

SYMPOSIA SUMMARY
Influences on Spending: Mental Accounts and Self-Control

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SESSION OVERVIEW

Consumer spending is an under-researched area, which is unfortunate in light of mortgage foreclosures recently hitting an all time high (Knox 2007) and the American personal savings rate hitting a 73 year low (Associated Press 2007). Economists have traditionally assumed that consumers allocate their spending to rationally optimize their utility and that money is fungible. In contrast, the behavioral decision theory literature provides strong evidence that consumers employ a system of mental accounts. Considering the current trend towards overspending, it is important to understand whether consumers' mental accounting practices contribute to the problem or whether mental accounts are an effective method of self-control as has been previously suggested (e.g., Thaler 1985; Thaler and Shefrin 1981).

This session brings together a set of respected researchers to provide insight into the conditions under which mental accounting practices result in overspending vs. when they function as a self-control mechanism. The first two presentations examine mental accounting practices that are related to overspending. The first paper, co-authored by Juliet Zhu, Jack Chen, and Srabana Dasgupta (UBC), extends research on the endowment effect into the domain of multiple transactions by incorporating the notion of limited cognitive resources. Specifically, they show that individuals who are trading in a car pay a *higher* net price because they focus some of their limited resources on negotiating their trade-in rather than the sales price of the car. The second paper, authored by Amar Cheema (Wash U), finds that increases in income and assets affect purchase in a similar manner, while decreases in income decrease purchases more than asset value decreases. This research also shows that consumers tend to discount uncertain decreases, (but not uncertain increases) and that this tendency is correlated with debt.

In contrast, the third and fourth presentations examine consumers' use of mental accounting in an attempt to control their spending. The third presentation, co-authored by Karen Stilley, Jeff Inman (Pittsburgh) and Kirk Wakefield (Baylor), shows that consumers anticipate the occurrence of unplanned purchases and build these expectations into their mental budget for the grocery trip. The fourth presentation, co-authored by Leonard Lee (Columbia), Ziv Carmon (INSEAD) and Ravi Dhar (Yale), extends the work of Trope and Fishbach (2000) to show that priming shoppers to be aware of the potential for high spending activates counteractive self-control mechanisms.

While most prior studies in the mental accounting literature rely on hypothetical choices in a lab setting, the papers in this session cross methodological boundaries to provide robust results. Studies range from lab experiments (Zhu et al. and Cheema) to field studies (Stilley et al. and Lee et al.) to analysis of secondary data sets (Zhu et al. and Cheema). Providing strong external validity, each paper in our symposium supports findings with real world data. From a theoretical perspective, this session builds a bridge between research in mental accounting and more traditional psychological theories by incorporating research in cognitive processing (Einstein and McDaniel 1987), counteractive self-control (Trope and Fishbach 2000), and in-store stimuli (i.e., Heilman et al. 2002; Bettman 1979).

EXTENDED ABSTRACTS

**“Exploring the Effect of a Trade-In on Consumers’
Willingness to Pay for a New Product”**

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Consumers commonly engage in replacement purchases, where they replace an existing product with a new product. In such situations, the existing or used product is often exchanged or *traded in* towards a reduction in the price of the new good. A distinctive feature of such trade-in transactions is that a consumer typically needs to negotiate two prices, one for the new product and another one for her existing product. This raises the question of whether the existence of the trade-in transaction creates any advantages or disadvantages for the consumer. For example, will the price that the consumer receives for the new good differ depending on whether there is a trade-in or not? Are consumers better off trading in their used product toward the purchase of the new one from the same retailer or should they keep the two transactions separate by dealing with different retailers? This paper promises to shed light on these questions.

We theorize that when a consumer engages in a trade-in, due to the endowment effect (Thaler 1980) and mental accounting principles (Thaler 1980, 1985), she is likely to perceive the trade-in value of the currently owned product to be highly important, and thus spend a considerable amount of resources on negotiating the trade-in price. Because individuals have limited resources at a given time, more resources allocated to the more important task would result in fewer resources available to respond to a less important task (Einstein and McDaniel 1987; Zhu and Meyers-Levy 2005). This implies that a trade-in consumer will have few resources left in negotiating the purchase price of the new good and should therefore be more tolerant of a high purchase price. In contrast, individuals who are involved in a single transaction, such as the purchase of a new good, only have one task to focus on and are simply looking for the lowest price possible. Thus, compared to individuals who are simply buyers, trade-in consumers may spend fewer resources on the new product transaction and perceive it as less important. As a result, trade-in consumers may be willing to pay a higher price for the new product than buyers alone. On the other hand, due to the endowment effect, trade-in consumers and sellers (e.g., a consumer who only sells her used good) are likely to perceive the used product transaction as equally important. Therefore, their WTA price for the used product should be equivalent.

We first test the above hypotheses through a series of lab experiments. Participants were asked to imagine engaging in either a trade-in or buying/selling alone transaction. For example, in one study, participants imagined one of the following three scenarios: trading in their used vehicle to purchase a new one, buying a new vehicle, and selling their used vehicle. Participants were provided with information regarding the new and/or used vehicle. After reviewing relevant product information, participants were asked to estimate a WTP price for the new product and/or WTA price for their used product. Across a number of different product contexts (e.g., automobile, house, piano), we consistently found that whereas sellers alone are likely to estimate a comparable WTA price for their used product as trade-in consumers, buyers alone are likely to

estimate a much lower WTP price for the new product compared with trade-in consumers. We further demonstrate that perceived importance toward the used car transaction is the underlying mechanism for the above effects. In addition, we demonstrate that the observed effects are not due to income effect (i.e., trade-in consumers pay more for new car because they have more cash due to the used car trade-in). Finally, to lend external validity to our lab findings, we examined real world field data from the automobile market. Specifically, after controlling for various other variables which may have an impact on the negotiated price, we were able to show that trade-in customers end up paying, on average, an amount of \$452 more than customers who simply buy a new car from the dealer. This systematic difference in prices offers additional support to the hypothesis that trade-in consumers are willing to pay a higher price for the new vehicle than non-trade-in customers.

This research makes several important contributions. First and foremost, it advances the well-documented endowment effect by suggesting that it not only affects consumers' WTA for their currently owned product, but also their WTP for a new/upgraded product they intend to buy in a related transaction. Second, this research adds to the buyer-seller differences literature by investigating situations where consumers act as both sellers and buyers simultaneously and arguing that such trade-in consumers tend to place heightened importance on the trade-in value of their used product, and therefore exhibit a higher WTP for the new product compared to those who only buy the new product. Finally, this research promises to offer rich managerial implications as to how to better understand consumer psychology when multiple transactions are involved and thus offer implications for how to effectively manage the process.

“A Reason to Spend? The Effect of Unexpected Price and Wealth Changes on Hedonic Purchases”

Amar Cheema, Washington University in St. Louis

Theoretical Background

Individuals often seek justifications for their decisions (Shafir, Simonson, and Tversky, 1993). This is especially true for purchases of hedonic items because such decisions evoke guilt (Kivetz and Simonson 2002; Prelec and Loewenstein 1998). Consequently, marketing activities that provide justifications for hedonic purchases prove to be highly effective. Indeed, research suggests that justifications such as price discounts and charity donations associated with hedonic products increase likelihood of purchases more than those associated with utilitarian products (Khan and Dhar 2007; Strahilevitz and Myers 1998). Using a motivated reasoning perspective, we argue that individuals considering the purchase of a hedonic product (e.g., a vacation package) will be more likely to purchase when price decreases provide them a justification to do so (Amir and Dawson 2007; Kunda 1990; Okada 2005). We also study how unexpected increases in wealth (i.e., windfall gains) affect individuals' purchase likelihood of hedonic products. Consistent with prior research on unexpected gains (e.g., Arkes et al. 1994; Heilman, Nakamoto, and Rao 2002; Soman and Cheema 2001), we propose that individuals use unexpected wealth increases to justify hedonic purchases in a manner similar to price decreases.

Furthermore, we explore the effect of unexpected price increases and wealth decreases on purchase likelihood of hedonic products. These changes provide individuals with a reason *not* to spend and are inconsistent with a motivation to purchase. Thus, motivated individuals may try to ignore these changes, when possible. We expect that individuals will be successful in mitigating the effect of these changes when the changes are more (vs. less)

uncertain (e.g., Shelley 1994). In the present research such a process of ignoring unexpected decreases reveals that uncertain wealth decreases (e.g., drops in stock value) are discounted to a greater extent than are relatively more certain wealth decreases (e.g., drops in income), even when both these assets are earmarked for the hedonic purchase to control for fungibility differences (Shefrin and Thaler 1988).

A consistent pattern of spending more when values of assets increase, while not decreasing spending when asset values decrease, would likely lead individuals to spending more than their means. Using the 2004 Survey of Consumer Finances, we study how the tendency to spend asset value increases is correlated with individual debt. We find that asset value spenders have higher overall debt, larger mortgages, and greater amounts of outstanding credit card debt, than do individuals who are unlikely to spend asset value increases. We conclude with implications of our results for individual finances.

Overview of Studies

We study the effect of unexpected changes in prices and wealth across three studies. Study 1 used undergraduate students who have funds earmarked for the hedonic purchase (thus controlling for fungibility differences). We find that an unexpected price decrease is sufficient to prompt purchase, irrespective of changes in individuals' wealth. However, among individuals faced with an unexpected price increase, individuals whose wealth increases are more likely to purchase (versus individuals whose wealth decreases). Furthermore, (less uncertain) income decreases lower purchase to a greater extent than (more uncertain) stock value decreases, while income and stock increases affect purchase in an identical manner. Study 2 replicates this asymmetric effect with relatively older, non-student individuals, using a budgeting scenario that manipulates the overall portfolio of individual assets. In addition, we identify an important individual difference measure (individuals' propensity to spend more when asset values increase) that is correlated with the effect of asset value increases on purchase.

Study 3 uses data from the 2004 Survey of Consumer Finances to study how individuals' propensity to spend asset value increases relates to measures of individual debt. We find that individuals who are more likely to spend asset value increases have higher overall debt than those who are less likely to spend asset value increases. More specifically, the former have higher credit card debt and mortgages than the latter. Taken together, these results suggest that individuals use a motivated reasoning approach to discount the impact of uncertain wealth decreases on spending, while allowing uncertain wealth increases to increase purchase likelihood. A consistent pattern of such motivated reasoning likely leaves individuals spending more than their means, contributing to greater individual indebtedness and higher interest payments.

Implications

Increasing purchase likelihood. Price discounts are one of the most popular tools used by marketers to increase store visits and purchase likelihood (Blattberg, Briesch, and Fox 1995), providing individuals with price savings as well as non-price benefits (Chandon et al. 2000). Recent research suggests that these non-price benefits may be more pronounced for hedonic versus utilitarian products (Khan and Dhar 2007). In addition to emphasizing price savings when individuals are considering purchases of hedonic products, another method of increasing purchase likelihood may be to emphasize unexpected wealth increases. Indeed, stores often allow individuals to file for tax refunds in-store, and use the unexpected

wealth increase to purchase products. Emphasizing other sources of unexpected wealth increases (e.g., stocks when the bourses are on the rise, or home values when real estate is appreciating) may also prompt higher individual spending.

Individual debt. Individuals often use mental accounts to control their spending and consumption (e.g., Thaler, 1999). However, unexpected asset and income changes may allow individuals to justify indulging in otherwise constrained activities. We find that motivated individuals use wealth changes selectively to justify purchases of hedonic products: while decreases in value of uncertain assets are discounted and affect purchase likelihood less than income decreases, increase in the value of uncertain assets affects spending in a manner similar to income increases. One consequence of spending asset value increases is higher individual debt when these increases cannot be supported by income increases, as demonstrated in study 3 by data from the 2004 SCF.

“Planning to Make Unplanned Purchases? The Role of Discretionary Budgets In In-Store Decision Making”

*Karen M. Stilley, University of Pittsburgh
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Researchers and practitioners alike have commonly assumed that unplanned purchases (i.e., Heilman, Nakamoto and Rao 2002; Park, Iyer and Smith 1989) are largely due to consumer susceptibility to in-store stimuli. On the other hand, two major studies have reported the surprising finding that actual spending closely approximated spending intentions despite the fact that over 50% of purchases were unplanned (Kollat and Willett 1967; POPAI 1995). In this paper, we draw upon mental budgeting to provide an explanation for this paradox.

While economists have traditionally assumed that money is fungible, research has shown that consumers use a form of mental budgeting where they allocate money to mental accounts and resist further purchases when the budget is depleted (Heath and Soll 1996; Thaler 1985). While studies have found that consumers have budgets for groceries in general (Heath and Soll 1996; Heilman et al. 2002), we take this further to propose that consumers have a mental budget, even if implicit, at the shopping trip level. Furthermore, we posit that consumers anticipate the occurrence of unplanned purchases in their spending expectations because they realize they do not have enough time or cognitive resources to fully plan (i.e., Bettman 1979) and/or because they want to be able to make spontaneous decisions while in-store (e.g., Stern 1967).

Therefore, we first propose that consumers' shopping trip budgets are typically comprised of a *pre-allocated budget* (PAB) and a *discretionary in-store budget* (DIB). We conceptualize the PAB as the amount of money that the consumer has allocated to spend on items planned to the brand or product level and the DIB as the amount she expects to spend on unplanned purchases. We then make predictions about how the size of the DIB will vary depending on trip and consumer characteristics.

We employ two field studies to test our hypotheses. In Study 1, we use data from 2300 in-store intercepts from the Point of Purchase Advertising Institute's (POPAI) 1995 Consumer Buying Habits Study. Before they entered the store, respondents were asked what items they planned to purchase and how much they intended to spend. After they had checked out, interviewers recorded information regarding the actual items purchased and the actual amount spent. Since this dataset does not contain a direct measure of the PAB or DIB, we employ a two stage approach to test our hypotheses. In the first stage, we conduct a multiple regression analysis with planned spend as the dependent variable and use these results

to generate estimates of each consumer's PAB and DIB. In the second stage, we use our estimates of PAB and DIB to simultaneously conduct two multiple regressions where the dependent variables are number of unplanned purchases and amount spent. In Study 2, we conduct a field study with 100 respondents. In this study, we replicate the method employed by POPAI, however, in addition to total planned spend, we also ask respondents to estimate the cost of the items they planned to purchase (i.e., their PAB). This approach allows us to measure the respondents PAB and DIB. In addition, we measure psychographics such as planning tendency and shopping task orientation.

In both studies, we find incidence of the discretionary in-store budget. Consumers' mental budget for the trip includes room for unplanned purchases and the size of the DIB is a strong predictor of amount spent on unplanned purchases. Furthermore, we find consistent support for our hypotheses that the size of the DIB varies depending on trip and consumer characteristics. As predicted, we find that the DIB is larger for major trips than for fill-in trips and that this difference increases as household size increases. We also find that while higher income households have larger DIBs, they still exceed their larger budget by a greater amount. In Study 2, we show that an individual's shopping task orientation and, on major trips, their planning tendency are negatively related to the size of their DIB. Finally, we show that consumers spend \$0.50 per dollar in their DIB when they shop only the aisles where they need something, but spend \$0.95 per dollar in their DIB when they shop most aisles.

Our results have implications for both retailers and consumers. For retailers, this research suggests that in-store stimuli may simply serve to redirect *what* items consumers purchase rather than to encourage incremental spending. As a result, in-store stimuli may not actually be generating incremental sales. For consumers, more research is needed to determine whether a DIB is an effective technique for constraining spending or whether the DIB is creating a self-fulfilling prophecy that consumers buy unplanned items that they do not really need.

“The Prudent Shopper: Self-Control in Shopping”

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Consumers are often portrayed as victims of modern retail environments. They seem to respond readily to the arsenal of purchase triggers employed in retail stores, be they explicit marketing devices such as posters, sale signs, and product sampling (e.g. Anderson & Simester 1998), or more implicit cues within the shopping environment such as carefully selected background music and scents (e.g. Kotler 1973, North, Hargreaves, & McKendrick 1999). Indeed, much empirical research documents the substantial effectiveness of a wide variety of marketing actions at boosting sales (see, for example, Neslin 2002 for a comprehensive review of sales promotion effects).

In a series of field experiments conducted at a local convenience store, we demonstrate that consumers can sometimes oppose spending influence attempts: purchase inducing cues, instead of motivating consumers to spend, can sometimes backfire, making more salient the possibility of diverging from the higher-order goal of acting prudently by overspending, and putting consumers into a more frugal state of mind instead of the extent that these consumers can end up spending less than they otherwise would (Fishbach, Friedman, & Kruglanski 2003, Trope & Fishbach 2000). In each experiment, we monitored and analyzed consumers' spending behavior under different conditions. Across all three experiments,

we consistently employed an offer of a shopping basket as the primary vehicle via which we prompted store customers to spend, hence making salient the possibility of overspending to consumers and potentially triggering them to monitor their shopping.

Experiment 1 ($N=356$) was designed to investigate the basic effects of external spending triggers on consumer spending. Two hundred customers were randomly assigned to one of two experimental conditions. Upon entering the store, half of these customers were first offered a \$1-off coupon by a research assistant disguised as a store clerk; immediately after the customers accepted the coupon, the research assistant offered them a regular shopping basket from the store ("basket-offered" condition). During the same time that we conducted this experiment, we also collected the shopping receipts of (156) customers who were offered neither the coupon nor the shopping basket (control condition). Whereas those who were offered only the coupon did not differ in average spending compared to control customers who were offered neither a coupon nor a basket ($p=.94$), customers who were offered both the coupon and the basket spent significantly less than those in the other two conditions (both $ps<.05$). In two follow-up prediction studies (using both a between-subjects design and a within-subjects design), we showed that this prudent shopping effect conflicts with lay beliefs: respondents in both studies mispredicted that customers offered a shopping basket would spend more, not less. Consistent with Fishbach, Friedman, and Kruglanski (2003), these studies also suggest that the activation of the prudent shopping goal (as a result of a spending prompt) is automatic.

An underlying assumption of our self-control account is that cognitive resources are required for deliberately exercising vigilance and prudence in spending (Baumeister et al. 1998, Shiv & Fedorikhin 1999) even if the initial activation of the prudent spending goal can be automatic (Fishbach, Friedman, & Kruglanski 2003). In our shopping context, this assumption implies that when consumers experience significantly reduced cognitive capacity, they should be less capable of exercising self-control when confronted with spending motivators and could perhaps spend even more than they normally would. We thus sought support for the self-control account in Experiment 2 ($N=150$) by manipulating consumers' cognitive ability to exercise prudence during shopping. In this experiment, customers who entered the store were approached before shopping for an experiment purportedly designed to study "the effects of shopping on memory." Half the customers were asked to memorize a random two-digit number ("low-load" condition), whereas the other half were asked to memorize a random eight-digit number ("high-load" condition); all participants were also given both a \$2-off coupon and a shopping basket and told that they would have to reproduce the correct number upon exiting the store after shopping to qualify for the \$2 coupon redemption. The results of this experiment revealed that customers under higher cognitive load spent significantly more, compared to both customers under lower cognitive load and those in the control condition who were not given the memorization task (both $ps=.04$), corroborating the self-control account in explaining the prudent shopping effect.

In Experiment 3 ($N=120$), we tested the self-control account more directly by examining both the situational and chronic mindsets of consumers after being prompted to spend. Specifically, using a post-shopping survey, we (1) examined consumers' attitudes toward spending (i.e. how frugally they spent) after receiving a basket offer (Lastovicka et al. 1999), and (2) considered the degree to which the prudent shopping effect depends on consumers' chronic impulsiveness to spend (Puri 1996). Consistent with our predictions, the results revealed that the prudent shopping effect was more

pronounced among impulsive shoppers who would benefit more from external cues that reminded them to be cautious not to overspend ($p<.05$). Results from the post-shopping survey also indicated that customers who were prompted to spend with a shopping basket offer rated themselves as more frugal compared to those who did not receive the basket offer ($p=.03$), further supporting the self-control account.

Overall, our results suggest that some marketing initiatives designed to increase consumer spending may backfire with some consumers in that they might suppress rather than boost spending. Further research is needed to examine such implications as well as boundary conditions for this prudent shopping effect.

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