Research Report

Keeping consumers in the red: Hedonic debt prioritization within multiple debt accounts

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Received 15 November 2012; received in revised form 26 August 2014; accepted 28 August 2014
Available online xxxx

Abstract

In our paper we contribute to the burgeoning literature in the psychology of debt repayment. Across three experiments, we explore the effects of the type (hedonic or utilitarian) and the timing of debt on consumers’ debt repayment when managing multiple debt accounts. While prior literature has demonstrated that debtors who own multiple credit cards behave irrationally by paying down smaller balances rather than balances with higher interest rates, we found that debts incurred for hedonic purchases and in the distant past (versus proximal past) amplify this effect. The anticipated impact of debt repayment on consumption enjoyment is found to mediate this effect.

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Keywords: Debt management; Credit card debt; Financial decisions; Debt type

Introduction

As the number of credit card transactions has increased in recent years, so has the credit card debt of consumers. Recent credit card statistics report that 56% of the U.S. population carries a balance equal to $801 billion (Board of Governors of the Federal Reserve System, 2012). This is because many credit card owners fail to pay the full balances on their credit cards, and they eventually allow the debt to grow as their repayment rate slows.

The behavioral finance literature indicates that people do not always employ normative debt management principles. For example, Navarro-Martinez et al. (2011) and Stewart (2009) found that presenting information about the minimum required repayment lowers the repayment amount relative to an absence of such information, and thus, is counter to the intended effect of providing such information. Similarly, Amar, Ariely, Ayal, Cryder, and Rick (2011) found that people make payments towards smaller debts as opposed to highest interest rate debts because this decision offers some psychological benefits to the debtors (Gal & McShane, 2012). For example, a person with a $300 loan with a 6% interest rate and a $3000 loan with a 12% interest rate may decide to pay off the $300 loan with her first paycheck, rather than a portion of the $3000 loan with the higher interest rate. Amar et al. (2011) refer to this phenomenon as ‘debt account aversion’ since the desire to limit the number of open accounts overrides the financially optimal choice of paying down the debt with the highest interest rate first.

The current study extends this stream of research on the psychology of debt payment by investigating how people prioritize their debt repayment depending on the type of debt (‘debt type’ hereafter) and timing of debt occurrence (‘debt timing’ hereafter). In particular, we demonstrate that when debt is incurred for a hedonic purchase (as opposed to a utilitarian purchase) and it is realized in the distant past (as opposed to the proximal past), customers with multiple credit card debts are
more likely to reduce the number of credit card debts rather than decrease the total cost of debt across all accounts, thus amplifying the effects reported by Amar et al. (2011). Thus, we explore the moderating effect of ‘debt type’ on ‘debt account aversion.’ For example, between a $300 loan with a 6% interest rate and a $3000 loan with a 12% interest rate, a person would pay off the $300 loan faster if it were incurred for a hedonic purchase compared to a utilitarian purchase.

Three studies contribute to our understanding of consumers’ management of multiple debt accounts. First, small hedonic debts are prioritized over equally small utilitarian debts when sufficient funds exist to reduce or eliminate the small debts. This differential repayment occurs because debt incurred for a hedonic purchase weakens anticipated enjoyment of the hedonic purchase. Second, the preference for prioritizing hedonic debt over utilitarian debt persists despite making the total cost information for the debt more salient and providing real incentives to make an optimal financial decision. Third, hedonic debts incurred in the distant past are prioritized over those from the recent past, further implicating the role of anticipated enjoyment (Kivetz, 1999).

Theoretical development

Consumers are debt averse and want to pay off debt that does not provide any further benefits (Prelec & Loewenstein, 1998). Gourville and Soman (1998) refer to this process as “benefit depreciation”. That is, when the consumption benefit depreciates over time, payment feels more like a pure loss since there is no corresponding benefit to buffer the pain of repayment.

The purpose of the debt could also influence the way people pay off their debt. Debt could be incurred for purchases made with a utilitarian or hedonic purpose. By definition, utilitarian consumption provides consumers with functional benefits that are necessary and useful, whereas hedonic consumption is associated with fun and pleasure (Mishra & Mishra, 2011). Kivetz and Simonson (2002) demonstrate that the pain of payment is more pronounced for hedonic consumption (e.g., vacation) than for utilitarian consumption (e.g., insurance) because hedonic consumption is often regarded as non-essential and more difficult to justify. Also, individuals quickly adapt to enjoyable consumption (e.g., a car’s heated seats), since hedonic experiences depreciate more quickly than utilitarian experiences (Wang, Novemsky, & Dhar, 2009). Hence, we predict that the presence of debt incurred for hedonic consumption (given that the benefit has already depreciated) will motivate debtors to pay down the smaller balance debt accounts faster than an equivalent debt for a utilitarian purchase.

However, what happens to debt allocation when a consumer’s goal of account reduction aligns with financial incentive (i.e., when a small debt has the largest interest rate)—will consumers still prioritize hedonic debt? Since hedonic debt is more aversive than utilitarian debt, consumers may still display account aversion and prioritize hedonic debt elimination. Conversely, if repaying the small debt is financially optimal, the psychological incentive to pay down the debt may not differ enough to result in an effect of debt type. Prelec and Loewenstein (1998) suggest that when the pain of making interest payments is large relative to the pain of clearing the debt, then the debt repayment is not delayed and the debt is closed out. Thus, large interest rates on small debts will likely activate such pain that the debt will be paid, regardless of debt type. This offers a potential boundary condition for the effect of debt type on debt account aversion.

H1. When the smallest of multiple debts has the lowest APR, the debt incurred for a hedonic (utilitarian) purchase will be repaid to a greater (lesser) extent. When the smallest of multiple debts has the highest APR, there will be no difference in debt repayment amount based on debt type.

Since consumption enjoyment for hedonic purchases decreases faster than that of utilitarian (Nowlis, Mandel, & McCabe, 2004; Wang et al., 2009), debt for the consumption likely accelerates the reduction of enjoyment. This suggests that consumers may be more likely to pay down debts associated with hedonic purchases in order to prevent benefit depreciation. We predict that in order to prevent the debt from lowering an individual’s predicted consumption enjoyment, the individual will more rapidly repay small hedonic debts.

H2. When the smallest of multiple debts has the lowest APR, anticipation of consumption enjoyment will mediate the effect of debt type on repayment, such that hedonic debt results in greater decrease in anticipated consumption enjoyment than utilitarian debt and thus quickens hedonic debt repayment. When the smallest of multiple debts has the highest APR, anticipation of consumption enjoyment will not mediate the effect of debt type on repayment because the financial incentive will spur debt repayment, regardless of debt type.

Hedonic enjoyment (the utility of hedonic consumption) depreciates at a faster rate than that of utilitarian between the time of consumption benefit and repayment (Patrick & Park, 2006). If retaining consumption benefit is indeed the motivation for prioritized hedonic debt repayment, hedonic debts incurred in the distant past should be prioritized over debts incurred in the recent past. Since hedonic purchases in the distant past risk greatest depreciation and pain of continued payment (Prelec & Loewenstein, 1998), these should be prioritized over recent hedonic purchases where the benefits are more concrete and salient (Trope & Liberman, 2003). Also, utilitarian debt prioritization will not change between distant and proximal past as time does not depreciate utilitarian benefits as rapidly (Kivetz, 1999).

H3. When the smallest of multiple debts has the lowest APR, the difference in the repayment of hedonic and utilitarian debt will be greater for debts whose consumption benefits lie in the distant relative to the proximal past. When the smallest of multiple debts has the highest APR, there will be no difference in the repayment of hedonic and utilitarian debt, regardless of the debt timing.

Experiment 1a

Experiment 1a tests the prediction that people allocate their savings more towards paying down hedonic debt than utilitarian
debt when attempting to decrease their overall debt (H1) and this effect is mediated by the anticipation of consumption enjoyment (H2).

Pretest

We conducted a pretest with a group of undergraduate students (n = 26) about two possible upgrade packages for a vehicle that would each cost approximately $600. The luxury package included leather seats and panoramic sunroof whereas the technology package offered Tiptronic transmission and an advanced suspension system. Participants rated the attractiveness (1 = very unattractive and 7 = very attractive) and importance (1 = very unimportant and 7 = very important) of these upgrade packages. Both upgrade packages were considered to be equally attractive and important (Fs < 1, ps > .10). Based on the difference between each participant’s hedonic and utilitarian ratings using the scales from Wertenbroch and Dhar (2000), the luxury package was perceived to be more hedonic than the technology package (M_{luxury} = 2.91 vs. M_{technology} = −1.50; F = 6.44, p < .05).

Design, participants, and procedure

Experiment 1a is a 2 (smaller debt APR: 12% vs. 18%) × 2 (debt type: hedonic vs. utilitarian) between-subjects factorial design. We recruited 183 participants from mTurk to participate (M_{age} = 33.71 years, SD = 6.15; 97 men; M_{credit cards} = 5.06; credit card(s) ownership = 85%; percentage of debt revolving = 59%); 15 participants had to be excluded due to incompleteness. In each condition, participants were told that they owned two credit cards, M and S, that varied in outstanding amount and corresponding APR. Participants had $600 in their savings account that could be allocated entirely (or partially) towards one (or both) credit card balance(s). Participants could completely pay off (close) one of the debt accounts if they desired. All design elements (i.e., credit card names, balances, debt type, etc.) were counterbalanced. After their repayment decision, participants responded to questions related to the process measure and the manipulation check.

Independent variables

Half the participants saw credit card M with a $600 balance and 12% APR and credit card S with a $1200 balance and 18% APR. The order of APR assignment for the other half of the participants was reversed, such that credit card M had $600 and 18% APR and credit card S had $1200 balance and 12% APR. Across all conditions, the $1200 balance on credit card S was due to everyday purchases. Debt type was manipulated by telling participants that the $600 debt on credit card M was incurred because of a luxury (technology) package upgrade to the current vehicle (for the scenario, see Appendix A).

Mediating variable

We measured the anticipated consumption enjoyment with three items, each measured on a 7-point Likert-like scale (Mandel & Nowlis, 2008; Nowlis et al., 2004). The wording of the items was reviewed by the authors and two independent judges who were provided with a definition of the construct of anticipated consumption enjoyment in order to minimize ambiguity and also to ensure face validity. See Appendix D for the items.

Dependent variable

The dependent variable was the proportion of savings allocated to the smallest balance. A sliding scale next to each credit card measured the percentage of savings that the participant wanted to allocate to each debt account. The online response format only allowed participants to pay down debt across both credit cards up to their given savings. We divided the amount of money that each person allocated to the smallest balance by their savings to calculate the proportion of savings allocated to the smallest balance (i.e., credit card M).

Results

Manipulation check

We found that those assigned to the luxury package for a car perceived it to be more hedonic (M_{luxury} = 1.06 vs. M_{technology} = .13; F (1, 166) = 5.99, p < .05), based on the difference between each participant’s hedonic and utilitarian ratings (Wertenbroch & Dhar, 2000).

Support for H1 and H2

An ANOVA indicated a significant main effect of interest rate (F (1, 164) = 14.31, p < .05) and a significant interaction between interest rate and debt type (F (1, 164) = 6.12, p < .05). Follow-up contrasts showed that when the smaller debt APR was 12%, participants paid the hedonic debt faster than utilitarian debt (M_{hedonic-12%} = .44 vs. M_{utilitarian-12%} = .33; F (1, 164) = 4.56, p < .05; \eta_p^2 = .06). However, this difference disappeared when the smaller debt APR was 18% (M_{hedonic-18%} = .50 vs. M_{utilitarian-18%} = .57; F (1, 164) = 1.92, p > .10; \eta_p^2 = .01). Thus, H1 is supported (Fig. 1).

We ran an ANOVA with the mediating variable as the dependent variable and debt type and APR as the independent factors. Anticipation of consumption enjoyment was measured with three items that showed unidimensionality (64% of the variance is explained by the first factor extracted),
and hence, was treated as a summated scale (Cronbach’s alpha = .88). The interaction between debt type and APR was significant (F (1, 164) = 5.11, p < .05), revealing that the difference in the anticipation of consumption enjoyment was significant when the APR was 12% (M_hedonic-12% = 5.21 vs. M_utilitarian-12% = 3.83; F (1, 164) = 4.95, p < .05) but not when it was 18% (M_hedonic-12% = 5.08 vs. M_utilitarian-12% = 4.64; F (1, 164) = 1.92, p > .10).

We utilized a bootstrapping procedure to test the role of anticipated consumption enjoyment in mediating the relationship between the debt type and the repayment amount towards the smaller debt with 12% APR (Preacher & Hayes, 2008). In support of H2, the anticipation of consumption enjoyment mediated the effect of debt type (hedonic debt: coded 0; utilitarian debt: coded 1) on repayment as estimation of the confidence interval did not include zero (β = −.09, 95% CI = −.17, −.01). In order to verify that the effect of debt type was robust, we conducted a follow-up study that provided participants more information and financial incentive to make an optimal decision.

**Experiment 1b**

Experiment 1b attempts to replicate the hedonic prioritization effect from Experiment 1a in a setting where total loan cost is made explicit to participants. When borrowers consider allocating payment towards their credit balances, the long-term consequences of their decisions are unclear because, often, neither the number of installments nor the total cost of the loan are accurately known (Ranyard, Hinkley, Williamson, & McHugh, 2006). Instead, borrowers pay off their debt more rationally when the total cost, loan duration for pre-determined repayment amounts, and APR are salient (McHugh, Ranyard, & Lewis, 2011). Hence, we test whether the results from the 12% APR condition still emerge when the additional information and an actual financial incentive towards optimal repayment are salient.

**Design, participants, and procedure**

Experiment 1b is a 2 (financial incentive: absent vs. present) × 2 (debt type: hedonic vs. utilitarian) between-subjects factorial design. We recruited 172 participants from mTurk (Mage = 28.36 years, SD = 5.30; 77 men; M_credit cards = 4.35; credit card(s) ownership = 88%; percentage of debt revolvers = 53%); 12 participants were excluded due to incompleteness. In each condition, participants were presented with two credit cards: Goldwave with $1200 balance @ 18% and Massage Envy with $600 balance @ 12%. To increase the salience of the higher costs for not paying the highest interest rate card, participants viewed a table with repayment plans (adapted from McHugh et al., 2011). The table presented five sample repayment options in front of each credit card balance that varied based on the total cost of borrowing and the loan payment duration given different monthly repayment amounts (Appendix B). The data collection procedure was identical to Experiment 1a, except that the $600 balance on the Massage Envy credit card was incurred for vouchers purchased from a local spa.

**Independent and dependent variables**

Participants were told that the $600 debt on the Massage Envy credit card was incurred after they bought a total of ten passes. Debt nature was manipulated by telling participants that massage passes’ purpose was to serve as a reward for working hard and achieving important successes (hedonic consumption) or to reduce the symptoms of body fatigue from mild back pains and general soreness (utilitarian consumption; adapted from Botti & McGill, 2011). To encourage rational debt payment, half the participants were told that those who made the most financially sound decision would be entered to win a $10 Amazon gift card. All participants learned that the $1200 balance on Goldwave credit card was due to everyday purchases. The dependent variable was similar to that used in Experiment 1a.

**Results**

**Manipulation check**

The difference between each participant’s hedonic and utilitarian ratings suggested that those assigned to the hedonic massage condition perceived it to be more hedonic than those in the utilitarian massage condition (M_hedonic massage = 1.54 vs. M_utilitarian massage = .37; F (1, 159) = 9.03, p < .05).

**Support for H1**

An ANOVA was run with proportion allocated to the smallest debt as the dependent variable and the debt type and financial incentives as the independent variables. The results indicated a significant main effect of debt type (M_hedonic = .57 vs. M_utilitarian = .41; F (1, 157) = 21.08, p < .05; η_p^2 = .12). The main effect of financial incentive and the two-way interaction were both non-significant (Fs (1, 157) < 1, ps > .10). Replicating Experiment 1a, participants were more willing to pay down the hedonic than utilitarian debt, despite financial incentive.

**Discussion**

Despite the saliency of the financial charges associated with the debt and an incentive for rational debt repayment, hedonic debt was still prioritized over utilitarian debt repayment. Furthermore, the presence of hedonic debt negatively affects the degree to which participants anticipate enjoying the purchase. Interestingly, hedonic debt is not universally prioritized (Kivetz & Simonson, 2002). When the small debts have the highest interest rate (e.g., 18%), type of debt does not alter the repayment rate. Rather, debtors act rationally and focus solely on the interest rate.

**Experiment 2**

If retaining consumption benefit is indeed the motivation behind more rapid repayment of hedonic debt, debts occurring in the distant past should be prioritized over debts occurring in the recent past, as distant consumption benefits would have depreciated more (H3) (Fig. 2).
**Design, participants, and procedure**

This experiment employs a 2 (smaller debt APR: 12% vs. 18%) × 2 (debt timing: proximal past vs. distant past) × 2 (debt type: hedonic vs. utilitarian) between-subjects factorial design. Three hundred and seventeen mTurk workers participated in this experiment (M_{age} = 31.28 years, SD = 6.73; 151 men; M credit cards = 5.22; credit card(s) ownership = 91%; revolving debt frequency = 56%); 37 responses were excluded due to incompleteness. The experimental design considerations and data collection procedure were identical to Experiment 1a, except that this time the $600 debt was incurred for a laptop purchase made in the past.

**Independent, mediating, and dependent variables**

The APR manipulation was similar to that in Experiment 1. Depending on the type and timing of debt, participants were told that the $600 debt on credit card M was incurred because they had purchased a laptop for a fun-oriented purpose such as gaming (work-oriented purpose such as office tasks) last month (last year). The manipulations for the debt type and timing were borrowed from Sela, Berger, and Liu (2009) and Goodman and Malkoc (2012), correspondingly. The process measure and the dependent variable were similar to those used in Experiment 1. For the scenarios, please see Appendix C.

**Results**

**Manipulation check**

Individuals assigned to the distant condition perceived the purchase of the laptop on a 7-point scale (1 = not a while ago and 7 = a long time ago) to be in the significantly more distant past than those in the proximal condition (M_{proximal} = 4.09 vs. M_{distant} = 3.17; F (1, 278) = 22.74, p < .05). We also found that participants assigned to the fun-oriented laptop perceived it to be more hedonic than those assigned to the work-oriented laptop (M_{fun-oriented} = 2.11 vs. M_{work-oriented} = −1.83; F (1, 278) = 168.76, p < .05).

**Support for H3**

An ANOVA was performed with the proportion of smaller debt repaid as the dependent variable and debt type, timing, and APR as the independent factors. The three-way interaction was significant (F (1, 272) = 4.56, p < .05) revealing that the interaction between debt type and timing was dependent on whether the APR was 12% or 18%. Further analysis revealed that there were no significant main effects or interactions between debt type and timing when APR was 18% (Fs (1, 272) < 1, ps > .10). This means that irrespective of proximal past (M_{hedonic-18%} = .54 vs. M_{utilitarian-18%} = .49; F (1, 272) = 1.09, p > .10) or distant past timing (M_{hedonic-18%} = .47 vs. M_{utilitarian-18%} = .48; F (1, 272) = .36, p > .10), individuals allocated most of their money towards the smaller debt, regardless of the debt nature. However, when the smaller debt APR was 12%, the main effect of debt type (F (1, 272) = 22.20, p < .05), debt timing (F (1, 272) = 5.36, p < .05), and the interaction of debt type and debt timing were significant (F (1, 272) = 12.63, p < .05). Participants were more inclined to pay off the hedonic debt than utilitarian debt when it took place in the proximal past (M_{hedonic-12%} = .45 vs. M_{utilitarian-12%} = .31; F (1, 272) = 4.89, p < .05; \( \eta^2_p = .02 \)). This tendency to pay down hedonic debt significantly increased when the debt was incurred in the distant past (M_{hedonic-12%} = .59 vs. M_{utilitarian-12%} = .27; F (1, 272) = 20.31, p < .05; \( \eta^2_p = .08 \)).

Thus, in support of H3, the difference in the repayment of hedonic and utilitarian debt was greater for debt whose consumption benefits are in the distant (as opposed to proximal) past (M_{hedonic-utilitarian}-distant-12% = .27 vs. M_{hedonic-utilitarian}-proximal-12% = .14; F (1, 272) = 5.29, p < .05; \( \eta^2_p = .04 \)).

**Discussion**

When a purchase occurs in the distant (versus proximal) past, debtors are more likely to repay hedonic debt due to the high anticipation of consumption enjoyment (Cronbach’s alpha = .86). As in Experiment 1a, the process procedure (Preacher & Hayes, 2008) revealed that anticipation of consumption enjoyment (Cronbach’s alpha = .86) in 12% APR mediated the moderating effect of the debt type and debt timing on the proportion of savings allocated towards the smaller debt (proximal: \( \beta = −.27, 95\% CI = −.52, −.08 \); distant: \( \beta = −.35, 95\% CI = −.56, −.18 \)).
diminished consumption enjoyment, further amplifying debt account aversion effects. These results are consistent with research that shows that elapsed time between the consumption benefits and payment (e.g., “decoupling”) reduces the utility of hedonic purchases much more than those of utilitarian purchases (Kivetz, 1999; Patrick & Park, 2006).

General discussion and conclusion

In three experiments, we determine that consumers repay their credit card debts with differing priority given the type and timing of debt. Experiment 1a shows that consumers prefer to repay hedonic debt faster than utilitarian debt, since the presence of hedonic debt negatively influences the extent to which participants enjoy the purchase—utilitarian debt does not threaten consumption enjoyment as does hedonic debt. Interestingly, Experiment 1b demonstrates that even in the presence of cost information and real financial incentives, participants still prioritize hedonic, low APR debts. Although the decreased enjoyment of the hedonic purchase leads consumers to reduce the hedonic debt faster when it has low APR, consumers act rationally when the interest rate is high regardless of the type of debt. Experiment 2 shows that the more time that lapses between consumption benefit and payment, the greater the depreciation of enjoyment of hedonic purchases compared to utilitarian purchases. This, in turn, motivates consumers to expedite the repayment of hedonic debts incurred from distant past consumption.

The temptation to pay off past, hedonic debts may override optimal allocation intentions and keep debtors in debt longer than necessary. We suggest that future research use credit card data from customers or examine contexts where people could save, spend, or incur debt—all to understand how the type and timing of the purchase impacts the repayment over time. Such empirical validation could lead to effective policies that prevent debtors from remaining “in the red” longer than necessary.

Supplementary material

Supplementary data to this article can be found online at http://dx.doi.org/10.1016/j.jcps.2014.08.005.

References


