit card issuers speaks for itself. Evans and Schmalensee reason that “[t]his pattern may arise in part because of [credit card issuers’] view that the overall demand for credit is relatively insensitive to interest rates, a view supported by at least one empirical study and considerable folklore within the industry. EVANS & SCHMALENSEE, supra note 13, at 164-67.}

The behavioral theory developed in this Article explains why consumers are insufficiently sensitive to interest rates. The rational choice models cannot explain this robust finding. If the issuers themselves rely on consumers’ lack of sensitivity to interest rates in designing the credit card contract, a theory that ignores this behavioral regularity can at best provide only a partial explanation for credit card pricing.

2. The Ad-hoc Critique

A behavioral economics theory, even when providing a closer fit with the data, might be susceptible to the ad-hoc critique. This common objection attacks the underlying assumptions of the proposed behavioral model, arguing that the model is based on a randomly chosen behavioral bias, whose robustness in real-world
settings is suspect. I am sympathetic to this skeptical view of behavioral economics. One cannot simply draw a random bias from a hat, divorce it from the sterile laboratory environment where it was detected, and build a theory of markets and law around it.

Therefore, I began my analysis not with a random bias, but rather with the identification of a systematic pattern of prices—a pattern that deviates from what would generally be expected in a competitive market. The methodology adopted in this Article in its very design rebuts the robustness critique. The behavioral bias must be sufficiently prevalent and important to generate the observed pricing scheme: the bias must pass the market test.

Only after a unique price pattern was identified, and a rational choice model was rejected, did the analysis proceed to probe for a potential behavioral explanation. Moreover, the proposed behavioral theory did not rely on a random bias identified in a sterile laboratory experiment. The underestimation theory was constructed on the foundation of behavioral regularities that have been extensively documented in many different real-world settings.

IV. REASONS FOR INTERVENTION IN THE CREDIT CARD MARKET

A. Efficiency Costs

The short-term bias of the competitive forces in the credit card market produces high interest rates, but also short-term perks. Is this outcome necessarily bad for consumers? Unfortunately, the answer is yes. The long term costs to consumers will generally outweigh the short-term benefits. The biased competition in the credit card market is welfare reducing.

Recall the example from Section III.B.1, where biased competition was shown to raise the interest rate and reduce the annual rate. What are the welfare consequences of this outcome? Under the low interest rate, high annual rate contract ($20, 5%), the consumer

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160 Although admittedly some sophisticated consumers may benefit from the biased competition.
ends-up paying $70. And under the high interest rate, no annual fee contract ($0, 7%), the consumer also ends-up paying $70. But are these two outcomes really identical from the consumer’s perspective, or from a broader welfare perspective? As I argue below, the high interest rate, no annual fee contract induced by the biased competition might generate significant welfare costs.

1. Increasing the Costs of Financial Distress

In the example, it was the consumer’s underestimation of her future borrowing that drove the interest rate up and the annual rate down. But what the consumer underestimated at T=0, she is forced to bear at T=1. At T=0, when the consumer feels financially secure, the high interest rate, no annual fee contract provides her with the utility from saving $20 on annual fees. At T=1, when the consumer realizes that she needs to borrow on her credit card, the same contract imposes the disutility of the additional $20 in interest payments.\(^{161}\)

Decreasing marginal utility from money, a basic tenet of economic theory,\(^{162}\) implies that the T=1 welfare cost of paying the additional $20 in interest is greater than the T=0 welfare gain from saving $20 in annual fees. Since money is more valuable when one has less of it, e.g. when one must resort to borrowing, from a welfare perspective the increased interest rate will generally outweigh the reduction in the annual rate.\(^{163}\)

In fact, the difference between the T=1 welfare cost and the T=0 welfare gain is even greater than described above. Since the ex ante probability that the consumer will pay interest is smaller than one, say 0.5, the terms of the high interest rate, low annual fee contract would be ($0, 9%), rather than ($0, 7%). If the issuer expects to receive the interest payment only fifty percent of the time, he must increase the interest rate to cover his costs. Assuming that the welfare of a consumer in financial distress is sufficiently sensitive to an additional

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\(^{161}\) Formally, let \(w_0\) and \(w_1 < w_0\) denote the consumer’s wealth at T=0 and T=1, respectively, after incurring any cost associated with the benchmark low interest rate, high annual fee contract (“contract 1”). Let \(x\) denote the T=0 saving in annual fees under the high interest, no annual fee contract (“contract 2”), and let \(y\) denote the T=1 cost in terms of higher interest rates under contract 2. Following the example analyzed in the text, we initially assume that \(x = y\). The consumer’s T=0 utility is \(u(w_0 + x)\) under contract 2, as opposed to \(u(w_0)\) under contract 1. The consumer’s T=1 utility is \(u(w_1 - y)\) under contract 2, as opposed to \(u(w_1)\) under contract 1.

\(^{162}\) See, e.g., Steven Shavell, ECONOMIC ANALYSIS OF ACCIDENT LAW 186 (1987) (“[W]hile the party’s utility increases with the level of his wealth, it does so at a decreasing rate.”); Richard A. Posner, ECONOMIC ANALYSIS OF LAW 10-11 (6th ed. 2003) (“[A] nother dollar… will mean less to a person as his wealth increases.”). Formally, decreasing marginal utility implies that the utility function, \(u(\cdot)\), is concave.

\(^{163}\) Formally, given \(w_1 < w_0\) decreasing marginal utility implies that \(\frac{d}{dw_1} u(w_1) - \frac{d}{dw_1} u(w_1 - y) > \frac{d}{dw_0} u(w_0 + x) - \frac{d}{dw_0} u(w_0)\) (still assuming \(x = y\)).
reduction in wealth, these higher additional interest charges further increase the cost of financial distress.\textsuperscript{164}

The abstract principle of decreasing marginal utility from money reflects the very concrete real-world experience of credit card holders. When a consumer is employed in a well-paying job, saving a relatively small amount in annual fees is a nice but insignificant perk. But when the consumer is in between jobs, struggling to make ends meet, this same modest amount, and often a significantly larger amount, which returns to haunt her in the form of increased interest payments, might be quite painful. Similarly, when the consumer is facing the financial burden of the mounting medical bills generated by an unanticipated illness, the cost of increased finance charges on credit card debt outweighs any benefit from prior savings on annual rates back in the time before financial distress hit.\textsuperscript{165}

In addition, mounting credit card debt fueled by high interest rates is a major cause of consumer bankruptcy.\textsuperscript{166} The adverse consequences of financial distress and bankruptcy further bolster the asymmetry between the often minor benefit from reduced annual rates when times are good and the potentially significant cost of increased interest charges when times are bad.\textsuperscript{167}

Finally, by placing more consumers at risk of financial distress the underestimation of future borrowing and the resulting biased competition increases the number of individuals who, instead of contributing to society, will be forced to rely on society for help.\textsuperscript{168}

The significant administrative costs associated with bankruptcy

\textsuperscript{164} Formally, assume that the consumer pays interest with probability $q$. Consequently, $y = x/q > x$. If $u'(w_i)$ is sufficiently large, $q \cdot [u(w_i) - u(w_i - y)] = q \cdot [u(w_i) - u(w_i - x/q)] > u(w_i) - u(w_i - x) > u(w_i + x) - u(w_i)$, namely paying a larger amount, $y$, with probability $q$ is more costly than paying a smaller amount, $x$, with certainty.

\textsuperscript{165} See Jackson, Fresh-Start, supra note 126, at 1411-12 (arguing that financial distress, caused by e.g. unemployment, divorce or illness, can make it very painful for consumers to repay their loans); Hallinan, supra note 129 (same); Richard Hynes, Overoptimism and Bankruptcy Policy (unpublished manuscript, on file with author) (noting the welfare cost incurred when a debtor in financial distress is forced to pay).

\textsuperscript{166} See supra Section I.B.2.

\textsuperscript{167} The result that the $T=1$ welfare cost outweighs the $T=0$ welfare gain does not depend on the actual materialization of adverse events such as job loss and illness or on the increased risk of bankruptcy that they create. It is enough that biased competition shifts costs to periods when the consumer is in a worse financial situation. In this situation any further subtraction from the shrinking financial cushion increases the risk of financial distress in the event of a job loss, illness, accident or other adverse event. Since consumers are risk averse, this increased risk is sufficient to raise the $T=1$ welfare cost above the $T=0$ welfare gain. See A. MITCHELL POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 59 (3rd ed. 2003) (A standard assumption in the economic analysis of risk is that “the higher a person’s wealth, the less averse he is to a given size risk.”).

proceedings as well as other negative externalities associated with even less extreme forms of financial distress constitute another welfare cost that will be born, at least in part, by consumers.\textsuperscript{169}

The identified behavioral bias leads consumers to underestimate the likelihood of experiencing a $T=1$ welfare cost that would outweigh the current $T=0$ welfare gain. This bias on the demand side of the credit card market limits the welfare-enhancing power of competition. Competition among credit card issuers guarantees only that issuers will not profit from the high interest rate, low annual fee outcome. It does not prevent the potential harm to consumers that such a short-term bias entails. Underestimation of future borrowing biases competition among issuers, shifting costs to periods of financial distress when they are most difficult to bear. Competition, even biased competition, still dissipates issuers’ gains. With the underestimation bias in play, however, competition no longer guarantees the maximization of consumer welfare.

2. Inefficient Use of Credit Cards

An additional cost of the underestimation of future borrowing stems from the distorted incentives generated by biased competition. From a welfare perspective, the importance of marginal-cost pricing lies in the efficient incentives generated by such pricing. If a consumer, in order to obtain a good or a service, must pay a price equal to the cost of manufacturing the good or providing the service, then the consumer will choose to obtain the good or the service if and only if she values it more than its cost. Thus private incentives are aligned with the social objective of welfare maximization. Goods and services are produced only when the benefit exceeds the cost, and an optimal allocation of resources is achieved.\textsuperscript{170}

However, as demonstrated in the previous sections, in the credit card market prices systematically deviate from marginal cost. Long-term contingent price elements are set above marginal cost; and short-term non-contingent price elements are set below marginal cost (and even at a negative level, if benefits programs are counted). These deviations from marginal-cost pricing distort incentives and reduce welfare.

Specifically, to the extent that teaser rates are set below the marginal cost of funds, excessive borrowing will occur in the introductory period. In addition, the absence of annual and per-transaction fees implies that consumers will obtain too many credit

\textsuperscript{169} See Mann, supra note 40 (“[F]inancial distress generates substantial external costs for the economy, costs that are not borne entirely by the lenders whose debts are not repaid or by the borrowers that fail to repay them.”)

\textsuperscript{170} See generally ANDREW MAS-COLELL ET AL., MICROECONOMIC THEORY, ch. 10 (1995).
cards and use these cards excessively for transacting purposes (e.g. for $1 transactions).\footnote{171}

As collateral damage, benefits programs skew incentives beyond the credit card market. For instance, if merchants participating in a credit card issuer’s benefits program price their products at marginal cost absent the discount provided by the benefits program, then cardholders face below-marginal-cost prices, leading to excessive purchasing. Similarly, if a cardholder is entitled to free rental car insurance, this cardholder will get insurance even when the cost of providing insurance exceeds its value to the cardholder. And, since free insurance makes car rental cheaper, this benefit might also lead to excessive car rental.

B. Distributional Concerns

Not only efficiency is threatened by the distorted pricing in the credit card market. The systematic overpricing of credit services and underpricing of transacting services means that transactors are being cross-subsidized by borrowers. The high interest rates and exorbitant penalties paid by consumers who end-up borrowing on their credit cards finance the free cards and the benefits programs enjoyed by consumers who use their cards for transacting purposes only.\footnote{172}

While a propensity to borrow is not perfectly correlated with socio-economic status, the cross-subsidization between the different consumer groups in the credit card market is highly regressive. This troubling distributive effect provides another reason to consider legal intervention in the credit card market.

C. Freedom of Contract and Its Failure

The efficiency and distributive implications described in Subsections A and B suggest that there may be room for legal intervention in the credit card market. Such intervention, however, cannot be considered before a general objection to intervention in contractual relations—the “freedom of contract” objection—is rebutted. If two parties, specifically a credit card issuer and a consumer, voluntarily enter into a contract, then presumptively both parties are made better off by this contract.\footnote{173}

Moreover, any specific

\footnote{171} See Sujit Chakravorti & William R. Emmons, \textit{Who Pays for Credit Cards?}, FED. RESERVE BANK OF CHI. EMERGING PAYMENTS OCCASIONAL PAPER SERIES, 2001, No. 1, at 1 (it may well be that credit cards are “overused”).

\footnote{172} Similarly, consumers who switch from one teaser rate to the next, thus enjoying under-priced or even free credit, are being cross-subsidized by the majority of consumers who end up paying the high post-introductory rates.

\footnote{173} I abstract from limits on freedom of contract based on asymmetric information. See, e.g., Michael J. Trebilcock, \textit{The Limits of Freedom of Contract}, ch. 5 (1993). For a discussion regarding limits on freedom of contract based on possible adverse effects on third parties, i.e. externalities—see infra note 178.
term in the contract should maximize the parties’ overall welfare, and—through proper adjustments of the contract price—should also be Pareto optimal, namely increase the welfare of each party.\textsuperscript{174}

The force of the freedom of contract argument, however, is significantly reduced when one (or both) of the parties to the contract holds inaccurate perceptions of the future. The freedom of contract paradigm is based on the presumption that contracting parties correctly anticipate their future actions and thus the future consequences of the contract they have signed. Without an accurate perception of the future, freedom of contract cannot defend future-oriented contracts.\textsuperscript{175}

Still, claims of paternalism are sometimes voiced against any attempt to intervene in the credit card market, and even against any contention that this market suffers from a basic market failure: “Another common complaint about credit cards is that they entice people to accumulate too much debt. This complaint is partly paternalistic. Some people dislike borrowing just as other people frown on eating meat. Neither preference is wrong, but we would argue that neither should be imposed on others.”\textsuperscript{176}

But is credit card borrowing truly comparable to “eating meat”? A vegetarian would not normally anticipate having salad, only to end up ordering steak. Yet precisely such reversals control credit card borrowing. Ex ante, the consumer does not anticipate borrowing, and perhaps even has a preference against borrowing, but she ends up borrowing nevertheless.\textsuperscript{177} The underestimation theory suggests that credit card borrowing does not necessarily reveal a preference for borrowing. Freedom of contract may thus prevent, rather than promote the fulfillment of the consumer’s true ex ante preferences.\textsuperscript{178}

\textsuperscript{174} See, e.g., STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW, ch. 13 (2004). Pareto efficiency implies that both parties will be better-off (or, at least, not worse-off), compared to a benchmark contract without the efficient term.

\textsuperscript{175} This reply to the freedom of contract objection resembles arguments made with respect to non-dickered terms in from contracts, namely that the consumer does not really consent to such terms and therefore neither efficiency nor equity can be inferred. See, e.g., KARL LLEWELLYN, THE COMMON LAW TRADITION 362-63 (1960); Todd. D. Rakoff, Contracts of Adhesion: An Essay in Reconstruction, 96 HARV. L. REV. 1174 (1983). The quintessential dickered term, however, is the price term, which in the credit card contract includes as its main component the long-term interest rate. Accordingly, this Article must go beyond the traditional accounts of non-dickered terms in form contracts.


\textsuperscript{177} See THALER, supra note 8, at 98, 105 (“The problem of dynamic inconsistency raises questions about consumer sovereignty. Who is sovereign, the self who sets the alarm clock to rise early, or the self who shuts it off the next morning and goes back to sleep?”)

\textsuperscript{178} The normative force of the freedom of contract argument in the credit card context is also limited by the existence of externalities. As described in the

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V. POLICY IMPLICATIONS

The underestimation theory provides the basis for considering legal intervention in the credit card market. It also guides the design of potential policy responses. In this Section, I consider several policy proposals targeting the identified failure in the credit card market. I begin, in subsection A, by examining potential avenues for ex ante regulation. I argue that given the nature of the problem and the relative institutional competencies, ex ante regulation should be preferred over ex post judicial review. Nevertheless, I proceed, in subsection B, to explore the option of ex post intervention, identifying the potential benefits and the looming costs of an attempt to redraw the boundaries of common law doctrines in light of the underestimation theory.\(^{179}\)

The policy proposals examined in this Section suffer from well-known shortcomings. The imperfect information available to regulators and judges and the possibility of political capture limit the appeal of most forms of legal intervention. Moreover, regulators and judges might suffer from behavioral biases that limit their ability to cure the market failure originating from consumers’ underestimation bias. Finally, the implementation costs of the different policy proposals must be weighed against the potential benefits from these proposals.

A comprehensive analysis of the costs and benefits of each policy is beyond the scope of this Article. Rather, this Section identifies the major legal avenues available to policymakers concerned with the repercussions of the underestimation bias.

A. Ex Ante Regulation

This subsection considers several forms of ex ante regulation. Since regulation aimed at protecting less sophisticated consumers might well impose costs on more sophisticated consumers, I begin by considering policy solutions that are least likely to harm sophisticated consumers.\(^{180}\)

\(^{179}\) The dichotomy between ex ante regulation and ex post review is clearly overstated. Many forms of ex ante regulation require some degree of ex post judicial enforcement. The question is how much discretion is left to the enforcing court, along the well-known lines of the rules versus standards distinction.

\(^{180}\) This preference for policy responses that impose minimal costs on sophisticated parties follows the notion of “asymmetric paternalism” developed in Camerer et al.,
1. Warnings, Disclosures, and the Truth-In-Lending Act

The least obtrusive method of legal intervention relies on warnings and disclosures regarding the dangers inherent in the credit card contract. If consumers' underestimation of their future borrowing is responsible for the biased competition in the credit card market and for the resulting inefficiencies, then perhaps legal intervention can help cure the underestimation bias.\(^{181}\)

The forced disclosure method of legal intervention appears to be more feasible than other, more interventionist alternatives. “In 1987-1988, Congress rejected [several] proposed bills and amendments setting credit card interest rate ceilings but enacted a mandatory disclosure bill.\(^{182}\) The Truth-in-Lending Act (TILA)\(^{183}\) was amended to require specific disclosures in credit and charge card applications and solicitations.\(^{184}\) These provisions are interpreted by Federal Reserve Board Regulation Z,\(^{185}\) which specifies the required disclosures.\(^{186}\)

The declared purpose of TILA is “to assure a meaningful disclosure of credit terms . . . and to protect the consumer against inaccurate and unfair billing and credit card practices.”\(^{187}\) The


\(^{183}\) 15 U.S.C. §§ 1601 et seq.

\(^{184}\) 15 U.S.C. § 1637(c) (Disclosure in credit and charge card applications and solicitations).

\(^{185}\) 12 C.F.R. §§ 226.18, 226.5a.


Interpretive Notes and Decisions accompanying TILA’s opening section elaborate that the purpose of TILA is “to help correct what Congress perceived as widespread consumer confusion about the nature and cost of credit obligations.” 188 The design of “meaningful disclosure” must take into account consumers’ underestimation bias.

The proposed intervention goes beyond the current scope of TILA. The goal is not only to educate consumers about credit terms, but also to educate them about their own preferences and cognitive biases. Knowledge of credit terms is meaningless if the consumer mistakenly believes that she will not borrow. 189

Overcoming the underestimation bias will not be easy. Only statistical information can be disclosed. The issuer can only be forced to inform the consumer that on average she will borrow more than she anticipates. And existing evidence suggests that disclosure of statistical evidence is not always convincing. In particular, if the disclosed average level of borrowing is taken across a large group of consumers, any individual consumer may believe that she is among the few who will not borrow. 190

The efficacy of a disclosure policy would increase if the disclosed information, although necessarily statistical, is individualized. For instance, issuers can be required to remind the consumer that she did in fact borrow in the past. Such information cannot be dismissed by the consumer as an abstract statistic that does not apply to her;
although the consumer could still believe that her past borrowing is not indicative of her future choices.\textsuperscript{191}

Individualized disclosure can also be implemented with respect to the repayment rate. Consumers' inclination to pay only the minimum required payment each month can be combated by forcing issuers to add an appropriate warning on the credit card bill. Such a warning might read: “Debt Increasing — At current repayment rate, it will take you 34 years to repay your debt and you will end up paying 300% of the principal.”\textsuperscript{192} Such an individualized warning, tailored to the consumer's actual repayment record, should be more effective than the general warning that Congress is currently considering.\textsuperscript{193} More broadly, the fact that issuers are currently using their control of the credit card bill to induce minimum payments suggests that requiring certain disclosures on the credit card bill may be effective.\textsuperscript{194}

Disclosure can be even more effective if the information is provided before the end of the billing cycle. According to a recent proposal by Ronald Mann, issuers would be required to provide point-of-sale information.\textsuperscript{195} For instance, if by charging a current purchase to a certain credit card the consumer would exceed her credit limit on that card thus incurring a $29 fee, this information would be provided to the consumer, allowing her to use a different card or an alternative payment system.

Information-based intervention has been proven feasible and effective in other contexts. Mandatory warnings on cigarette or drug

\textsuperscript{191} On the advantages of individualized disclosure, see generally Jolls & Sunstein, \textit{supra} note 181. \textit{See also} BARRY NALEBUFF & IAN AYRES, \textit{Why Not?} 181 (2003) (arguing that issuers should be required to disclose to consumers the likelihood that they will incur late and over-limit fees, preferably based on individual data that the issuer collects on the specific consumer). \textit{Cf.} Ian Ayres & Barry Nalebuff, \textit{In Praise of Honest Pricing}, 45 MIT SLOAN MGMT. REV. 24 (2003) (discussing the potential advantages of individualized disclosure in the cell-phone market).

\textsuperscript{192} \textit{See supra} Section II.A.6. A similar disclosure is mandated by TILA for closed-end credit. \textit{See} 12 C.F.R. § 226.18(h) (requiring the creditor to disclose “[t]he total of payments, using that term, and a descriptive explanation such as “the amount you will have paid when you have made all scheduled payments”). According to a recent survey, many holders of bank-type cards “said it would be helpful to include on their billing statement information about the length of time it would take to pay off the balance if only the minimum payment were made each month.” Durkin, \textit{supra} note 46, at 629.

\textsuperscript{193} \textit{See} Section 1301 of H.R. 975, 108\textsuperscript{th} Cong. (2003). A more individualized version of Section 1301, proposed in H.R. 1052, 107\textsuperscript{th} Cong. (2001), was soundly defeated by the issuers' lobby.

\textsuperscript{194} \textit{See supra} Section II.B.6. Indeed, intervention in issuers' billing practice fits squarely within the purpose of TILA. \textit{See} 15 U.S.C. § 1601(a) (“to protect the consumer against inaccurate and unfair billing and credit card practices.” (emphasis added)). \textit{See also} 12 C.F.R § 226.7 (Regulating the “[p]eriodic statement”). And at least some observers recognize that current intervention in billing practices is insufficient. \textit{See}, e.g., Edward L. Rubin, \textit{Legislative Methodology: Lessons from the Truth-in-Lending Act}, 80 GEO. L.J. 233, 236 (1991) (“The confusion about the meaning of the Act's disclosures would suggest that it provided rather uncertain protection against inaccurate or unfair billing.”).

\textsuperscript{195} \textit{See Mann, supra} note 40.
packaging are a prominent example. The success of the anti-smoking and anti-drug advertisement campaigns is also suggestive. Perhaps the modern tendency to finance consumption with debt, without a complete understanding of the future repercussions of such a tendency, can be (at least partially) overcome through the provision of information.

2. Default Rules and Unsolicited Offers

“Nothing is more ubiquitous in our mailboxes than the preapproved credit card offer.” Over five billion solicitations were mailed in 2001—more than forty-five mailings to every household in America, providing the average household with $1 million of credit every four years. The ease with which consumers can obtain credit cards via unsolicited offers exacerbates the identified failure in the credit card market. Individuals tend to make fewer mistakes when a decision involves higher costs. It is rational to invest more, e.g. in improving one’s understanding of the future implications of a contract, when there is a cost associated with signing the contract.

197 With respect to cigarette smoking, Congress required the Secretary of Health and Human Services to “conduct and support research on the effect of cigarette smoking on human health and develop materials for informing the public of such effect;… collect, analyze, and disseminate (through publications, bibliographies, and otherwise) information, studies, and other data relating to the effect of cigarette smoking on human health;… undertake any other additional information and research activities.” See 15 U.S.C. §1341(a). See also Jolls & Sunstein, supra note 181, at 25-26 (describing how effective disclosure was achieved regarding the effects of cigarette smoking using availability and salience); VISCUSI, supra note 190, at 136 et seq. (describing warnings and other modes of providing information on the risk of smoking, and their effects on risk perception and on smoking behavior).
198 Recognizing the force of advertising may justify regulation of the marketing techniques employed by credit card issuers. See Laurie A. Lucas, Integrative Social Contracts Theory: Ethical Implications of Marketing Credit Cards to U.S. College Students, 38 AM. BUS. L.J. 413, 415-16, 422 (2001) (“Marketing credit to unsophisticated consumers, even with TILA compliance, is problematic.”) See generally Jon Hanson & Douglas A. Kysar, Taking Behavioralism Seriously: Some Evidence of Market Manipulation, 112 HARV. L. REV. 1420, 1433 (1999) (“[C]ognitive heuristics [like peripheral cues] allow people to simplify decisionmaking through short cuts or rules of thumb; both mechanisms, when manipulated by researchers or marketers, can also lead to consistently misguided decisionmaking.”). Indeed, Congress has not shied away from intervention in issuers’ marketing strategies. See, e.g., 15 U.S.C. § 1663 (regulating the advertising of open end credit plans).
199 Howard, supra note 128, at 63.
201 NATIONAL CONSUMER LAW CENTER, supra note 143, at 259.
Unsolicited offers reduce this cost to a bare minimum. Therefore, stricter scrutiny of unsolicited offers is justified.\textsuperscript{202} For instance, it may be desirable to categorically prohibit the use of penalties, negative amortization rates and even some types of teaser rates in unsolicited offers. Even critics of usury ceilings—which are considered in greater detail below\textsuperscript{203}—should be less troubled by the capping of interest rates in unsolicited offers. The objection in the name of freedom of contract would lose at least some of its force, if a sophisticated consumer, who really wants a high interest rate, can get it by requesting and completing an application. In other words, in restricting the range of permissible terms in unsolicited offers the law only sets a default rule that can be contracted around by sophisticated consumers.\textsuperscript{204}

3. Unbundling

As explained above, the distorted pricing pattern observed in the credit card market is the product of the underestimation bias on the one hand and the bundling of transacting and borrowing on the other hand. Therefore, it might be desirable to consider policy responses that would unbundle these two distinct services.\textsuperscript{205}

In fact, even absent legal intervention the market has taken the first step towards the unbundling of transacting and financing services with the invention of the debit card. Debit cards, however, are at best only an imperfect substitute for credit cards, even on the transacting dimension.\textsuperscript{206} One way to help the debit card in presenting a real

\textsuperscript{202} The special problems inherent in unsolicited offers have been recognized before. In many European countries direct mailing of card solicitations is entirely prohibited. See EVANS \& SCHMALLOW, supra note 13, at 190. Regulation Z distinguishes between “applications” and “solicitations,” where the consumer is not required to complete an application. See 12 C.F.R § 226.5a(a)(1). In the past credit card issuers would send out unsolicited credit cards, not only unsolicited offers. This even more dangerous marketing technique was banned by Congress. See 15 U.S.C. § 1642 (“No credit card shall be issued except in response to a request or application therefore.”).

\textsuperscript{203} See infra subsection 4.

\textsuperscript{204} See Sunstein \& Thaler, supra note 159 (defending a weak type of paternalism that focuses on default rules); Camerer et al., supra note 159, at 1224-30 (same). Default rules, however, may be more powerful than commonly believed – see, generally, Russell Korobkin, The Status Quo Bias and Contract Default Rules, 83 CORNELL L. REV. 608 (1998).

\textsuperscript{205} Compare: unbundling in the computer software industry (unbundling Microsoft Windows from Microsoft Office) and in the telecommunications industry (unbundling local and long-distance services).

\textsuperscript{206} See supra note 141. The evidence suggests that debit cards are substituting for checks, not for credit cards. The recent rise of the debit card has mirrored a decline in the use of checks, without any significant effect on the use of credit cards. See Mann, supra note 40.
alternative to the credit card is by restricting the benefits programs that credit card issuers can offer.\textsuperscript{207}

Unbundling can also be affected by requiring issuers to allow automatic payment of credit card balances from the consumer’s checking account (commonly located in a different bank)\textsuperscript{208} A consumer, who chooses this automatic payment option, in effect transfers her borrowing business from the credit card issuer to her local bank. With the interest-bearing borrowing business stripped away, the issuer would no longer be able to exploit the consumer’s underestimation bias. Moreover, the automatic payment option would practically eliminate the problem of late and over-limit fees.

4. Reconsidering Usury

I now turn to consider a more controversial policy—usury ceilings. The underestimation theory, by qualifying the main anti-usury arguments, opens the door to a serious reconsideration of usury in the credit card context.

Underestimation of future borrowing has been shown to result in biased competition, which leads to skewed pricing and inefficiency in the credit card market. Therefore, it is natural to consider the use of price regulation as a policy response to the identified market failure. Specifically, if underestimation of future borrowing steers competition in the credit card market away from the interest rate dimension, resulting in high interest rates, then policymakers should consider imposing usury ceilings as a policy response.\textsuperscript{209}

Importantly, as soon as usury ceilings lower the interest rate charged on credit card debt, the remaining price elements will self-correct. In particular, if issuers’ financing revenues drop, then they will not be able to set a zero annual fee or to offer lucrative benefits programs. Thus, the proposed usury law will have the direct effect of lowering interest rates as well as the indirect effect of adjusting the short-term non-contingent elements of the credit card contract.\textsuperscript{210}

A credit card usury cap will likely induce issuers to readjust their pricing practices—to place more weight on the short-term elements of

\textsuperscript{207} Cf. Mann, \textit{supra} note 40 (proposing legal restrictions on benefit programs for different reasons).
\textsuperscript{208} While common in most other countries, this automatic payment option is not available in many U.S. banks.
\textsuperscript{209} Eric Posner provides a different externality-based argument for usury ceilings and other restrictions on the extension of credit. \textit{See} Posner, \textit{supra} note 168.
\textsuperscript{210} For a recent proposal to enact a national usury law—\textit{see} Demos, \textit{supra} note 105, at 39–40. A related form of price regulation would target late and over-limit fees. \textit{See} Demos, \textit{supra} note 105, at 40. Regulation can also target the short-term elements of the credit card price. For instance, restrictions could be imposed on teaser rates (either directly or by limiting the permissible difference between the teaser rate and the post-introductory rate) and benefits programs. By restricting competition on the short-term elements, such regulation would likely ignite competition on the long-term elements of the credit card price.
the credit card price. But the overall price of the credit card need not change. Thus, the underestimation theory qualifies the traditional objection to usury ceilings, namely that such price regulation would only limit the availability of credit, hurting the very consumers it sets-out to protect. If the overall price of credit would not change, the overall supply of credit would remain unaffected.

Moreover, it should be emphasized that setting usury caps for credit cards is distinctly different from a general usury law that affects all forms of credit. The underestimation theory identified a vulnerability unique to credit card borrowing (and other related forms of open-end credit). Accordingly, the considered usury ceilings would apply solely to credit card borrowing. Other forms of credit would be left untouched. Thus, the common objection that usury laws would limit the availability of credit to the detriment of consumers has only limited force. While a credit card usury law might induce substitution from credit card borrowing to alternative forms of financing, it need not significantly limit the overall availability of credit.

Still, price regulation via usury caps is fraught with well-known problems. I therefore stop short of advocating a reinstatement of usury ceilings. The preceding analysis should nevertheless clear some of the hurdles that currently prevent a serious consideration of usury policy.211

B. Ex Post Judicial Review

1. Contract Law

In theory, contract law could be used to police credit card contracts and to affect the desired adjustments in credit card pricing. In practice, however, ex post judicial review of credit card contracts is probably not the optimal method of legal intervention. Given the institutional constraints on common law adjudication, it may well be better to leave the regulation of credit card contracts to legislatures and administrative agencies. Indeed, courts have been reluctant to intervene in credit card contracts.

211 To further minimize the cost of usury ceilings the following measures should be considered. First, the price regulation need not take the form of mandatory fixed low interest rates. It is the inflexible nature of traditional usury laws that led to their abolition. See infra Section I.B.1, n. 34. Usury ceilings can and should be variable rates, defined as a maximum surcharge above some benchmark rate (e.g. the prime rate). See Rougeau, supra note 32, at 40 et seq. (describing more recent proposals advocating a “floating cap on interest”). Second, usury laws could allow rates to vary also in accordance with specified risk characteristics of the borrower. Third, the usury ceilings need not be too low. Starting from the current high interest rates, a usury ceiling that modestly curbs observed practices may increase welfare, even when the policymaker lacks the information required to impose the optimal rate.
a) Unconscionability

At first glance, the doctrine of unconscionability might seem to be a natural policy lever for legal intervention in credit card contracts. Specifically, the contours of procedural unconscionability could be expanded to account for the type of behavioral biases invoked by the underestimation theory. And the systematic deviations from marginal cost pricing identified in this Article could inform a substantive unconscionability analysis.

Yet courts have been very careful in applying unconscionability review to credit card contracts. In particular, courts have generally rejected unconscionability claims made against arbitration clauses in credit card contracts. Similarly, courts would likely shy away from unconscionability review of credit card pricing; and justly so. Unconscionability doctrine, by its very nature, cannot be tailored to the special needs of the credit card market. And the potential ripple effects of a general broadening of the doctrine caution against such a move.

212 See U.C.C. § 2-302; RESTATEMENT (SECOND) OF CONTRACTS § 208. Unconscionability review is most commonly applied to contracts between consumers and sophisticated corporations See, e.g., E. Allan Farnsworth, CONTRACTS 314 (3rd ed. 1999). In particular, unconscionability doctrine has been commonly invoked in form contract cases, where the more sophisticated party controls the contractual design. And, more specifically, unconscionability has been used to police credit contracts. See Posner, supra note 168, at 305 (discussing the application of unconscionability analysis in credit cases).

213 Korobkin, supra note 130, §§ V and VI, studies the efficacy of unconscionability doctrine in policing form contracts given consumers’ bounded rationality.

214 See, e.g., Arriaga v. Cross Country Bank, 163 F. Supp. 2d 1189 (2001); Bank One, N.A. v. Coates, 125 F. Supp. 2d 819 (2001); Curtis Marsh v. First USA Bank, N.A., 103 F. Supp. 2d 909 (2000). However, such claims have been occasionally upheld in extreme cases. See, e.g., Lozada v. Dale Baker Oldsmobile, Inc., 91 F. Supp. 2d 1087, 1105 (2000) (“an arbitration provision is substantively unconscionable because it waives class remedies, as well as declaratory and injunctive relief.”); Ferguson v. Countrywide Credit Industries, Inc., 298 F.3d 778, 785 (9th Cir. 2002) (arbitration clause that exempts drafter’s claims is most likely to be unconscionable). See also Korobkin, supra note 130, at 1274-75 (discussing cases). The potential danger in arbitration clauses can be explained by the behavioral theory suggested in this Article. See infra Section VI.C.2.


216 As previously noted, ex ante regulation may provide a better solution. See Lewis A. Kornhauser, Unconscionability in Standard Forms, 64 CALIF. L. REV. 1151 (1976) (arguing that market imperfections leading to unconscionable contracts may be more amenable to legislative rather than to judicial correction). The arbitration issue has, in fact, been taken up by Congress. See Consumer Credit Fair Dispute Resolution Act of 2001, S. 192, 107th Cong., 147 Cong. Rec. SS87 (daily ed. January 25, 2001).
b) The Penalty Doctrine

Focusing on late and over-limit fees, a second common law doctrine, the penalty doctrine, provides a potential policy level for policing credit card contracts. Contract law precludes the specification of damages for non-performance that exceed the true harm to the breached-against party, or a reasonable ex ante (at the time of contracting) estimate of such harm. Such excessive damages are considered an unlawful penalty, and as such are not enforceable.\(^\text{217}\)

It seems quite clear that in many cases the large penalties specified in the credit card contract greatly exceed the actual harm caused to the issuer, as well as any reasonable ex ante estimate of such harm. This is specifically evident when the magnitude of these penalties is measured in fixed dollar amounts, typically around $30, regardless of the degree of deviation from the credit line or the tardiness in making the payment.\(^\text{218}\) When a cardholder is required to pay a $30 fee for missing the due date on a $10 balance by only a few days this fee is clearly an illegal penalty.

Consumers underestimate penalty-triggering borrowing as well as penalty-triggering forgetfulness, and consequently they underestimate the cost of penalties. As a result, profit maximizing issuers, driven by competition, set high penalties. Sullivan, Warren & Westbrook observed that issuers, when faced with consumers who exceed their credit limit or miss payments, often respond by charging the penalty fee (or the higher interest rate) and raising the credit limit.\(^\text{219}\) Not only are issuers not losing from the breach of contract, but rather they are making the largest revenues from lending to these delinquent consumers.\(^\text{220}\)

As compared to their reluctance to invoke the unconscionability doctrine, courts have been more susceptible to penalty claims raised against late and over-limit fees in credit card contracts.\(^\text{221}\) Still, while the penalty doctrine may well be used in extreme cases, courts will often find it difficult to conduct the comprehensive analysis of an issuer’s cost structure that would be required to separate illegal penalties from reasonable liquidated damages. Again, ex ante regulation may prove to be the superior alternative.

\(^\text{217}\) See Restatement (Second) of Contracts § 356; U.C.C. § 2-718.  
\(^\text{218}\) See supra Section II.A.5.  
\(^\text{219}\) See Sullivan, Warren & Westbrook, supra note 2, at 115.  
\(^\text{220}\) Id.  
2. Bankruptcy Law

Bankruptcy law provides another policy lever for policing credit card contracts. Bankruptcy law encompasses both ex ante regulation and ex post judicial intervention. I begin with the debate over proposals to restrict the access of consumers with credit card debt to bankruptcy relief. After concluding that these proposals are misguided, I proceed to examine other, potentially more constructive applications of bankruptcy law.

a) Maintaining Consumer Access to Bankruptcy Relief

Facing skyrocketing default rates in the 1990s, credit card issuers lobbied for legislation that would restrict consumer’s access to bankruptcy relief.222 A recent reincarnation of this proposed legislation is currently on Congress’ plate.223 Issuers have also taken to the courts, increasing their challenges against the dischargeability of credit card debt based on 11 U.S.C. §523(a)(2)(A).224

The claim that such restrictions would cure the excessive borrowing problem has little merit. On the contrary, limiting the dischargeability of credit card debt would only increase the incidence of overextended consumers. Limited dischargeability, by increasing issuers’ profits, would lead to an increase in the supply of credit. On the demand side, however, the underestimation bias would prevent an offsetting decrease in the demand for credit. Overall, such a policy could only exacerbate the excessive borrowing problem.225 Accordingly, the underestimation theory lends support to the recommendation of the National Bankruptcy Review Commission that Congress guarantee the general discharge of credit card debt.226

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224 See Howard, supra note 128, at 63, 110 et seq.
225 Ausubel, supra note 27, at 251, 264-5, 268-9. The reasoning behind this conclusion is further elaborated in Ausubel’s testimony in front of the U.S. Senate: “The intuition for this prediction is that lenders will act on the change in bankruptcy law, whereas consumers will substantially fail to act. As a result, lenders will increase the pace of solicitations and credit line expansions, while marginal consumers should not be expected to neutralize this effect by declining the lenders’ offers.” Lawrence M. Ausubel, Testimony Before the Subcommittee on Financial Institutions and Regulatory Relief of the Committee on Banking, Housing, and Urban Affairs of the United States Senate, February 11, 1998.
b) Limiting the Rights of Credit Card Issuers

In rejecting issuers' attempts to limit the dischargeability of credit card debt, courts have exhibited a remarkable sensitivity to the type of concerns emphasized by the underestimation theory. The Supreme Court, in *Field v. Mans*,227 formulated a subjective test, according to which the debtor's intent to repay is sufficient for dischargeability (i.e., it precludes the fraud allegation under 11 U.S.C. §523(a)(2)(A)), even when there was no actual ability to repay.228 This subjective test sits well with the behavioral theory advanced in this Article. The underestimation bias leads the consumer to underestimate the likelihood of financial hardship, and thus to overestimate her actual ability to repay.

Moreover, the courts have scrutinized the marketing techniques and screening procedures employed by credit card issuers, ruling that over-zealous solicitation without sufficient inquiry into the consumer's ability to pay precludes any claim of non-dischargeability.229 According to Judge Snow credit card issuers are guilty of entrapment:

“The issuers' attempts to deprive these casualties of the issuers' own lending practices of their fresh start in bankruptcy appeared presumptuous and gratuitous, thus motivating a number of courts to require strict proof of each element of the misrepresentation/reliance test to frustrate their efforts: Credit issuers are willing to risk nonpayment because the profits on finance charges exceed their risks. Thus, the same industry that seeks customers who will spend more than their means requests that discharge be denied to these customers because of an implied promise (which courts must infer) not to spend more than their means.”230

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229 See Snow, id. § III.B.3 (Where courts have considered industry’s credit screening practices, they have found they failed to establish justifiable reliance.) See also Howard, *supra* note 128, at 80 et seq. (behavior of creditor should also be considered in determining dischargeability, as it is in common law fraud).
230 See Snow, id. at 80-1, quoting from *In re Hernandez*, 208 B.R. 872, 879 (Bankr. W.D. Tex. 1997). See also Gibson, *supra* note 228, at 155 (“Judge Snow argues, issuers aggressively push credit onto unsophisticated individuals who cannot handle it. Judge Snow is worried about entrapment.”)
Bankruptcy courts are engaging in ex post scrutiny of issuers’ marketing techniques and screening procedures. Scrutiny of the contractual design itself is a natural next step. Teaser rates, high interest rates and low amortization rates can provide further evidence against an issuer’s claim of non-dischargeability. Moreover, such contracting practices can theoretically be used not only as a shield, but also as a sword—to exclude credit card issuers from any recovery in bankruptcy.231

It is doubtful, however, that ex post scrutiny is the preferred means of intervention in the credit card market. The courts’ struggle with §523(a)(2)(A) has not been an easy one.232 And extending the scope of judicial review to the content of the credit card contract would not make things easier. A better solution may revert back to ex ante regulation. If issuers’ practices were regulated by clearer ex ante rules, bankruptcy courts could play an important role in enforcing such rules.233

VI. BEYOND CREDIT CARDS

The preceding case study of the credit card industry and the credit card contract, and the implications drawn from it, are indicative of a much broader phenomenon, pertaining to many consumer contracts.

231 Cf. In re Jordan, 91 B.R. 673, 680 (1988) (Debtor objection to a proof of claim in a Chapter 13 bankruptcy proceeding asserting illegal late charges imposed by creditor). An even more extreme approach, borrowing from the concept of lender liability in the commercial bankruptcy context, would render the issuer liable to the bankrupt consumer’s other creditors. See COLLIER BANKRUPTCY PRACTICE GUIDE, ch. 79 (2003).

232 See, e.g., In re Dougherty, 84 B.R. 653, 657 (9th Cir. BAP 1988) (formulated a totality of the circumstances test examining a non-exclusive list of 12 objective factors relevant to dischargeability); In re Ėashai, 87 F.3d 1082 (9th Cir. 1996) (Rejecting the totality of the circumstances test from In re Dougherty, and requiring proof of false representation, intent to deceive, justifiable reliance and actual damages); In re Ward, 857 F.2d 1082 (6th Cir. 1988) (requiring credit check as precondition for justifiable reliance); In re Anastas, 94 F.3d 1280 (9th Cir. 1996) (“intent to deceive” factor interpreted to require investigation only of whether debtor intended to pay not whether debtor had ability to pay); In re Hashemi, 104 F.3d 1122 (9th Cir. 1997) (requiring creditor to show only that, as a whole, relevant evidence indicates debtor intended to pay); In re Rembert, 141 F.3d 277 (6th Cir. 1998) (use of credit card implies a representation of an intention but not an ability to pay).

233 In this spirit, H.R. 3146, 105th Cong. (1998) proposed an amendment of the bankruptcy laws to restrict the claims of issuers who cause unsecured debts to exceed a certain debt to income ratio threshold. Lawrence Ausubel goes further to suggest an absolute time priority rule for unsecured debt. Such a rule would provide powerful incentives for credit card issuers to inquire into the consumer’s existing debt overhang before extending more credit. See Lawrence M. Ausubel, Testimony Before the Subcommittee on Commercial and Administrative Law of the Committee on the Judiciary of the United States House of Representatives, March 10, 1998.
In Section VI, I discuss the broader teachings of the credit card case study. The importance of these lessons is demonstrated through a brief analysis of the cell phone market and a discussion of other suspect contracts.234

A. Pricing Anomalies and Behavioral Explanations

Many consumer contracts are controlled by more sophisticated sellers, who design these contracts to exploit consumers’ imperfect will-power and imperfect rationality. Market forces cannot be relied upon to cure such abuse. In fact, they might exacerbate the problem.

From a policy perspective, the preceding analysis demonstrated that observed pricing patterns can be used as indicators of a behavioral market failure. Specifically, deviations from marginal-cost pricing in an otherwise competitive market should draw policymakers’ attention.235 Pricing anomalies should be used to identify markets where legal intervention might be warranted.

Importantly, however, my claim is not that every deviation from marginal-cost pricing, even in an otherwise competitive market, implies a behavioral market failure. Deviations from marginal cost pricing are not uncommon. In many industries the price of equipment is rather low while related consumables or services carry a high price that likely exceeds marginal cost. The pricing of razors and razor blades, and the pricing of printers and ink cartridges (or paper) are illustrative. While it is not unlikely that consumers’ behavioral biases are at least partially responsible for these pricing patterns, it may well be the case that asymmetric information or other non-behavioral

234 Before expanding from credit cards to consumer contracts generally, I should mention other financing arrangements that bear resemblance to the credit card contract, and are thus susceptible to the same type of problems identified in the credit cards market. First and foremost, the analysis of credit card financing is largely applicable to open-end credit in general. Hence, all forms of credit lines, secured and unsecured, are potentially suspect. While the underestimation theory is most powerful with respect to open-end credit, close-end financing might also be susceptible to similar behavioral biases. For instance, the predatory subprime home mortgage market is a close-end financing market that exhibits pricing patterns indicative of a behavioral market failure. For a thorough analysis of this market—see Kathleen C. Engel & Patricia A. McCoy, A Tale of Three Markets: The Law and Economics of Predatory Lending, 80 Tex. L. Rev. 1255 (2002). What Engel & McCoy identify as information asymmetry favoring lenders and brokers over consumers, is probably more accurately described as imperfect rationality. See id. at 1280-1283 (referring to consumers’ lack of sophistication, and to their failure to understand the terms of the mortgage contract). On the policy level, federal and state legislation have targeted specific elements of the predatory mortgage contract (e.g. various penalties) that are especially vulnerable to the underestimation bias. See id. at 1311-12.

235 Schwartz and Wilde suggest looking at pricing patterns to identify markets where competition is imperfect, specifically due to insufficient search. See Alan Schwartz & Louis L. Wilde, Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis, 127 U. PA. L. Rev. 630 (1979).
factors are the dominant force behind such pricing schemes. Each market must be thoroughly studied before the true source of an observed pricing pattern can be identified. This Article urges scholars and policymakers to engage in such market analysis. The justification for legal intervention as well as the appropriate form of regulation depends on the results of such inquiry.

B. Cell Phones

The cell phone market is an important example of another economically significant market236 where, despite apparent competition, anomalous pricing schemes suggest the possibility of a market failure.237 As in the credit card market, competition might be pressuring providers of wireless communication services to exploit consumers’ imperfect perceptions of the future. Anomalies both in the pricing of wireless phone services and in the design of contracts for such services deserve special attention.

Perhaps the most apparent anomaly concerns the steep jump in per minute charges when the consumer exceeds the plan limit. A recent study found that most contracts specify an increase of over 100% in the per-minute price, with some contracts specifying increases of 200% and beyond.238 Clearly, these huge increases do not reflect a corresponding change in the provider’s per-minute cost. The high prices set for minutes beyond the plan limit target consumers’ underestimation of their future use of the cell phone. As with credit card borrowing, consumers might overestimate their future will-power; they might underestimate the likelihood of events that require more air time; and they might simply underestimate the likelihood that they would inadvertently exceed the plan limit. The underestimation of future use biases competition toward the short-term elements of the contract. As in the credit card market, the result

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236 The average cellular subscriber spends around $600 a year on cellular services. In total, consumers spend tens of billions of dollars a year on cellular services (not including amounts spent on purchasing cellular phones). And the industry is growing rapidly. See Jerry Hausman, _Cellular Telephone, New Products and the CPI_, NBER WORKING PAPER No. 5982, at 3, 6 (1997); Good News in a Turbulent Time, WIRELESS NEWS, Oct. 31, 2002 (“Wireless technology continues to show robust growth.”)

237 Much of what is said below about the cell phone market applies also to another increasingly important market – the ISP (Internet Service Provider) market. Other subscription markets also exhibit similar pricing patterns, indicative of a behavioral market failure.

238 See DellaVigna & Malmendier, _supra_ note 92, tbl. 4; http://www.verizonwireless.com (quoting markups in excess of 200% for minutes beyond the plan limit). Sprint PCS and AT&T Wireless similarly quote markups in excess of 300% for minutes beyond the plan limit (based on personal communications with Sprint PCS and with AT&T Wireless, 8/29/2003). See also Nalebuff & Ayres, _supra_ note 191, at 178-79 (describing the high post-plan minute prices as ‘hidden pricing’).
is high long-term prices coupled by short-term perks—free phones, free voice mail, lower short-term prices, etc.\textsuperscript{239}

A second troubling feature of the wireless service contract is the common lock-in clause, which ties the consumer to the specific provider for as long as two years.\textsuperscript{240} The lock-in clause targets consumers’ underestimation of the many contingencies that would induce them to end the contract earlier—the appearance of a more attractive offer from another provider, a change in their need for wireless services, or an unanticipated financial hardship that renders the monthly cell phone bill to painful to bear. In addition, hyperbolic discounting, and the short-sightedness it implies, explains consumers’ underestimation of the cost of lock-in. As with high prices for minutes beyond the plan limit, it seems difficult to justify the lock-in clause on cost grounds. In some industries, fixed costs may justify a lock-in clause. But the per-consumer fixed costs in the cell phone industry hardly seem capable of justifying the lengthy lock-in clauses observed in this industry. Rather, it is the underestimation bias that enables providers to lock in consumers. Competition is powerless in fighting lock-in. It can only dissipate providers’ lock-in profits by pushing for short-term perks.\textsuperscript{241}

The identified pricing and contracting practices in the cell phone market imply the existence of a behavioral bias and its exploitation by providers of wireless communication services. Closer scrutiny of the cell phone market might thus be warranted.

C. Other Contracts

The credit card and cell phone examples feature developed markets that can be subjected to elaborate ex ante regulation, when anomalous pricing and contracting practices suggest a market failure. However, inefficient pricing and contracting also occur in other contexts, where there is no developed market. The framework developed in this Article is also applicable in these contexts.

From a descriptive perspective, the behavioral model can explain observed contracting practices. From a normative perspective, the model can at the very least inform judges and regulators. The absence\textsuperscript{239} Interestingly, some providers have recently started offering “roll-over” minutes, suggesting that consumers are becoming more sensitive to at least some long-term components of the wireless service contract.\textsuperscript{240} Providers offer different short-term perks to tempt consumers into choosing service plans with longer term commitments. See offers at http://www.attws.com (waiving the activation fee for consumers choosing a 2 year plan); http://www.spritpcs.com (charging an additional fee of $10 a month if a consumer does not commit for at least 1 year); http://www.verizonwireless.com (requiring either a 1 year or a 2 year commitment, and waiving the activation fee for consumers choosing a 2 year plan).\textsuperscript{241} See Ayres & Nalebuff, supra note 191, at 24 (noting that competition in the cell-phone market focuses on the short-term, free phone dimension).
of a developed market precludes some forms of ex ante regulation, perhaps even the forms of regulation that were found to be most attractive in the credit card example. Still, other forms of ex ante regulation as well as ex post judicial review remain viable policy instruments.

To demonstrate the broad applicability of the proposed framework, I first discuss the famous Williams v. Walker-Thomas Furniture Co.\textsuperscript{242} case. I then expand the analysis to the general case of pro-seller provisions in breach contingencies.

1. Williams v. Walker-Thomas Furniture

Credit transactions, with their unique temporal ordering of costs and benefits are especially susceptible to the underestimation bias. One of the more problematic forms of consumer credit is the installment purchase contract, where the purchased goods serve as collateral for the credit that the seller extends.\textsuperscript{243} Perhaps the most famous, and extreme installment purchase case is Williams v. Walker-Thomas Furniture Co.\textsuperscript{244} Williams, who supported herself and seven children, regularly purchased furniture and home appliances from a seller on installment credit. According to the contract signed by Williams, the seller retained title to each item purchased from the seller until the buyer finished paying in full for all the items. Until the buyer brought her total unpaid balance to zero, the seller could repossess any and every item purchased. And when Williams missed a payment the seller sought to invoke this repossession provision.

The D.C. Circuit held that in common law, courts can and should refuse enforcement of unconscionable contracts or provisions. The appellate court remanded the case, ordering the trial court to consider whether the repossession provision was unconscionable.\textsuperscript{245}

The standard economic analysis of the Williams case is critical of the court’s interventionist approach. Williams is described as a credit risk. The increased likelihood of that she would default renders an apparently harsh contract a business necessity. The seller, so the argument goes, would not be able to stay in business without the assurance provided by the repossession clause; and consumers in

\textsuperscript{242} 350 F.2d 445 (D.C. Cir. 1965).


\textsuperscript{244} 350 F.2d 445 (D.C. Cir. 1965).

\textsuperscript{245} Id. at 447.

\textsuperscript{246} Id. at 448-450.
Williams’ position would only be harmed if the seller went out of business.247

Other accounts dispute the conclusion that a less harsh contract would force the seller out of business. These alternative accounts defend the unconscionability ruling in Williams, arguing that given the seller’s (local) monopoly, restricting the range of tolerable terms would only redistribute wealth to consumers.

A third, behavioral approach argues that Williams was not aware of the relevant term in the contract, or that she did not fully understand its implications.248 The behavioral model developed in this Article, while following this third approach, offers a more refined interpretation of the contracting environment in the Williams case.

Even if Williams read the relevant term and understood its formal implications, she might still have underestimated the practical importance of this clause. Williams, when making the early purchases, may have underestimated the likelihood of purchasing additional items from the same seller, or she may have naively believed that she would never miss a payment. Due to the underestimation bias, Williams may have been insufficiently sensitive to the inclusion of the repossession clause.

And, arguably, the seller designed the installment purchase contract to exploit buyers’ behavioral biases. As in the credit card and cell phone examples, the underestimation bias may have induced the seller to offer a pricing scheme with short-term benefits and long-term costs. Williams was lured in by the attractive purchase price, only to later face the threat of repossession.

Importantly, the underestimation theory is consistent with the standard economic understanding that the seller in Williams was not making any supra-competitive profits. The underestimation theory, however, diverges from the standard account in its refusal to imply efficiency from the absence of supra-competitive profits. If Williams’ behavioral bias led her to underestimate the true cost of the contract, there is no guarantee that the contract was welfare increasing.249

For reasons discussed above, the underestimation theory does not necessarily imply the desirability of the unconscionability ruling in Williams. It does suggest, however, a novel perspective on the category of contracts epitomized by the Williams case.

2. Pro-Seller Provisions in Breach Contingencies

Extrapolating from the analysis of the *Williams* case, the behavioral model developed in this Article suggests that consumers might underestimate the importance of contract provisions that govern breach contingencies. In particular, at the ex ante stage when the contract is signed the consumer might underestimate the probability of breach—either on her part or by the seller.\(^{250}\)

Therefore, sophisticated sellers would rationally attempt to lure consumers with low prices and attractive short-term perks, while loading their contracts with provisions that impose high costs on consumers in the event of breach. High liquidated damages, liability waivers, and one-sided arbitration clauses are common examples of contractual provisions that shift costs to breach contingencies.

In fact, the law does subject many provisions that govern breach contingencies to special scrutiny. The penalty doctrine is a prime example;\(^{251}\) Regulation of warranties and liability waivers is another.\(^{252}\) Limitations on arbitration clauses provide a third example.\(^{253}\) Finally, the state consumer protection statutes and/or unfair and deceptive trade practices statutes that where inspired by the Federal Trade Commission act\(^{254}\) may also be used to scrutinize pro-seller provisions in breach contingencies.\(^{255}\) The underestimation theory provides a new perspective on these legal rules.\(^{256}\)

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252 See U.C.C. §§ 2-312 – 2-318. See also U.C.C. § 2-719(3) (prohibiting limitations on consequential damages for personal injury in consumer contracts).


VII. CONCLUSION

In consumer contracts highly sophisticated corporations will often exploit consumers’ behavioral biases. Competition cannot cure such exploitation. On the contrary, competitive forces compel sellers to take advantage of consumers’ weaknesses. Therefore, legal intervention may well be required to protect consumers and to increase social welfare. Pricing anomalies should be used as indicators of market failure, signaling the need for legal intervention.