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Personal Budgeting: Does It Work?

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Although budgeting is commonly recommended and many people do keep a budget, little systematic evidence exists on whether budgeting actually helps people achieve their financial goals over the long term. Across three field experiments and one longitudinal dataset, we explore how budgeting impacts spending decisions, spending enjoyment, and goal achievement.

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Money Matters: New Insights on the Cognition and Management of Money

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Paper #1: The Ex-Money Effect: When and Why People Feel Connected to Outcomes that Involve Money They Previously Had

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Paper #2: Money and Psychological DiStance

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Paper #3: Personal Budgeting: Does It Work?

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Paper #4: Can Making Family Salient Improve Retirement Contributions? Evidence from Field Experiments in Mexico

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SESSION OVERVIEW

Decisions about money are among the most consequential ones for consumers, influencing not only their financial well-being, but also happiness, relationships, and other aspects of life. However, do consumers think of money in the way that is assumed by economic principles? Moreover, how can consumers achieve long-term financial success? A deeper understanding of the consumer psychology around money, and financial decision-making more broadly, can inform recommendations, and this session provides new insights.

The first two papers offer new views on the cognition of money. Money is a *value symbol* that serves as a *fungible medium of exchange* (Furnham and Lewis 1986). However, consumers' cognition of money does not always align with this normative definition. For example, research on mental accounting (Thaler and Johnson 1990) challenges the fungibility aspect of money -- and the first two papers continue this pursuit. Specifically, Paper 1 (Li and Tu) proposes that consumers view money as if it is a (non-fungible) material object, rather than a fungible medium of transaction. As a result, consumers feel a lingering sense of connection to the money they previously possessed (i.e., their ex-money) after money exchange, and thus feel further connected to the outcome associated with their ex-money. The authors dub this effect the 'ex-money effect,' and explore its behavioral implications and boundary conditions. While money is often used as an objective measure of the value for objects and resources, Paper 2 (Polman and Maglio) investigates whether people's valuation of money itself can be subjective. Building on the literature of psychological distance, the authors propose and document that people believe the same amount of money has more purchasing power when it is perceived to be closer, and discuss its implications on the science of spending and saving.

The latter two papers present new evidence on the effectiveness of different money management strategies. Paper 3 (Kan, Fernbach, and Lynch) focuses on budgeting and argues that, although budgeting mitigates overspending in the current period, it (1) makes spending less enjoyable and (2) gives people license, both resulting in an in-

crease in spending in the next period. Across three field experiments and one longitudinal dataset, the authors demonstrate that the impact of budgeting on long-term financial success is limited. Finally, although saving for retirement is usually deemed as a personal financial activity, through a large-scale field experiment, Paper 4 (Shah et al.) identifies that securing one's family's financial future might be more motivating in making people save for retirement. Compared to more typical individualistic appeals, a family appeal exerted a long-term effect (6 months after the prompt) and was most effective for a middle-aged group.

Through multiple angles and various scopes, the four papers in this session offer new insights on the interrelated cognition (papers 1 and 2) and management (papers 3 and 4) of money that together influence consumers' financial well-being. This session will appeal to a wide audience interested in financial decision-making, judgment and decision making, and transformational consumer researchers who aim to impact societal well-being and public policy.

The Ex-Money Effect: When and Why People Feel Connected to Outcomes that Involve Money They Previously Had

EXTENDED ABSTRACT

Money is the most common medium of exchange which frequently changes hands. Normatively, after consumers exchange money for resources of equivalent value, where their previously held money goes next and what it generates should be personally irrelevant. For example, suppose a friend helped you break a \$10 bill (you gave her a \$10 bill and she gave you \$10 worth of change) and later donated the \$10 bill she received to UNICEF or spent it on lottery tickets. Since you (the previous holder of that \$10 bill) no longer own that \$10 bill after the exchange (it's your "ex-money") and did not make the donation/purchase decision, neither UNICEF nor the lottery outcome would become more personally relevant. However, this paper documents the "ex-money effect"—that people feel connected to outcomes of their previously held money—and explore its mechanism, boundary condition, and downstream consequences.

We propose that, although money is a fungible medium of exchange that only symbolizes value, people (1) perceive money possessed by different individuals as non-fungible (Polman, Effron, and Thomas 2018; "my \$10 bill is different from your \$10 bill") and (2) treat money as a material good whose concrete physical features (e.g., bills, coins), not just its abstract value, matter (Mishra, Mishra, and Nayakankuppam 2006; Raghuram and Srivastava 2009). Because people feel lingering ownership of (non-fungible) material goods after transaction (Brough and Isaac 2012), to the extent they conceptualize money as a non-fungible material good, they should feel the same for money that left their possession. Consequently, people feel concerned with the outcomes of their ex-money. Further, because the physical features of money matter, we predict that the ex-money effect should attenuate when ex-money changes form. Next we report 4 studies that demonstrate the ex-money effect and its downstream consequences.

Study 1 established the main effect. Participants imagined lending a friend a \$10 bill and getting another \$10 back later. They further imagined that their friend bought some lottery tickets using the \$10 bill borrowed from them (vs. a \$10 bill from his/her own

wallet) and a CD using a \$10 bill from his/her own wallet (vs. the \$10 bill from them); the lottery purchase resulted in a \$1,000 prize one month later. Supporting our hypothesis, participants reported a greater personal connection to their friend's lottery winning when the friend (incidentally) spent their ex-money on lottery (vs. CD) (4.41 vs. 2.81; $t(64) = 3.31, p = .002$). Consequently, they felt more deserving to share the lottery prize (3.16 vs. 2.06, $t(64) = 2.64, p = .010$) and claimed a larger amount (\$127.81 vs. \$36.18; $t(64) = 2.80, p = .007$) in the former condition. A set of follow-up studies replicated these effects when participants assumed the role of the money borrower or a third-party observer, suggesting that the ex-money effect stems from a shared conceptualization of money that is independent of one's role or interest. We also replicated these effects when presenting these two scenarios in a within-participants manner, suggesting that people do not consider the ex-money effect irrational (albeit it is counter-normative).

Study 2 replicated the ex-money effect using a behavioral proxy. University students learned that their university spent income from tuition and fees in the previous fiscal year (i.e., their ex-money) on private equity investment (PEI) or another project and could choose to learn more about the investment. Although participants had exchanged tuition for education and access to university facilities and we made it clear that reading the information was not obligatory, those who learned that their ex-money went in PEI were more likely to seek information about it (16%, 14/88 vs. 4%, 4/89; $\chi^2(1) = 6.31, p = .012$), which suggests a greater sustained connection.

Study 3 tested the proposed boundary condition—a change of the physical form of one's ex-money, using a 2 (ex-money usage: lottery vs. CD) \times 2 (ex-money form: unchanged vs. changed) between-participants design. We used a lottery-purchase scenario similar to that in study 1, except that in the form-changed conditions the friend changed the \$10 bill into coins and subsequently used the coins to buy the lottery tickets or the CD. A 2 \times 2 ANOVA yielded the predicted interaction effect on perceived connection to the money used in lottery purchase ($F(1, 216) = 4.96, p = .027$) and perceived deservingness of some prize ($F(1, 216) = 3.38, p = .068$); the ex-money effect replicates when the format stayed unchanged (3.23 vs. 1.96; $F(1, 216) = 18.65, p < .001$) but attenuated following a format change (2.28 vs. 1.76; ns).

Study 4 explored the potential of using the ex-money effect as a minimalistic nudge to promote desired behavior – increasing support for a seemingly unattractive yet important charity: UNICEF. We asked participants to bring a \$10 bill to the lab for a cover study titled “bills in circulation.” After participants completed a related questionnaire, we collected their \$10 bill and gave them a different \$10 bill in return. We told participants that after the completion of the cover study, we would donate these bills to UNICEF (pretested to be unattractive) and WWF (pretested to be attractive); critically, the money collected in the lab session they attend would go to “UNICEF,” or “WWF,” or “UNICEF and WWF” (baseline). On their way out, participants could choose to wear either a UNICEF or WWF sticker to show their support. Learning that one's ex-money would go to UNICEF increased choice of wearing the UNICEF sticker compared with the baseline (59.6% vs. 25.9%; $\chi^2(1) = 12.31, p < .001$) (whereas the WWF condition shows a ceiling effect compared with the baseline (81.1% vs. 74.1%; ns)).

Taken together, this paper makes three related contributions. First, we document a counter-normative effect. Second, we provide a novel theoretical account—the ex-money effect stems from people conceptualizing money as a non-fungible material good. Third, because private and public organizations transact with consumers daily, we suggest that ex-money effect can be utilized as a minimalistic

and low-friction nudge to promote desired behaviors following such transactions.

Money and Psychological DiStance

EXTENDED ABSTRACT

How “far” can money go? Economists operationalize the purchasing power of money as the amount of a given good or service that can be purchased for a fixed sum of money. Thus, when people estimate how far their money can go, they are guessing how much they can buy with a certain monetary sum. In the current research, we propose that people act as if money can go farther when it is felt as psychologically closer. Traditional economic theory has not considered whether purchasing power of money varies according to whether money is subjectively close or far, yet should this factor exert a substantial influence on money's worth, it could result in making adjustments to traditional economic analyses, which are thought to depend heavily on perceptions (Bernanke 2007).

Addressing the question, “how far can money go?” requires defining the perceived value of money. At first blush, it might seem peculiar to generate a prediction about the value of money, because value is money's most fundamental and essential quality, and value is often defined in monetary terms. For instance, in studies on the endowment effect (Morewedge and Giblin 2015), it is typical to ask participants how much they value something – from mugs to the environment – in monetary terms. Yet research has found that people value money differently, and that the same amount of money can seem like a subjectively higher or lower amount (as though it is more or less valuable), depending on the situation (for a review, see Bijleveld and Aarts 2014).

Despite research conducted so far on the subjective value of money, the notion that psychological distance could affect money's perceived purchasing power remains an open but important question for marketing, especially as an increasingly globalized and dynamically changeable economy makes distance more ubiquitously salient in everyday monetary transactions. Here, a critical question is what may determine the subjective value of close money in relation to distant money – and likewise what it means when people judge money as “close” or “distant.” The unique perspective offered by recent conceptualizations of psychological distance (Lieberman and Trope 2014) proposes a framework through which to investigate how far money can feel, and how far money can go. When people think about how close or distant something feels, they can think about it along a number of distinct dimensions: along temporal distance, geographical space, social space, and likelihood (Trope, Liberman, and Wakslak 2007). For each of these dimensions, money can be psychologically distant when it is set apart from one's direct experience. Which is to say that money is respectively close or distant when it, for example, encompasses current versus future earnings (temporal distance); is tracked in one's own versus foreign countries' stock markets (spatial distance); belongs to one's spouse versus an acquaintance (social distance); or furnishes the prize of a relatively high-chance versus low-chance lottery (hypothetical distance).

Of most relevance to the current context of money, research comparing decisions about people, places, events, or things that are proximate to the self (versus more distant) has provided evidence consistent with the idea that distance can have a “shrinking effect” (Maglio, Trope, and Liberman 2013). For example, study participants reported that a 3-month period starting in 12 months felt shorter than a 3-month period starting in the present (Zauberman, Kim, Malkoc, and Bettman 2009). Likewise, the number of calories comprising a food item was estimated to be lower among participants primed

with greater (versus proximate) distance (Williams and Bargh 2008). Building on and extending this research, we predict that, when thinking of money, people will think that money is smaller when imagined at a greater psychological distance.

In three studies, we asked 1403 participants to rate the perceived purchasing power of money in conditions in which the money was made to feel close or distant. Extending earlier work on psychological distance, we used new manipulations of psychological distance (studies 1 and 2) as well as a previously-used manipulation (study 3). Throughout, the results showed that holding the sum of money constant, people believed they could buy more products with a subjectively close (versus distant) amount of money.

In study 1 ($N = 500$), we manipulated how close money feels by changing its unit of measurement from a whole amount (\$100) to an equivalent amount of money that is framed in smaller parts. Based on previous work on the unit-scaling effect, which describes that distance appears closer when measured in fewer-larger units than in many-smaller units (Maglio and Trope 2011), we found that money framed in fewer-larger units was felt as closer, and had more purchasing power, $d = 0.27$.

In study 2, we shed more light on psychological distance by manipulating whether 263 participants thought about an increasing or decreasing amount of money. Consistent with recent research on psychological distance (Maglio and Polman 2014, 2016), participants responded to increases and decreases of their money in a predictable way, believing that when money increased, they could buy more with it than when it decreased (despite the sum of money being the same after each change), $d = 0.31$.

Finally, in study 3, we examined how much 672 participants contract money when money is perceived from afar, by having participants specify the perceived value that corresponds to the length of a line. Because we predicted that psychological distance subjectively contracts (“shrinks”) the value of money, people should perceive the line to cover a smaller segment of a money’s sum, which we found to be the case, $d = 0.16$. Furthermore, we found that when it is included as a separate variable in a regression model, it absorbs a significant part of the variance between money’s distance and its perceived purchasing power (consistent with a mediation model).

In closing, our research informs the science of spending and saving. By linking the work on psychological distance with money, our research shows how psychological distance influences a fundamental perception on which almost all choices that people make rest: what consumers think they can acquire in exchange for their money.

Personal Budgeting: Does It Work?

EXTENDED ABSTRACT

Budgeting is a commonly recommended financial activity, and about half of Americans report keeping a budget (FINRA, 2016). Despite its prevalence however, there is little systematic evidence on whether budgeting actually helps people achieve their financial goals over the long term. Research in mental budgeting and mental accounting has explored the potential benefits and unintended side effects that can arise while budgeting (Zhang and Sussman, 2017), but much of this work has focused on short time frames. Survey evidence has concentrated primarily on propensity to engage in budgeting and its correlates (FINRA 2016, CFPB 2015), such as demographic factors and financial outcome measures, but it is difficult to draw causal conclusions. The present work aims to fill this gap.

We explore the effects of budgeting in both the short run and the long run. Aspects of budgeting, such as setting and tracking, increase the clarity with which people understand their own personal finan-

cial situation, but this clarity can have both positive and negative consequences.

In the short run, setting a budget can help to translate abstract goals into clear standards (Krishnamurthy and Prokopec 2010), which are an important part of successful self-regulation (Baumeister 2002). Thus we suggest that setting a clear budget should help people to mitigate overspending. We test this in study 1. Participants from mTurk completed a two-phase study over the Black Friday shopping weekend. Prior to Black Friday, participants were randomly assigned to budget for their Black Friday gift shopping in a manner such that their total spending limit was either clear (budgeted gift recipients were listed on one page, with the total spending limit summed up and provided back to the participant), or ambiguous (each gift recipient was listed on a separate page, without an explicit summation of the total cost). After Black Friday, participants reported on their total spending. All participants overspent their original budgets, but the magnitude of overspending was lower for participants whose total gift spending budgets were clear (Interaction: $F(1, 251) = 5.87, p = .016$).

While financial clarity can be helpful in mitigating overspending, it can also be unpleasant. Tracking a budget may reduce the enjoyment associated with spending by increasing pain of paying through a tightened link between costs and benefits (Gourville and Soman 1998; Soman and Gourville 2001), and by increasing awareness of opportunity costs through higher perceived constraint (Spiller 2011). This should be especially acute for those facing higher financial constraint, as it increases the likelihood that people are spending from the bottom dollar in their budget (Soster et al., 2014). Study 2 explores this effect, and subsequent intentions to continue budgeting. A different group of mTurk participants completed a two-phase study over the Black Friday shopping weekend. Prior to Black Friday, participants were randomly assigned to track either their Black Friday shopping or their regular shopping. We also measured financial constraint (1=low constraint, 11=high constraint). After Black Friday, participants rated how much they enjoyed spending on each expense category, and whether they intended to continue tracking their budgets. A floodlight analysis revealed that for people facing high financial constraint (JN point = 8.67), tracking expenses decreased the enjoyment they derived from spending money on those expenses (Interaction: $F(1, 328) = 4.89, p = .028$). Decreased spending enjoyment was in turn related to lower intentions to continue tracking expenses in the future.

In the long run, budgeting can also have dual consequences. Financial clarity helps people know when they’ve spent too much money, and they need to reduce their spending. However, it also informs people when they’ve done well managing their money. People may use the perceived progress as an excuse to take a break (Fishbach and Dhar 2005) and may splurge a little more during the next period. If people correct in both directions, there may be little net benefit. Such a pattern would mirror effects found in dieting research; diets tend to work well in the short run, but in long run, dieters exhibit weight cycling and do not often maintain their weight loss (Mann et al. 2007).

Study 3 investigated how budget tracking impacts period-to-period spending adjustments in the long run. At the beginning of the semester, undergraduate students set a financial goal, and created a budget for the next 10 weeks that would help them realize that goal. Half were randomly assigned to track their budgets, while the other half did not. At the end of 10 weeks, all students reported on their expenses and income. We ran a multi-level spline model to explore how net income in one period changed as a function of net income in a prior period, budget tracking condition, and their interaction.

The spline allowed us to separately observe reactions after periods of overspending, and reactions after periods of underspending. When people overspent their budgets in one week, they corrected by spending less the following week. This correction was stronger for those who tracked their budgets ($z = 5.18, p < .01$). However, when people spent *less* than they budgeted in a particular week, they reacted by spending *more* the following week. This reaction was also stronger for those who tracked their budgets ($z = 4.20, p < .01$). The net effect was that budget trackers were no more likely to attain their financial goals than those who did not track their budgets ($ps > .20$).

In study 4, we observe period-to-period spending adjustments over the long run using a longitudinal dataset from a popular budgeting app. We observe a similar pattern of behavior as in study 3. People who tracked their budgets more exhibited stronger corrective action after periods of above average spending ($z = 10.42, p < .01$). However, people who tracked their budgets more were also more apt to splurge after periods of fiscal restraint ($z = 3.48, p < .01$). This suggests that budget tracking tightened the link between period-to-period financial behavior, but not necessarily in a manner that was beneficial in the long run.

Can Making Family Salient Improve Retirement Contributions? Evidence from Field Experiments in Mexico

EXTENDED ABSTRACT

Despite good intentions, consumers regularly struggle to reach their retirement savings goals. There are small barriers and obstacles that prevent individuals from forgoing consumption today in order to secure a better financial pathway for the future. However, these decisions may not be solely based on the individual alone. Could nudges focusing on the benefits of saving for other people, such as the individual's family members, influence the motivation to save for the future?

Individuals may make decisions in order to improve their family's welfare in addition to their own utility. However, the decision for an individual to choose to save for their own future consumption may be perceived to be in potential conflict with the value of consuming with one's family in the present. Individuals may avoid putting money into savings because they view that savings decision to be more self-focused and individualistic and thus, would instead prefer to have the money easily accessible for their family today. Consistent with previous research which finds that future-minded reward responding may not be an exercise in delay of gratification, but rather may reflect a proficiency in episodic future thinking (Peters and Büchel, 2010) as well as research on the improving sequence hypothesis (Loewenstein and Prelec 1993; Magen et al. 2008), individuals may see saving for their own retirement as being in direct opposition to their family's utility for consumption in the present. Thus, we argue that an appeal that focuses on framing that savings decision as a means of having more money to help their family in the future will be particularly effective relative to other more individualistic appeals. More specifically, we propose that family oriented appeals may effectively reduce these perceived tradeoffs by highlighting that saving for one retirement can also improve their family's future utility and welfare by creating a more direct comparison between enjoying a small reward for one's family in the present or enjoying a larger reward for one's family in the future.

To test this, we use a large-scale field experiment ($N = 97,149$), partnering with a retirement company in Mexico. We sent out five different types of SMS text messages to a randomized sampling of their client base in order to encourage individuals to save for their

retirement and compared these treatments against a control group who did not receive a message ($n = 13,902$) as well as measured the effectiveness of the messages against each other. The messages were a gain frame ($n = 13,859$), a message emphasizing a pennies-a-day approach ($n = 13,877$), a fresh start for savings message ($n = 13,882$), a message emphasizing securing one's own financial future ($n = 13,901$), and finally a message emphasizing securing one's family's financial future ($n = 13,853$). As compared to a contribution rate of 0.48% in the control group, only the family message generated a statistically significant increase in the proportion of individuals making a retirement contribution (44% increase over control, $p = 0.018$) and was significantly different as compared to the other treatment groups ($p < 0.05$).

To further dig into the potential behavioral mechanism underlying the family message, we estimated our regression specifications on three different age brackets: individuals less than 27 years of age, those between 28 and 42, and individuals older than 42. The average age of marriage in Mexico is 27 years old, and married individuals are likely to have children in the house until the child is a teenager. Hence, age could be a moderator of our effects, as we would expect the impact of the family message to be largest for the middle group of people. The impact of the treatment on contribution incidence, both immediately after the intervention and three months later, is positive and significant for the middle age bracket, as expected ($p < .05$ in all comparisons). Interestingly and consistent with our theory, the effect on the younger age group is negative ($p = 0.04$). In other words, family appeals can potentially backfire for those whom family is not as strong or an immediate priority. Encouragingly we also look at the long-term effectiveness of our effects and find that the family-oriented appeal also significantly improves contribution rates even six months after the experiment (34% over control, $p = 0.032$).

In order to more definitively determine the mechanism driving our results, we ran a hypothetical laboratory experiment using Amazon's Mechanical Turk ($N = 200$). We randomized participants into two conditions: the hidden zero condition and the explicit zero condition (Magen et al. 2008). In the hidden zero condition, we framed the retirement contribution choice as a way to secure one's future, while in the explicit zero condition, similarly to our field experiment, we framed the retirement contribution choice as a way to secure their family's future. Consistent with our prediction, highlighting the explicit zero and one's family's future led individuals to significantly save more for the future than the hidden zero condition ($p = .02$). Interestingly, and consistent with our field results, this result was moderated by whether participants had a family themselves. Single individuals were as a result less likely to save for the future when given the explicit zero condition ($p < .01$).

The results from the field experiment and the lab experiment shed light on a novel potential approach to improve financial decisions related to retirement. We demonstrate that family messaging prompts significantly improve voluntary contribution rates in comparison to the control condition and in relation to other treatments in comparison to the control condition, both in the short term (over a three-month period) and in the following period (six months later). Designing messages and frames geared to increase the salience of family significantly improves consumers' ability to make positive financial choices (i.e., retirement contributions) in the long-run, even potentially over traditional nudges.

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