Priceless or Just Expensive?

The Use of Penalty Rates in the Credit Card Industry

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CENTER FOR RESPONSIBLE LENDING

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About the Center for Responsible Lending

The Center for Responsible Lending is a nonprofit, nonpartisan research and policy organization dedicated to protecting homeownership and family wealth by working to eliminate abusive financial practices. CRL is affiliated with Self-Help, one of the nation's largest community development financial institutions.

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EXECUTIVE SUMMARY

With roughly a trillion dollars in credit card debt, Americans have come to rely on their credit cards as both a form of payment for purchases and a flexible way to borrow cash. Credit cards are also a key source of income for financial institutions, with a rate of return that tends to be much higher than most other consumer loan products.

While credit card companies compete to offer the lowest "headline" rates in solicitations, they also depend on less obvious tactics to boost their financial returns. Credit card issuers at one time charged a single fixed interest rate to all customers and now charge several varying interest rates at once. Some of these interest rates expire after a short time period, and some suddenly change to "penalty rates" under certain conditions. The number and importance of fees charged to consumers has also grown, with penalty fees up 69% between 2003 and 2007 according to the credit card industry consulting firm R.K. Hammer. Repricing customers based on penalty triggers is a common revenue-boosting strategy.

This study shows that penalty repricing leads people to underestimate the interest they are paying and that credit card issuers try to keep it that way. Furthermore, it shows that penalty repricing is increasingly common and there is a growing disparity between the size of the penalty and what consumers expect to pay.

More specifically, this study finds:

- **Almost 11% of all balances borrowed on credit cards carry penalty pricing, and the majority of borrowers being charged penalty rates do not realize it.** This lack of knowledge is not surprising given that credit card issuers do not give borrowers explicit notification when invoking penalty pricing, and routinely reprice accounts when borrowers make payments just one day late.

- **While penalty rates have been climbing, "penalty shock" (defined as the increase over the regular rate) has increased even more sharply, with penalty shock more than doubling between 2001 and 2007**. In 2008, the average penalty annual percentage rate (APR) was 16.9 percentage points **higher** than the average non-teaser purchase APR.

    - For a household with the average amount of $10,678 in credit card debt, being penalty repriced on all their balances would result in an additional $1,800 in interest costs per year.

- **The prevalence of penalty rates in credit card terms has been rising, with a penalty rate in the terms of 94% of new credit card solicitations issued in 2008.** This is compared to 82% in 2003.

Policy Recommendations

As this study goes to press, federal regulators are considering proposed regulations that would define some common practices relating to penalty rates to be unfair or deceptive. If adopted as proposed, they would ameliorate some of the worst abuses, but more should be done.

Transparent, Upfront Pricing

Genuine competition in the market and informed choice is best served by upfront, transparent pricing. Luring consumers into a particular card, then using arbitrary and opaque criteria to raise their rates later is not a mark of a competitive market. Penalty rates should not be permitted.

Limitations on Penalty Rates

Lenders argue that changes in pricing are necessary for credit cards because people make ongoing charges, and borrower risk levels can change. The proper response to the risk exposure presented by an open-ended loan is to allow lenders to raise the rates on future ongoing charges (after proper notification), not on past charges.

Federal regulatory agencies are currently considering proposals to place some limitations on penalty rates, by defining them as unfair or deceptive acts or practices. Those proposals would make progress on two of the necessary reforms. The proposal being considered by the federal agencies includes requiring that cardholders be given 45-days advance notice before the penalty rate becomes effective. The proposed rule would also prohibit retroactive application of most rate increases, including penalty rates, unless a card holder is more than 30 days late with a minimum payment.

These two improvements are important, but more could be done. Specifically, two other areas in need of reform were not addressed in the proposals:

- *Penalty rates should be reasonable:* If permitted at all, there should be a reasonable limit on the penalty rate. Some congressional proposals recognize this and would limit a penalty rate increase to 7% over the account's current rate.

- *Triggers should be reasonable, and related to the account:* Events that trigger the application of a penalty rate should be restricted to material breaches of the credit card contract. Triggers should be limited to actual performance on the account, as some congressional proposals would require.

Borrower Recommendations

Don't assume that events triggering a penalty could never happen to you
Making a late payment just once (even if it is not your fault) can trigger a penalty. In addition, conduct that does not in any way breach your credit card contract can trigger a penalty rate. For example, increasing balances on other accounts or even just changes in the way your loans get reported to the credit bureaus could trigger a penalty.

Avoid credit cards that include penalty rate options
Try to avoid card offers that include penalty rates. Although over 90% of solicitations have a penalty rate, it is still possible to find a credit card that does not have one. The card issuer can amend terms to add a penalty rate later, but they have to notify you if they do.

Watch your statement closely
If you have a card that includes a penalty rate, take a look at your APR every time you get your monthly statement to make sure your account has not been repriced. If it has, try to move that balance elsewhere. If you cannot transfer the balance, try to pay down the balance as soon as possible, and do not charge anything further on that card.

BACKGROUND

Credit card pricing has been growing in complexity. Unlike a customer in 1980 whose credit card would have a single interest rate, a credit card today often has several different interest rates for different types of activity. Furthermore, those rates change due to expiration of short-term introductory offers, changes in an index rate, and penalty rates imposed for a variety of reasons. Borrowers can find their balances repriced to a penalty rate if they are late or go over their limit with a credit card issuer, with their rate typically jumping by an amount that seems disproportionate given the "crime" –it is not unusual for APRs to double from 14% to 28% or more. Even a borrower who does nothing wrong with a particular credit card provider can find penalties being triggered sometimes by normal events that do not violate any loan agreement, such as the borrower raising their balances on other loans.[1]

Defenders of credit card price complexity argue this allows issuers to charge each customer based on their individual risk. They maintain that flexible pricing allows credit card companies to provide products to a wider range of consumers rather than just the least risky and that borrowers will not get overcharged by card issuers because the credit card market is competitive.

Opponents of credit card pricing strategies contend that card issuers price to maximize revenue, not to give the best possible risk-based price to each consumer. This view argues that credit card pricing exploits biases consumers are known to have (such as focusing on short-term rates and assuming they will not be late on their bills) and "shrouds" pricing information that is very important to issuer profits, but may be easily overlooked by consumers.[2]

Further, critics assert that issuers use higher prices for riskier consumers[3] (such as very high penalty interest rates when a consumer is late with a payment or has a decrease in their credit score) not to account for risk, but because these consumers no longer have the option to shop around and obtain credit elsewhere. From this perspective, issuers *want* their customers to turn into these higher risk borrowers with few options because they can charge higher rates, yet do not need to be concerned about the customer leaving for a competitor. These borrowers would stay with a creditor after receiving a 30% penalty interest rate and repeated late/over-the-limit fees.

As such, credit card pricing may actually be "excuse-based pricing" that is intended to mimic risk-based pricing. For example, even if they are both imposed to simply increase revenue, a late fee is likely to generate much less outrage than if issuers imposed a randomly assessed fee or a fee based on an obviously irrelevant characteristic. In addition, fees and rates that are based on risk or alleged bad consumer behavior make consumers more likely to take such an offer of credit in the first place since they believe they can control any negative outcome – and also reduce any ill-will from those consumers after the fee is imposed.

Data Used in This Study

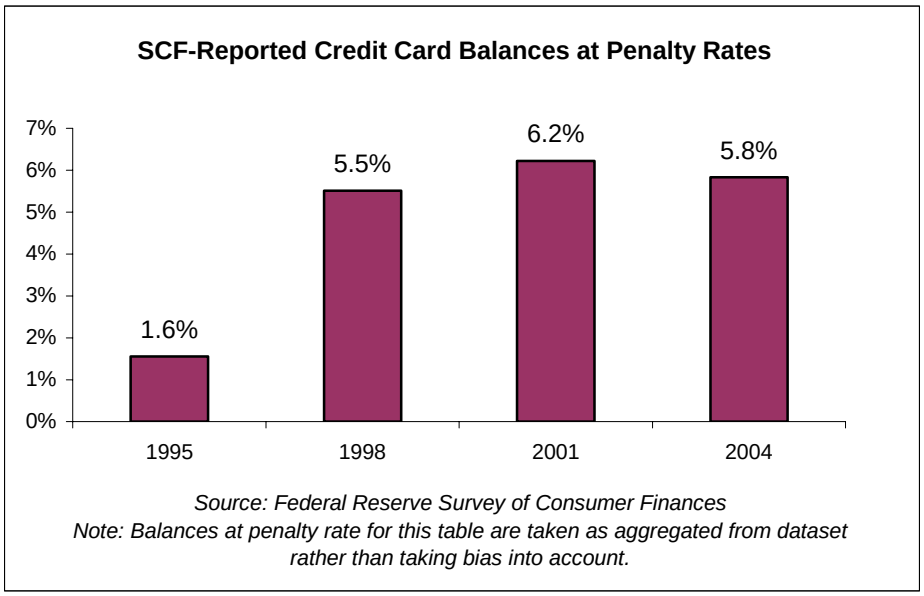
With penalty repricing becoming increasingly important to issuer revenue, it is important to understand the costs entailed, incidence of such rates, and consumer awareness. However, data on penalty repricing is difficult to find. The most likely source is survey data from the Federal Reserve's Survey of Consumer Finances (SCF), a triennial survey that collects information concerning U.S. household financial characteristics and behavior from approximately 4,500 respondents. It has been well-established, however, that there is a large bias in the credit card balances reported by the SCF, with those surveyed reporting smaller balances than data collected directly from financial institutions.[4] It is likely that biases in balance estimation are due at least in part to a number of well-established consumer behavioral biases that would also distort APR information in SCF data. For example, people tend to be overly optimistic in general, and they also tend to suffer from "wishful thinking" when remembering information and events. A novel method is used in this report to account for bias in the SCF. Within the SCF is a variable notated by the interviewer indicating whether the respondent referred to documents in their answers. The difference in responses between people who did and did not refer to documents gives an estimate of how many people mistakenly believe they are not at a penalty price when they answer "off-the-cuff" rather than looking at documentation. For the remainder of this paper, this type of bias will be referred to as "off-the-cuff bias."[5] More discussion of the nature of this bias and results confirming the existence of this bias are contained in Appendix A.

In addition to looking at the SCF, additional penalty repricing information was obtained from Mintel Comperemedia, a data service that compiles data from mailed credit card documents, including both new account solicitations and changes in terms on existing accounts.[6]

FINDING 1: Almost 11% of all outstanding credit card balances carry penalty pricing, and the majority of borrowers being charged penalty rates do not realize it.

There is no public data drawn directly from account information that states specifically how many consumers have credit card balances priced at a penalty rate. However, according to the Federal Reserve's SCF, the prevalence of penalty rates has been rising over time. This rising trend is statistically significant, even though the 2004 portion of balances at a penalty rate declined slightly from 2001.[7]

Figure 1



Source: Federal Reserve Survey of Consumer Finances
Note: Balances at penalty rate for this table are taken as aggregated from dataset rather than taking bias into account.

However, the SCF statistics under-report the frequencies of penalty rates because off-the-cuff bias was not taken into account. Table 1 estimates the magnitude of the off-the-cuff bias affecting the portion of the population that has been penalty repriced.

Table 1

Estimate of "Off-the-Cuff" Bias: Error rate in knowing one is at a penalty rate without referring to documents

	Base: # of Accounts				Base: $ Balances			
APR cut-off used to define penalty rates	22%	24%	25%	Avg. of Cutoffs	22%	24%	25%	Avg. of Cutoffs
Percentage repriced those who Referred to Documents	15.8%	6.6%	6.6%		19.1%	12.1%	5.8%	
Percentage repriced those who did Not Refer to Documents	6.9%	3.7%	2.7%		7.7%	4.6%	2.9%	
Implied Error Rate or "Off-the-Cuff" bias for those without Documents	56%	43%	60%	**54%**	60%	62%	51%	**58%**

The number of people at a penalty rate is estimated based on who has an APR outside of the normal range for credit card regular purchase APRs. Three different APR cutoffs were used: 22%, 24%, and 25%. SCF respondents above these cutoffs were assumed to have a penalty rate. Generally, very few people have regular APRs above these cutoff levels.[8] Using this definition of a penalty rate, we compared the percentage of people who were at a penalty rate among those respondents who answered of-the-cuff relative to those who referred to credit card statements or other documentation. Across cutoff levels, respondents who referred to statements were 2.2 times as likely to report being at

a penalty price. This implies that 54% of consumers who borrow on their credit card and did not look at their statement did not know their balances were penalty repriced. When weighted by balances, people were 2.4 times as likely to report being at a penalty price on average, implying that 58% of penalty balances were held by consumers who would not know without referring back to their statements that they were at a penalty rate.

Appendix A contains additional statistical evidence that many people do not know they are at a penalty rate.

If we take the full range of bias multipliers and then use the conservative 24% cutoff to estimate how many people are at a penalty rate, we estimate that between 6.6% and 9.2% of accounts that revolve, and between 9.5% and 12.1% of the balances are at a penalty rate. The midpoint estimate for balances at a penalty rate is 10.8%.

Consumer Awareness of Penalty Pricing

Any time prices change on an existing account consumer awareness of price levels is likely to be lower than for the initial price level. However, the extent to which borrowers are deceived by penalty repricing is controllable by lenders. Additional information on this topic was analyzed based on data collected by Mintel Comperemedia, a database that contains direct mail from credit card issuers, including both new solicitations and mail sent to existing accounts. We examined data from 2006, 2007, and 2008 through August. **Out of 9,700 households surveyed each month over this period, only a single mailing was found that informed a customer they were receiving an increased penalty price.**

This is a surprisingly small amount given that several independent sources (in addition to the current study) confirm that a large number of customers receive a penalty rate. This is not due to a lack of repricing communications in the data: 49 pieces of mail were found that included a general APR increase and 80 pieces of mail were found with an APR decrease (sometimes with special conditions for an account upgrade) in the data over this same period. While it is unknown how many people receive APR decreases, other studies suggest that penalty repricing is in fact more common than repricings due to change in terms.[9] Therefore, the fact that there were about 50 times as many notifications of general changes in terms repricings than penalty repricings suggests that penalty repricings are generally done without notification. A number of mail pieces also had changes of terms that included the addition of a penalty rate in the case of a *future* default. But once customers actually have their APRs raised, issuers appear to almost universally avoid notifying borrowers of this change. This suggests that the reason most borrowers did not know their rate had gone up is at least partially due to issuers intentionally not informing borrowers about this very significant term change outside of reporting the current rate on the monthly statement.

For other forms of repricing, such as a general change in terms that affects everyone who has a specific type of credit card, a notice must go out around the time that the actual APR change is about to take effect. Of course, issuers can still use deceptive tactics such as burying important term changes in the middle of other minor notifications, but a notification must go out. For penalty pricing, issuers are currently allowed to change the

APR without any notification outside of showing a different APR number on the monthly statement.[10] This is because issuers have notified the borrower ahead of time (often when first opening the account) that their APR may change if certain triggering events (such as being late) occur. Lack of attention to these up-front notices plays into known behavioral

biases such as excessive optimism where many customers assume it is highly unlikely any of the triggering events will happen to them and therefore ignore the penalty prices when opening their account. The results here confirm that issuers prefer not to bring attention to the fact that consumers have been reset to a penalty price, and, as a result, consumers often fail to notice they have been repriced. (Another Center for Responsible Lending report discusses the ongoing debate about the nature of credit card pricing.[11])

Some experts view credit card price complexity as primarily motivated by an attempt to price for risk. Other experts view it primarily as revenue extraction sometimes masquerading as risk-based pricing. One important explanation used by proponents of the risk-based pricing theory is the concept of "moral hazard." In fact, in a study by the American Bankers Association (ABA), the concept of moral hazard is used in defense of the use of penalty pricing.[12] To quote the ABA study, "Moral hazard problems exist where a particular policy changes people's motivation….The use of risk-based pricing by issuing banks thus helps to address the economic inefficiencies that can be created by the motivational problems associated with a non-risk-based pricing system."[13] In other words, penalty prices exist according to the ABA, to motivate borrowers to behave more responsibly. But, this motivation only works to the extent that consumers are informed. If issuers want risky borrowers to behave better in the future, they need to inform them that they are at a penalty price. The data here shows that 1) issuers choose not to inform borrowers that they are in default and have been repriced to a penalty rate, and 2) measurements of off-the-cuff bias suggest that, as a result, most people do not know they have received a penalty rate. These results are consistent with the view that risk-based pricing and moral hazard are merely excuses given to justify a practice intended to maximize revenue through price changes that occur after the initial agreement and are designed to maximize the probability that the change will go unnoticed by the cardholder.

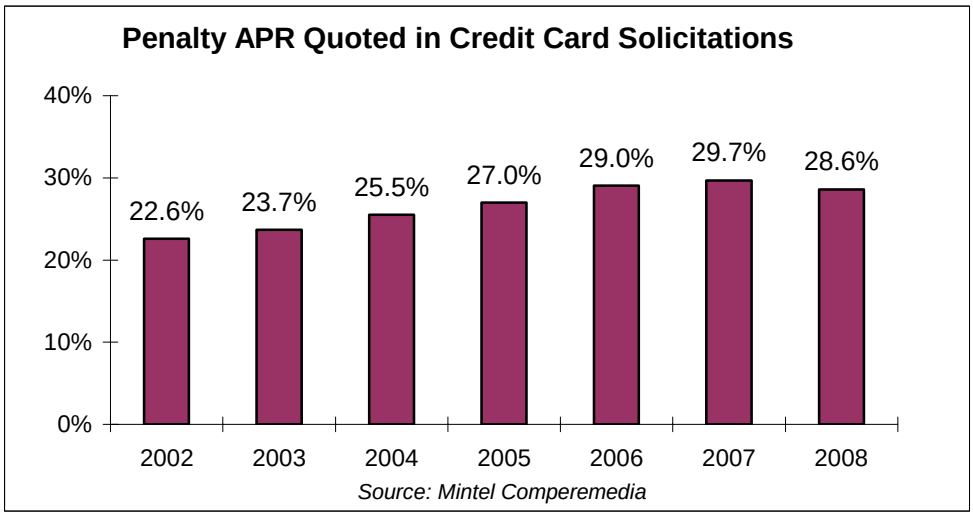
If issuers were truly concerned about maintaining the most efficient risk-based pricing by minimizing moral hazard, they would make a point to let people know they have a higher rate. Instead, the evidence is consistent with the perspective that issuers are using the excuse of risk-based pricing as a way to maximize revenue through price triggers. Issuers may prefer to use penalty repricing not because it prices for risk, and, therefore results in better borrower behavior, but because it allows them to raise prices in a way that requires no special notification when the actual price change, thereby minimizing the extent that borrowers know they have been repriced. Penalty repricing also feeds into borrower biases regarding the likelihood of future negative events. In addition, it strategically raises the prices on consumers precisely when they are least able to switch to a lower rate competitor.[14]

FINDING 2: While penalty rates have been climbing, "penalty shock" (defined as the increase over the regular rate) has increased even more sharply, with penalty shock more than doubling between 2001 and 2007.

In 2008, the average penalty APR was 16.9 percentage points **higher** than the average non-teaser purchase APR. For a household with the average amount of $10,678 in credit card debt, being penalty repriced on all their balances would result in an additional $1,800 in interest costs per year.[15]

Data from Mintel Comperemedia show that penalty rates in credit card solicitations have generally been rising over time, from 22.6% in 2002 to 28.6% in 2008. Penalty rates in solicitations did decline slightly in 2008 compared to the previous year, but this generally was mirrored by the lower cost of funds for credit card issuers.

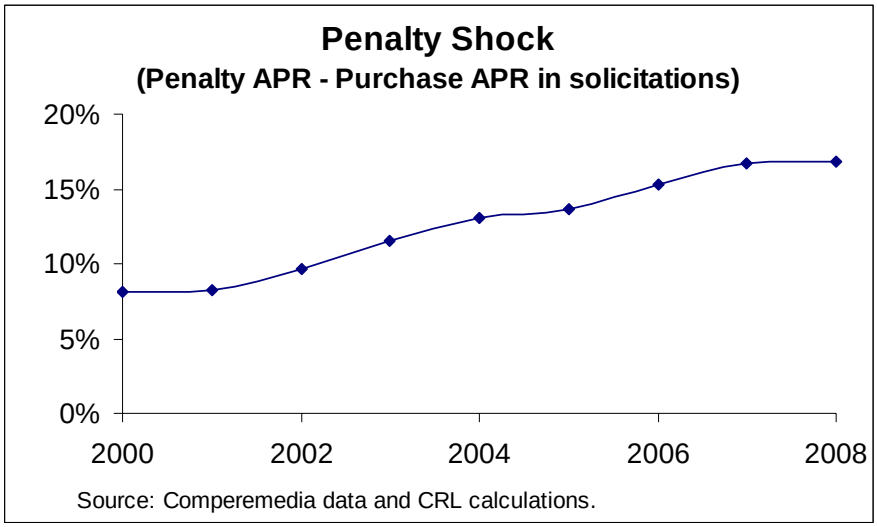
Figure 2



Not only has the penalty APR been increasing over time, but there is a growing "penalty shock," defined as the disparity between the penalty APR charged when accounts are repriced and the normal purchase APR (see Figure 3). Based on data on credit card solicitations, the penalty shock has increased in every year since 2000.[16]

In 2008, there was a 16.9% difference between the penalty APR and the normal (non-teaser) purchase APR in solicitations. This is more than double the 8.1 percentage point difference that was observed in 2000.

Figure 3



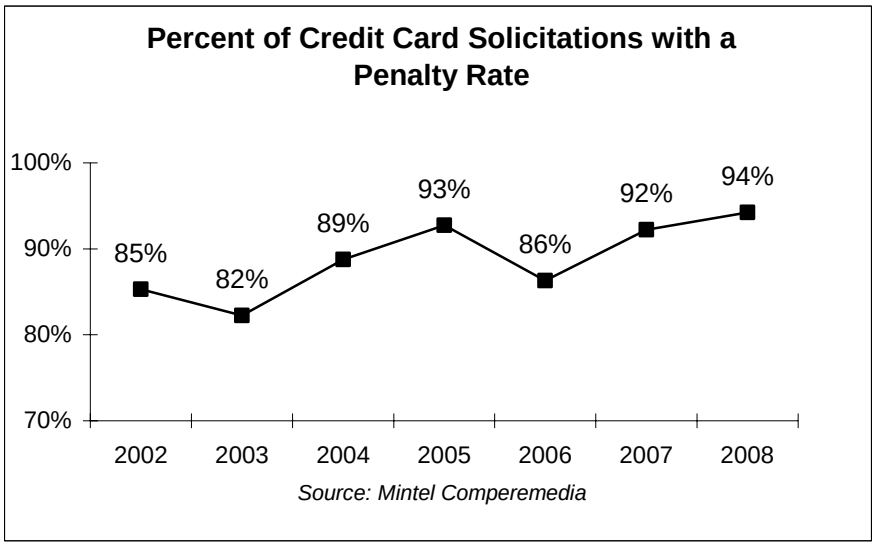
The penalty shock is also higher than the original purchase rate itself, with the APR increasing a whopping 141% on average when borrowers are put into the penalty box. For a household with the $10,678 in credit card debt, this penalty shock on all their balances would result in an additional $1,800 a year in interest costs. If a family is struggling financially and triggers the penalty, $150 a month in extra interest is a substantial burden.

This substantial penalty shock has macroeconomic consequences since it can increase the risk of default on all of a household's debt. This is especially true now that homeowners are no longer easily able to cash out home equity as a way to eliminate high credit card debt. Reduced ability to utilize home equity, combined with higher penalty shock levels and a growing number of people with penalty repriced credit card debt, has the potential to increase default rates enough to adversely impact the larger economy.

FINDING 3: The prevalence of penalty rates in credit card terms has been rising, with a penalty rate in the terms of 94% of new credit card solicitations issued in 2008.

Data from Mintel Comperemedia show that the number of solicitations that include a penalty APR has risen over time, with almost all solicitations having a penalty APR in later years. Between January and August 2008, 94% of credit card solicitations had a penalty rate, compared to 82% as recently as 2003.

Figure 4



CONCLUSIONS

Policy Recommendations

As this study goes to press, federal regulators are considering proposed regulations which would define some common practices relating to penalty rates to be unfair or deceptive. If adopted as proposed, they would ameliorate some of the worst abuses, but more should be done.

Transparent, Upfront Pricing

A truly competitive market requires that there be price transparency and that those prices not be subject to arbitrary changes after the consumer makes the choice. Arbitrary, after-the-fact changes undermine the integrity of the marketplace. Card-issuers argue that penalty repricing is risk-based, yet the evidence in this report suggests that it more closely resembles "excuse-based-pricing," where issuers look for reasons to raise rates. Issuer behavior, where price changes are kept hidden and borrowers often remain unaware of the price change, is one piece of evidence consistent with issuers looking for ways to raise rates without borrowers switching lenders. The fact that penalty shock has doubled while at the same time, criteria regarding who receives a penalty rate has broadened rather than narrowed also suggests that issuers try to find excuses to increase rates as much as possible rather than making a legitimate attempt to correlate rate with risk. In addition, even if there was a legitimate risk basis for rate increases, most people would find the same risk-based-pricing logic outrageous for other lenders, if for example, the lender on an existing auto loan decided to raise a borrower's rate because of a decline in credit score. It is too easy for lenders to take advantage of borrowers if they can

change terms once a loan is already in place. Credit cards should be no different from any other loan product.

Consequently, the soundest policy is for pricing to be based on an upfront, transparent rate. Penalty rates are far too blunt an instrument to address the concerns offered by the card issuers. Creditors who are truly concerned with risk underwriting prior to extending credit, rather than lending first on the basis of one price, raising the price later for arbitrary reasons.[17] Both the card holders and card issuers would benefit from responsible underwriting in the beginning, and the integrity of a competitive market would be enhanced by transparent, and real price information when consumers first choose a card. Furthermore, if the card holder actually has failed to comply with a term of the contract, such as making a late payment, the card issuer is already compensated twice for that breach. There is already an interest charge at the standard rate for those extra days, plus a steep late fee is imposed.

Lenders argue that changes in pricing are necessary for credit cards because people make ongoing charges and borrower risk levels can change. Most cards have an expiration period, at which time replacement cards are issued. If an underwriting review indicates a real change in risk profile, this would be the rational and fair time to make an adjustment that is reasonably related to the risk.

Limitations on Penalty Rates

Federal regulatory agencies are currently considering proposals to place some limitations on penalty rates by defining them as unfair or deceptive acts or practices. Those proposals would make progress on two of the necessary reforms, though more could be done. The other two areas in need of reform were not addressed in the proposals.

<u>Reforms currently under consideration by federal financial regulators:</u>

- *There must be adequate advance notice of a penalty rate hike:*[18] Fundamental fairness requires that consumers be given advance notice that their rate will be increased. The proposal being considered by the federal agencies would require that cardholders be given 45-days advance notice before the penalty rate becomes effective. (However, the new rate could apply to charges incurred more than 14 days after notice is given.)

  The proposal would also require that the notice specify how long the rate increase would apply, although the card issuer may choose to keep a penalty rate in place indefinitely. Sounder policy would preclude an indefinite and arbitrary time for the card holder to remain in the "penalty box." Card issuers should set a transparent and reasonable target for the consumer to return to the standard rate.

- *No retroactive application of penalty rates:* One of the worst abuses of penalty rates is their retroactive application to balances incurred when the contract called for the lower, standard rate. That fundamentally turns principles of contract law and fair dealing on its head. If indeed penalty rates are the appropriate response to changes in the borrowers' risk levels, as card issuers argue,[19] then the proper response is to raise

  the rates only for those future ongoing charges (after proper notification), not on past charges.

  The federal financial regulators are considering a proposed rule that would prohibit retroactive application of most rate increases, including penalty rates, unless a card holder is more than 30 days late with a minimum payment.[20]

Additional reforms needed

- *Penalty rates should be reasonable:* If permitted at all, penalty rates should be truly related to risk, not simply an opportunity to extract extra revenue. There should be a reasonable limit on the penalty rate. In the long run, this may prove healthier for card issuers, as well, as families for whom excessive costs may make it harder to stay current and pay their bills. Some congressional proposals recognize this, and would limit a penalty rate increase to 7% over the account's current rate.[21]

- *Triggers should be reasonable and related to the account:* Events that trigger the application of a penalty rate should be restricted to material breaches of the contract. Despite strong criticism of the so-called "universal default" clauses, under which card issuers give themselves contractual authority to raise rates for unrelated conduct, issuers continue to use them under the rubric of "risk-repricing." Triggers should be limited to actual performance on the account, as some congressional proposals would require.[22]

  Further, any permissible triggers should be reasonable: Regulations need to ensure that the penalty fits the "crime." Does being one day late on a card justify a 16.9 percentage point average increase in APR? Certainly, the increase in risk does not justify this kind of increase. The presence of these kind of extraordinary rate jumps (more if the borrower is still at their initial teaser rate) along with the behavioral evidence that issuers hide such rate increases suggests once again that "triggers" are used as excuses, not as a reason to accurately price for risk.

Borrower Recommendations

Don't assume that events triggering a penalty could never happen to you
Making a late payment just once (even if it is not your fault) can trigger a penalty. In addition, conduct that does not in any way breach your credit card contract can trigger a penalty rate. For example, increasing balances on other accounts or even just changes in the way your loans get reported to the credit bureaus could trigger a penalty.

Avoid credit cards that include penalty rate options
Try to avoid card offers that include penalty rates. Although over 90% of solicitations have a penalty rate, it is still possible to find a credit card that does not have one. The card issuer can amend terms to add a penalty rate later, but they have to notify you if they do.

Watch your statement closely
If you have a card that includes a penalty rate, take a look at your APR every time you get your monthly statement to make sure your account has not been repriced. If it has, try to move that balance elsewhere. If you cannot transfer the balance, try to pay down the balance as soon as possible, and do not charge anything further on that card.

APPENDIX A: EVIDENCE OF BIAS IN THE SURVEY OF CONSUMER FINANCES

Researchers using the SCF to study credit cards have generally made the assumption that known bias in balances did not extend to other SCF variables such as interest rates.[23] In reality, it is likely that biases in balance estimation are at least partially due to a number of well-established behavioral biases that may distort responses to other questions as well. People have been shown to be overly optimistic in general and with regard to debt projections.[24] Both may bias survey results.[25] People have also been shown to suffer from wishful thinking bias in a wide variety of situations where they tend to have a bias in memory of information towards what they would like to believe.[26] This may be particularly applicable to situations involving the recall of previously-viewed financial information. Consequently, to the extent that this is the source of bias, people who underreport their balances will also tend to underreport their interest rates.[27]

Credit issuer behavior can exacerbate these borrower biases. For example when APRs unexpectedly change (as is typically the case with penalty repricing), consumers will be more apt to underreport their APR. When issuers act to minimize consumer awareness of price changes (as evidence below suggests is true for penalty repricing), bias will also increase. Therefore, the bias in reporting APRs may be particularly strong when a high APR is caused by penalty repricing.

The concept of off-the-cuff bias and the variable in the SCF used to estimate its magnitude have not been used in prior credit card research but can be used to estimate the size and nature of any bias and correct for it. Specifically, we compare the reported level of penalty repricing between those who referred to their credit card statements when answering the survey questions and those who did not.

Unfortunately, the variable in the SCF for whether a person referred to documents does not give us specific enough information to know how many people looked at their credit card statements.[28] Instead, more general categories that indicate the respondent referred to *some* document that *might* be a credit card statement were used to split the data. This will tend to underestimate the level of bias since people who did not refer to their credit card statement are included in the category among those who did. To reduce this underestimation effect, some results provided in this report exclude consumers with car loans or mortgages, to arrive at a group of consumers who more likely referred to credit card documents in particular. The level of difference from this split is then used to develop a multiplier which is used to correct for bias in the larger population (see Appendix B for more details on this procedure).

Evidence of General Bias

Previous studies have found evidence of downward bias on credit card balance levels in SCF data, but this evidence of survey bias has been ignored when researchers examined other variables. When respondents to the 2004 SCF are split by whether they referred to documents, the potential for bias can be evaluated. If those who refer to documents are accurately reporting their APR and balances, then the difference between the two groups represents an off-the-cuff bias that indicates how much people underestimate their APR or balance when not referring to documents.[29] First, the results shown in Table 2 suggest that credit card balances are understated by about 35%. Prior research suggests that balances may be understated by 50% (i.e. they are reported to be about half on average of the actual amount borrowed).[30] Therefore, the off-the-cuff bias is consistent with prior research in that it can identify most of the difference in total balances implied by previous research. The results in Table 2 also show a consistent tendency for people who referred to documents to report a higher APR across a variety of loan types, and that difference was significant in most cases.[31] This suggests that the bias previously noted in balances should not be treated as a solitary anomaly, but rather seems indicative of a general bias towards wishful thinking or optimistic responses in the unfiltered SCF responses.

Table 2

Summary of Bias: Impact of Referring to Documents

	Credit Card APR*	Credit Card non-teaser APR**	Total Card Balance*	Car Loan APR*	Mortgage APR	Home Equity APR***
Referred to Documents	14.15%	17.63%	$5,384	9.18%	5.44%	5.03%
Did not Refer to Documents	12.26%	14.33%	$3,550	7.53%	5.32%	4.42%

*Significant at 5% level

**Signficant at 0.1% level

***Not significant as shown, however when 2001 data is added to increase sample size, difference is significant and in same direction

Note: Data is from 2004 SCF. Weightings provided by the survey were used for balances. Survey weightings times balances of that type of loan were used for APR's to get a balance-weighted total. Each type of loan was isolated by eliminating records that had loans of other types (except credit cards from car loans due to sample size issues) to best isolate those who looked at a particular type of document.

Significance Test of Penalty Rate Bias

In Table 3, the number of people with a penalty rate is estimated based on the number of respondents who have an APR above discrete cutoffs. There is no public data, in the SCF or elsewhere, that states specifically how many consumers are at a penalty rate. Therefore, the number of people at a penalty rate is estimated based on who has an APR outside of the normal range for credit card regular purchase APRs. Three different cutoffs were used: 22%, 24%, and 25%. Generally, very few people have regular APRs above these cutoff levels.[32] It is likely that by far most balances above the lowest cutoff are from borrowers at a penalty APR, but the higher cutoffs are more conservative in that they will exclude almost all accounts that have high APRs for other reasons. However, they will also exclude some penalty APR accounts.

There are two distinct purposes here in looking at penalty repricing data. One is to see if there is a statistically significant bias between those who referred to documents and those who did not while reporting high APRs. For this purpose, a large data set is vital to create the most powerful statistical test. This is the goal of this section. A second separate goal is to create the most accurate point estimate of the level of bias; for this purpose it is important to minimize the underestimation of the off-the-cuff bias caused by dilution of the data, which requires reducing the dataset size. This "dilution" issue is caused by people who are defined as referring to documents but who in fact referred to documents having nothing to do with credit cards.

The number of people who refer to documents and who had a penalty rate is small, therefore for statistical significance tests both the 2001 and 2004 surveys are combined, and the results include respondents regardless of whether they have other types of loans. The purpose here is to create a more powerful statistical test by increasing the cell sizes (rather than to get the best current estimate of the *level* of bias). Using this increased cell size, the level of bias will tend to be underestimated.[33] People who referred to documents were significantly more likely to report a penalty APR using all three cutoff levels. For the two lower cut-offs that include a larger portion of the repriced population, the results are statistically significant at below the 1% level.

Overall, the results show strong evidence of off-the-cuff bias among people who were penalty repriced, with people answering off-the-cuff much less likely to realize they are at a penalty rate.

Table 3

Default pricing: expanded data for more powerful signficance testing

	22% APR cutoff	24% APR cutoff	25% APR cutoff
Referred to Documents	8.0%	3.9%	2.2%
Did not Refer to Documents	5.0%	2.1%	1.2%
n for smallest cell	57	28	16
Pearson Chi-Square statistic value	8.87	7.59	3.70
Pearson Chi-Square one-sided p-value	0.2%	0.3%	2.7%
Fisher exact test one-sided p-value	0.3%	0.6%	4.5%

Note: Data is 2001 and 2004 Survey of Consumer Finances combined. All consumers with revolving credit card balances, regardless of whether they have other debt, are included

APPENDIX B: STUDY METHODOLOGY

In the Survey of Consumer Finances, interviewers can mark up to six codes to indicate the type of documents the respondent referred to. Interviewers do have a code to indicate that respondents looked at their credit card statement, however in 2001 and 2004 this code was never marked while a number were marked as having looked at a "loan document" or "account statement." The codes used here as possibly indicating referring to a paper or electronic credit card document with an APR include: "account statements,' "loan documents," "credit cards/credit card statements," "computer/pc/laptop," handwritten ledgers/paper/notes," "some, not known what kind," "many, nec," and codes for miscellaneous documents and "other."

Many of the respondents who looked at one of these records did not actually refer to a credit card statement. When these respondents are included in the group of people who are assumed to have looked at credit card records, this dilutes purity of the pool of people who looked at credit card records. This then reduces the difference in APR between the two groups and causing an underestimation of the off-the-cuff bias. To understand how this works, assume that everybody has an APR of 15%, but without referring to records everybody mistakenly assumes they have an APR of 13%. If we could perfectly identify who referred to documents, those who did would report an APR of 15% while those who did not would report an APR of 13%, giving a 2% difference or bias measure. Now assume that only half of the people we think looked at their credit card statement actually did. In that case, half of the pool of people who are labeled as looking at their records would report an APR of 15% while the other half would report an APR of 13%, giving an average of 14%. The bias measure has been cut from 2% to 15%-14%=1% through dilution. While the actual data is more varied than this, the same principal holds: if not everybody labeled as looking at a credit card statement actually did so, this inaccurately reduces the difference between the groups and causes the level of bias to be systematically underestimated.

Table 1 in the main body of the report estimates the magnitude of the off-the-cuff bias affecting the portion of the population that has been penalty repriced using a reduced population. This estimate is created by reducing the amount of dilution in the population that has referred to documents. Specifically, only those who have no home equity, mortgage, or auto loans are included so that it is more likely that when the respondents state that they referred to a document, that document was an actual credit card statement. To more accurately measure the level of bias, the size of the pool has been narrowed in these results to eliminate those people with other types of loans including car loans, mortgages, and home equity lines of credit. This was done because people who have a credit card and no other loans are more likely when they referred to a loan document or statement to have been referring to their credit card statement and not another document. However, even this narrowing process is not perfect, so the bias will still tend to be underestimated. In addition, there is a trade-off between eliminating people with other

loans so that we can be more confident the document they referred to is a credit card statement and maximizing the number of observations for more powerful statistical tests.

Both approaches were used here; one for testing statistically for a difference and the other for getting the best estimate of the level of that difference. We also recognize that people who have no other loan products besides credit cards may be different in other respects on average from other borrowers. For example, they may be worse credit risks on average because more may not have a house or a car or be able to qualify for those loan products). For this reason, the pool of people without other loan products was just used to get an estimate of the magnitude of general bias which was then applied to the larger population.

There is a possibility that limiting the sample population to only people with no mortgages and auto loans creates some selection bias. The most likely form of selection bias comes from different default rates in these two populations. However, this source of selection bias has been eliminated by only applying the multiplier from the smaller group, not the level of defaults. The bias multiplier will still be accurate, even if people who had no auto or mortgage loans are different from other credit card users, as long as the multiplier is similar between the selected groups and the survey population at large. However, it is still possible to have selection bias if the multiplier is altered by selecting this subpopulation. This would be the case if people with no auto loans or mortgages are more (or less) likely than other credit card borrowers to be biased when answering off-the-cuff. While it is possible this selection bias exists, we have no evidence that it does, a strong reason to believe that *not* limiting the population creates an underestimation bias as already described. Therefore, we still consider the data from the smaller population to be our best estimate of the general multiplier. If there is selection bias, then our point estimate of the penalty repriced population may be inaccurate. However, since we conduct statistical tests for off-the-cuff bias with the larger population as well and find the same results, our main conclusion that many people do not know they have been repriced still holds.

It is also possible that there was selection bias in comparing people who refer to documents to those who do not. We believe there are valid reasons such a bias (if it existed) could work in either direction. For example, people who refer to loan documents might tend to do so because they have more accounts and this might also make them more likely to default, causing us to overestimate our off-the-cuff bias. (On the other hand, there may be a convenience-based bias where people with fewer accounts will be more likely to pull out their documents.) People who refer to loan documents might also be more "conscientious" which is a personality trait commonly used in psychological research. People who are conscientious would be more concerned about giving accurate answers in a survey. People who are conscientious probably also are less likely to accidentally pay late or make other mistakes that can trigger a penalty rate. Therefore, correlation with conscientiousness would cause us to underestimate the off-the-cuff bias. While it is possible that off-the-cuff bias is underestimated due to personality traits like conscientiousness, we do not believe it is likely that the effect is overestimated due to

selection bias. First, people who refer to documents were found to have roughly the same number of credit card accounts compared to people who did not refer to documents. Furthermore, eliminating other types of loans from some results eliminates the possibility

that it is the number of non-credit card accounts that differ. Also, while balances are higher for people referring to documents, the amount by which they were higher is less than the amount of bias estimated elsewhere to exist in reported credit card balances, suggesting that if, anything, the off-the-cuff bias reported here does not fully account for the balance difference from other estimates of survey bias (i.e., it does not appear to contain an additional "real" balance difference).

There are other reasons the bias measures, balances, and APR levels will likely be underestimated. Those who refer to documents might still underestimate their APR or balance if there is a "social desirability" effect where they make statements to make themselves appear better to the interviewer, even if they know them to be untrue, or if they refer to documents for some items but not for others. For example, some respondents may look up their balance but trust that they know the APR or not look up balances on all cards. Other people who do not know they have been repriced to a penalty rate may look up the APR for the interview, but trust what they "know" to be the correct rate for purposes of answering the question rather than try to investigate further while distracted by the interview process. People may also simply misread documents. Prior research in mortgages shows that even when looking at mortgage terms, borrowers could not spot prepayment penalties.[34]

The SCF repeats the same observation five times and calculates missing values using an imputation formula. These imputed values are statistically derived from the distribution of known data for that variable. However, these imputed values will not necessarily properly account for issues such as off-the-cuff bias in arriving at ranges. Therefore, imputed values may further dilute the bias measures. To eliminate the possible distortion from imputation, the results eliminate any imputed APR values. Results also eliminate duplicate observations (which exist primarily for the purpose of imputation). Statistical tests (unless specified otherwise), were done on an unweighted basis after eliminating duplicates and imputed values. Some results are described as "weighted" averages. For these results, data is weighted by the loan balance times a weighting factor created by the SCF.

Since the SCF does not state which accounts are at a teaser rate, it is assumed that any account with an APR under 5% is at a temporary teaser rate. A regular APR below this rate is very rare based on data from solicitations. (Given the cost of funds and operating costs even with very low credit losses, a bank could not make a long-term profit at this APR unless they made most of their net revenue from other sources such as fees.) APR cutoffs are also used to define penalty rates as described in the text.

Unless otherwise specified, the analysis of SCF data focused on credit card borrowers (revolvers), and, therefore excluded people who pay their balance in full. This is because

the issue of interest rates only applies to people who revolve their balance and, therefore, pay interest. There are two variables that are used to define this. One has been more frequently used in the past by researchers and asks borrowers regarding their credit

cards whether they "almost always, sometimes, or hardly ever pay off the total balance owed on the account each month?" However, a separate question that asks credit card users how much was left on their highest balance card after they made the last payment suggests that the other question may also suffer from wishful thinking bias. Of the people who "sometimes" pay their balances in full, 94% had a balance remaining on their card after their payment, suggesting that "sometimes" may be a stretch for many respondents. Furthermore, among those who "almost always" pay their balances in full, 28% did not pay their largest balance in full during the interview month. On the other hand, people who say they "hardly ever" pay their balance in full appear to be accurate (or at least consistent) in that 98% of them report not paying their largest balance card in full. To account for this bias, both questions were combined here to define a revolver, where anybody who did not pay their largest balance in full or who responded that they "sometimes" or "hardly ever" pay their balance in full in general was defined as a revolver.

APPENDIX C: SUGGESTIONS FOR RESEARCHERS AND SCF SURVEY DESIGNERS

Be more aware of bias

Researchers need to move away from the default assumption that SCF data is unbiased. In some cases, the technique used here can be an effective method of debiasing. However, its use may be limited in situations where a very large sample size is vital. At the very least, researchers should hedge their conclusions by at least considering the likely direction of the type of bias described here. For example, several studies have looked at risk-based pricing by comparing interest rates to factors associated with credit risk (such as high balances relative to income and paying late in the past). If people misremember the past due to a wishful thinking bias, the people who are most biased will both understate their APR and understate negative credit risk factors (such as believing their balances are lower than they actually are and not remembering paying late).[35]

SCF designers should maximize the usefulness of debiasing information

Researchers would be better able to mitigate bias if the SCF were improved in its ability to remove bias. One aspect of this is interviewer training. Simply training interviewers to be more specific in recording what records were used in answering questions would be helpful. In the case of credit cards, there is an option for credit card statement that is never used in recent surveys. Instead, more general descriptors (such as "loan document") are marked. Having interviews encourage respondents more to refer to documents would also help since only about 10% of respondents do so now despite the complexity of the financial questions asked. Adding more refined questions regarding document usage as well as other types of debiasing questions may also be useful. One

way to do this is to allow interviews to give their own detailed estimates of response accuracy or instead of adjusting the data for consistency before public release (as is done now) specifically allow inconsistencies in results and add questions that will find inconsistencies on specific issues to help measure bias.

NOTES

[1] Many issuers impose penalty rates based on a credit score that is based on a number of factors that borrowers may consider innocuous and that may have nothing to do with that issuer. For example, opening "too many" new loan accounts, increasing balances with other lenders, and even just shopping for credit (which can create record of an "inquiry" on a credit bureau) can all adversely affect one's credit score and therefore lead to the imposition of a penalty rate.

[2] Xavier Gabaix, David Laibson, *Shrouded attributes, consumer myopia, and information suppression in competitive markets*, MIT Department of Economics Working Paper 05-18 (April 11, 2005).

[3] Ronald J. Mann, *Bankruptcy reform and the "sweat box" of credit card debt,* University of Illinois Law Review (2007).

[4] Jonathan Zinman, *Where Is the Missing Credit Card Debt? Clues and Implications*, Payment Cards Center Discussion Paper (September 2007).

[5] It is important to recognize that off-the-cuff bias is defined at the *reporting* level which is distinct from a *cognitive* source of bias. In other words, off-the-cuff bias can come from several cognitive sources (wishful thinking, bias due to misleading information from issuers, etc.).

[6] Comperemedia is a data service from the company Mintel that provides competitive intelligence on direct mail, email marketing and print advertising in the United States and Canada. Focused on the financial services, insurance, telecommunications, technology and travel sectors, Comperemedia provides detailed information on company offers, incentives and pricing, including scanned images of every marketing piece. The data collected is for both new customer solicitations and communications with existing customers. The service is used primarily by companies in a number of industries, including credit card issuers, for marketing intelligence, to make strategic business decisions and develop competitive offers.

[7] Borrowers are significantly more likely to be at a penalty rate in 1998, 2001, and 2004 . Furthermore, borrowers in 2001 and 2004 combined are more likely to be at penalty rate than in 1995 and 1998 combined.

[8] The only exceptions will be some sub-prime cards with low credit limits and high APRs. Since most results are weighted by balance, these low limit cards will not have a large effect. However, as a precaution, the key results here were rerun for a dataset that excluded low credit limit cards to account for these subprime borrowers. Since the results did not differ in any significant way, the data reported here includes low limit cards. Based on solicitation data from Comperemedia, the percentage of solicitations with APRs of at least 22%, 24%, and 25% were 4%, 2% and 1% respectively. However, as already noted, most of these high APR offers were subprime cards with low limits that do not materially affect the weighted APR. On the other hand, 16% of penalty rates were below 22%. So while a few high regular APR cards will be included with the 22% cutoff, some penalty rate customers will be excluded. Using a cutoff rate is an imperfect way of assessing who is at a penalty rate, but the solicitation data suggests that it is a good proxy in that the vast majority of those above the 22% cutoff are at a penalty rate, and a strong majority of those below the cutoff are not at a penalty rate. The 22% cutoff probably strikes a good balance between these two sources of error, while the higher cutoffs are even more conservative in estimating how many people are at a penalty rate.

[9] *Data study on proposed rule to address unfair or deceptive acts or practices with respect to consumer credit card accounts*, Morrison Foerster (August 7, 2008) at http://files.ots.treas.gov/comments/bdc5cc5c-1e0b-8562-eb23-ff7159e49505.pdf

[10] Federal regulators are currently considering a proposal to require 45-days advance notice of any increase in rates, including the penalty rate. 73 Fed. Reg. 28866, 28891 (May 19, 2008), adding penalty rate increases to an earlier, still pending, proposal to increase required notice of change in terms from 15 days to 45 days, 72 Fed. Reg. 32948 (June 14, 2007).

[11] Joshua M. Frank, What's *Draining Your Wallet? The Real Cost of Credit Card Cash Advances,* Center for Responsible Lending (December 16, 2008).
[12] Jonathan M. Orszag and Susan H. Manning, *An economic assessment of regulating credit card fees and interest rates*, COMPASS (October 2007). Study was commissioned by the American Bankers Association.
[13] Ibid p.11-12
[14] Ronald J. Mann, *Bankruptcy reform and the "sweat box" of credit card debt*, University of Illinois Law Review (2007).
[15] Estimated average debt level is the latest data available as of November 2008 for the average household that has credit card debt and comes from CardWeb.com, a research company focusing on the credit card industry. This debt level is up 29% from 2000.
[16] Data for 1999 is slightly higher than 2000, but it is excluded because there were only 2 observations in the dataset in which a default rate was listed, making the average rate subject to large random error.
[17] Sharp rate increases may in fact make it harder to a struggling family to keep up, particularly in hard times. In comments to the Federal Reserve Board on its proposed UDAP rules for credit cards, CRL noted that one year in a credit card "penalty box" effectively ate up four years of income gains for the average family in the bottom 90% of households. *See* Comments of the Center for Responsible Lending on the Proposed Rule Regarding Unfair or Deceptive Practices with Respect to Credit Cards, p. 15 (August 4, 2008), *available at* http://www.responsiblelending.org/pdfs/cc-udap-comments-final_2_-080408.pdf
[18] *See* 73 Fed. Reg. 28866, 28891 (May 19, 2008), adding penalty rate increases to an earlier, still pending, proposal to increase required notice of change in terms from 15 days to 45 days, 72 Fed. Reg. 32948 (June 14, 2007).
[19] Lenders have a number of other alternatives to risk management which would arguably make it easier, not harder, for the card holders, in turn, to manage their own household risk. We have learned to our dismay that price-tag and payment shock in the mortgage context was not good risk management for anyone, and we have little evidence that it would work any better in the credit card context. For additional discussion,, *see* Comments of National Consumer Law Center, Center for Responsible Lending, DEMOS and USPIRG to Federal Reserve System, et al on Unfair and Deceptive Acts or Practices in Connection with Consumer Credit Card Accounts and Overdraft Loans, pp. 17 – 24, *available at* http://www.consumerlaw.org/issues/credit_cards/content/RegAA_comment0804.pdf
[20] 73 Fed. Reg. 28904, 28942 (May 19, 2008). Retroactive application would also be permitted when it results from changes in the index rate or expiration or loss of a promotional rate.
[21] S. 2753 (Sen. Menendez).
[22] Id.
[23] Correcting for these biases can be very difficult. However, when researchers cannot negate these biases, they should at least consider how the likely direction of bias could affect their results when drawing conclusions.
[24] Neil D. Weinstein, *Unrealistic Optimism about Future Life Events*, 806 Journal of Personality & Social Psychology, (1980); Hamish G. Seaward & Simon Kemp, *Optimism Bias and Student Debt*, 29 New Zealand Journal of Psychology, (2000).
[25] While excessive optimism is usually defined as a forward-looking bias, it could be more generally applicable; especially when the current situation is not known offhand and people extrapolate as if they are looking into the future. For example, if the last time a borrower checked their debt level was many months ago and they estimate their current debt level based on an off-the-cuff estimate of payments, charges, and interest paid since the last known balance, they may be optimistic in their projections.
[26] Ruthanna Gordon, Nancy Franklin & Jennifer Beck, *Wishful thinking and source monitoring,* Memory & Cognition; (Apr 2005); Harry P. Bahrick, Lynda K. Hall & Stephanie A. Berger, *Accuracy and distortion in memory for high school grades,* 265-271 Psychological Science (1996); Anthony G. Greenwald, *The totalitarian ego: Fabrication and revision of personal history*, 603-618 American Psychologist (1980).
[27] They may also underreport whether they were late on a payment, rejected for credit, etc.
[28] The option referred to credit card statement is there, but is simply never used in recent surveys. Instead, interviewers tend to check off the general categories "referred to loan documents" or "referred to account statements."

[29] Those who refer to documents might still underestimate their APR or balance if there is a "social desirability" effect where they make statements to appear better to the interviewer even if they know them to be untrue, or if they refer to documents for some items but not for others. Using the difference between reporters and non-reporters to estimate bias does assume that the populations are otherwise similar. More on research design issues is discussed in the Appendix.

[30] Jonathan Zinman, *Where Is the Missing Credit Card Debt? Clues and Implications*, Payment Cards Center Discussion Paper (September 2007).

[31] Results for APRs are weighted by loan balance times a weighting number created by the survey to get a balance-weighted result. For car loans, people with mortgages and home equity lines were excluded, while for mortgages and home equity lines people with car loans and revolving credit cards are excluded .

[32] The only exceptions will be some sub-prime cards with low credit limits and high APRs. Since most results are weighted by balance, these low limit cards will not have a large effect. However, as a precaution, the key results here were rerun for a dataset that excluded low credit limit cards to account for these subprime borrowers. Since the results did not differ in any significant way, the data reported here includes low limit cards. Based on solicitation data from Comperemedia, the percentage of solicitations with APRs of at least 22%, 24%, and 25% were 4%, 2% and 1% respectively. However, as already noted, most of these high APR offers were subprime cards with low limits that do not materially affect the weighted APR. On the other hand, 16% of penalty rates were below 22%. So while a few high regular APR cards will be included with the 22% cutoff, some penalty rate customers will be excluded. Using a cutoff rate is an imperfect way of assessing who is at a penalty rate, but the solicitation data suggests that it is a good proxy in that the vast majority of those above the 22% cutoff are at a penalty rate, and a strong majority of those below the cutoff are not at a penalty rate. The 22% cutoff probably strikes a good balance between these two sources of error, while the higher cutoffs are even more conservative in estimating how many people are at a penalty rate.

[33]The population used here is smaller than in the SCF because the survey repeats the same observation five times and calculates missing values using an imputation formula. To reduce bias in statistical testing from the survey's methodology, results eliminate duplicate observations and any observations with imputed APR values. These statistical significance tests are done on an unweighted basis.

[34] James M. Lacko and Janis K. Pappalardo, *Improving Consumer Mortgage Disclosures* , p. 79(Federal Trade Commission, June 2007).

[35] Another bias, social desirability will also work in this same way. In this case it will cause people to misstate their balances, APR, and late payment record in a similar manner, but in this case the source may simply be a desire to impress, not an error in memory.