

Work Versus Windfall: An Exploration of Saving on Subsequent Purchase

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Abstract

Previous research has examined the effects of discounts and promotions on the future performance of a brand or store. However, no attempts have been made to explore how a consumer psychologically accounts for the way a savings is obtained or how that accounting process affects subsequent purchase decisions. This research employs an experimental approach to test the hypothesis that buyers will spend more (save less) of a savings that they obtain from a windfall gain than an equivalent amount obtained from a worked-for savings. Results are generally supportive of the hypothesis, revealing that consumers do treat savings differently depending on how they are obtained. This finding appears to hold over a wide range of saving magnitudes.

Few would disagree that consumers like to save money on the items that they buy. Frequently, consumers work at saving money through active searches such as comparative shopping. However, consumers often save money via windfall when items they intend to purchase offer unexpected reductions in price. Obviously, these two means of saving differ, but does the way in which they differ—that is, the way in which money is saved—affect the way it is subsequently spent?

This research draws on mental accounting theory to understand how different methods of obtaining savings influence subsequent buying behavior for planned consumer purchases. Framed in this context, we specifically address this question: How does the manner in which a savings is obtained (work versus windfall) affect the magnitude of spending on that or subsequent items in the same shopping trip? In the next section, we present theoretical arguments for why consumers might treat savings differently depending on how they are obtained. We then test our hypothesis in a scenario-based empirical study. Following a discussion of the results, we conclude with implications of our findings.

1. Theoretical background

Traditional economic theory has eschewed the possibility that buyers engage in psychological accounting, suggesting that choices are made based on rational or normative principles.

Katona (1974, 1975) and others (Hogarth and Reder, 1986; Van Praag, 1985) have challenged this view by arguing for the inclusion of psychological variables in economic behavioral theory.

Prospect theory (Kahneman and Tversky, 1979, 1984; Tversky and Kahneman, 1981) incorporated psychological variables by replacing the utility function from economic theory with a value function that considers the subjective value of losses and gains and allows framing effects to impact choice decisions. The prospect value function is defined over single outcomes. In developing an explanation for the framing and evaluation of joint outcomes, Tversky and Kahneman (1981) employed the notion of a psychological account.

Thaler built on the concept of psychological accounts to develop the theory of mental accounting (Thaler, 1980, 1985; Thaler and Johnson, 1990), which introduces price directly into the value function to create a reference price. Thaler's theory assumes that individuals have explicit or implicit mental accounting systems that frequently cause them to violate the economic principle of fungibility. While rational economic theory tells us that a dollar is a dollar, Thaler suggests that money frequently does come with labels attached. In one example a couple go on a fishing trip, pack the salmon that they catch, and send home the salmon on an airline, but the fish are lost in transit. The airline reimburses them with \$300, and they use \$225 of this to go to a fancy restaurant—even though they never had spent this much at a restaurant before. Thaler suggests that they behaved this way because they put the \$300 into both “windfall gain” and “food” accounts. In contrast, the extravagant dinner would not have occurred if both partners had received a \$150 salary increase. Tests of Thaler's theory have supported that mental accounts are arranged by topic (e.g., clothing account, home electronics account, and vacation account). However, the theory offers no insight into the level of detail at which these accounts exist.

There is little literature examining the differences between worked-for and windfall occurrences. In an experiment by Arkes et al. (1990), half of the subjects knew in advance that they would be paid \$3 for their participation, while the other half learned of the payment at the experimental session. Subjects were then allowed to gamble this \$3 on a single bet. Those in the windfall condition spent about twice as much on the gamble as those who knew of the payment in advance, suggesting that lack of anticipation is a key factor in the willingness to spend windfall gains.

Mental accounting theory suggests that if buyers have a set reference price before they shop, they have already allocated this amount to a “spend” account. When a windfall savings is obtained, buyers are left with extra money in their spend account and are therefore willing to deplete this account by making additional or more expensive purchases. By contrast, a decision to work for a savings may indicate that a reference price was not as firmly preset and is therefore more susceptible to being adjusted downward during the course of the shopping trip. Thus, drawing on mental accounting theory, we propose that

Buyers will spend more of a savings obtained from a windfall gain than an equivalent savings obtained from work.

2. Methodology

2.1. Overview

An experiment was conducted to examine the buying behavior of consumers under windfall and work conditions. The approach involved the use of scenarios which asked 140 students to predict how they would handle savings obtained during a shopping trip.

2.2. Manipulation of work versus windfall

Our work condition involves situations in which the consumer consciously expends effort to save money; in the windfall condition, savings are unplanned and unexpected and involve no effort by the consumer. An example scenario for each of the conditions is included in the appendix. The scenarios are identical except that the buyer saves money in two different ways. In the windfall condition, the buyer is surprised to discover that the store is running a special; in the work condition, the buyer decides to comparison shop and through effort finds a store running an identical special.

A total of seven scenarios were used, involving a range of products and savings levels. These are summarized in Table 1. In some scenarios the consumer planned to purchase a single item (e.g., a sofa). In other scenarios the consumer planned to buy two items (e.g., a telephone and calculator), and the savings occurred on the first product purchased.

2.3. Procedure

Data were collected using a combined within- and between-subjects design. Using random assignment, half the subjects received booklets containing windfall scenarios; the other

Table 1. Average percentage of savings allocated to each category for each scenario: Windfall and Work conditions

	Television/ VCR	Phone/ Calculator	Shoes/Jean	Plane Ticket/ Hotel Room	Television	Sofa	Car
Windfall:							
Save	39.6%	53.7%	51.8%	14.6%	51.5%	35.8%	64.8%
First item	40.9	25.7	10.9	—	46.9	7.5	—
Second item	16.9	19.9	17.0	5.8	—	—	—
Other	2.6	0.7	20.2	79.7	1.6	56.7	35.2
Work:							
Save	46.6	59.6	59.3	16.8	52.1	36.8	82.9
First item	33.6	19.6	7.9	—	46.2	9.0	—
Second item	18.7	18.2	11.1	4.0	—	—	—
Other	1.1	2.5	21.7	79.2	1.6	53.9	17.1
Gain	\$50	\$10	\$15	\$75	\$50	\$100	\$800

Note: Due to rounding and a few instances where the respondent allocated less than 100 percent of the gain, these results do not always sum exactly to 100 percent.

half received work scenarios. Following a 45 minute distraction, those subjects who previously received work scenario booklets now received windfall scenarios and vice versa. Several questions concerning covariate measures and a background variable were included in the final pages of the second booklet. Scenarios were pretested to ensure that the stated dollar savings were both realistic and capable of creating sufficient variance in subjects' responses.

2.4. Measures

Although our primary focus was the amount of money saved, the scenarios gave respondents a variety of options intended to reflect the choices a consumer has in a typical shopping trip. Subjects used a fixed-sum-scale dependent variable to allocate savings among options at the end of the scenarios. The savings option "Save _____ for some unspecified future use" was included in all scenarios. The remaining options involved a variety of ways of spending the savings. These included upgrading the initial purchase, spending more on a previously planned subsequent purchase, or purchasing something else in the store.

Two covariates were used to capture differences that might obscure treatment effects. The first covariate was designed to determine individual reference prices (since no product prices were mentioned in the scenarios) by asking subjects to indicate how much they would be likely to spend, on average, for each of the items. Second, to assess subjects' "willingness to spend," we asked subjects to rate (using a five-point scale) how close they felt the amount they would spend was to the amount an average person in their peer group would spend. In addition, gender was included as a background variable.

3. Results

Table 1 summarizes the average amount (converted to percentages) that the respondents allocated to each category for each scenario. The bottom row shows the total savings available for each scenario. For example, on average, respondents saved \$19.80 ($= .396 \times \50) of the windfall savings in the television/VCR scenario.

Table 1 shows that the patterns vary widely across the different scenarios. Overall, there seems to be a tendency to save a substantial portion of the gain. On average (across the seven scenarios and two conditions), respondents saved 47.6% of the savings. The notable exception was the plane ticket/hotel room scenario where little was saved. Although not conclusive, the results suggest a u-shape effect: people tended to save a larger percentage if the gain was small (\$10–\$15) or large (\$800) and to save less when the gain was in the moderate \$50–\$100 range. A possible explanation for this is that small gains (below some threshold) seem more like "change" and are pocketed. Large gains may get allocated to an "assets" account and reserved for future spending, whereas moderate gains are returned to the "spend" account.

In all seven scenarios more was saved in the work condition than in the windfall condition—although some of the differences are small. To formally test our hypothesis that shoppers will spend more of a windfall gain than a gain they worked for, we first ran a one-way

within-subjects ANOVA for each scenario with the dollars saved as the dependent variable and the two-level work versus windfall factor as the independent variable.¹

The results in Table 2 show that while all differences are in the expected direction, only four of the seven scenarios yielded significant results.² Three of the four scenarios that specified a subsequent purchase were significant. The plane ticket/hotel room scenario differed from the other three in that an upgrade to the initial purchase was not an option. However, the major difference in this scenario was that there was very little variance in the responses: a large majority (78.6%) spent the entire gain, while only a few (12.1%) saved the entire amount. Perhaps individuals respond more hedonically when it comes to vacations.

Of the three scenarios that didn't specify a subsequent purchase, only the car scenario was significant. While highly significant ($p = 0.0001$), the wording of the work condition may have influenced the results. In this condition, savings resulted from lengthy negotiations with the dealership. However, in car purchases, the customer is usually bargaining over a particular car with particular options and is therefore unlikely to upgrade the model or add on extras once the savings is obtained.

Results from ANCOVA indicate that the reference-price covariate was significant at the .10 level or better in all but the car and plane ticket/hotel room scenarios. The comparative willingness to spend covariate was significant at the .09 level only for the television scenario.

Table 2. ANOVA results for each scenario

Scenario	Method of Obtaining Savings	Mean Amount Saved	F Value	p-Value
Television/VCR	Work	23.29	6.26	0.0135
	Windfall	19.82		
Television	Work	26.07	0.04	0.8327
	Windfall	25.75		
Shoes/jeans	Work	8.89	5.02	0.0266
	Windfall	7.76		
Phone/calculator	Work	5.96	2.73	0.1010
	Windfall	5.37		
Car	Work	663.21	39.41	0.0001
	Windfall	518.21		
Sofa	Work	36.75	0.11	0.7427
	Windfall	35.82		
Plane ticket/hotel room	Work	12.57	1.15	0.2849
	Windfall	10.93		

Note: Sample size for each treatment condition = 140.

3.1. Aggregate analysis

The data from each respondent for each scenario and condition were combined in a regression analysis using the percentage saved as the dependent variable. Independent variables included a work versus windfall dummy variable and dummy variables to capture differences across the seven scenarios. In addition, gender, willingness to spend, and reference price were included. Because it is likely that the effect (i.e., the coefficient) for reference price will vary across scenarios, separate reference price variables were created. For example, the stated reference prices for cars were typically in the \$10,000 to \$20,000 range compared with \$20 to \$75 for a phone. Thus, we allowed the coefficients to vary by scenario. The effects of the willingness to spend measures were also allowed to vary across scenarios.

The results summarized in Table 3 confirm the conclusions from the separate ANOVA/ANCOVA analyses. In particular, respondents saved less of a windfall gain than a worked for gain. Not unexpectedly, four of the six scenario dummy variables are significant, meaning that the average percentage saved differed across the scenarios. For example, respondents saved a greater percentage in the television/VCR scenario compared to the plane ticket/hotel room scenario. Confirming the stereotype, the women respondents in our study saved less than the men. As before, the reference price was significant for the television/VCR,

Table 3. Regression results for all scenarios

Variable	Standardized Estimate	t-Statistic	p-Value
Windfall	-0.07	-3.02	0.0026
Scenario dummies:			
Television/VCR	0.52	4.61	0.0001
Shoes/jeans	0.13	1.04	0.2964
Phone/calculator	0.33	2.87	0.0041
Television	0.59	5.25	0.0001
Sofa	0.10	0.87	0.3826
Car	0.47	3.92	0.0001
Female	-0.07	-3.03	0.0025
Reference prices			
Television	-0.18	-2.58	0.0101
Shoes	0.18	2.04	0.0417
Phone	-0.09	-1.83	0.0669
Sofa	-0.09	-2.09	0.0370
Car	0.06	1.02	0.3094
Plane ticket	-0.02	-0.38	0.7060
Willingness to spend:			
Television	-0.32	-3.42	0.0006
Shoes	-0.08	-1.16	0.2471
Phone	-0.01	-0.17	0.8672
Sofa	0.06	0.67	0.5039
Car	-0.16	-1.72	0.0857
Plane ticket	-0.06	-0.73	0.4674

shoes/jeans, television, sofa, and phone/calculator (at the .10 level), but not for the car or plane ticket/hotel room scenarios. When significant, reference price was negatively related to saving in all but the shoes/jeans scenario. We expected that individuals with higher internal reference prices would save less than individuals with lower reference prices. The positive coefficient for the shoes/jeans scenario is counterintuitive. Finally, the willingness to spend measure was significant and negative only for scenarios with a television, indicating that those respondents who believe they are more willing to spend than their peers tended to save less.

3.2. Where did the savings go?

The analyses reported so far have considered the amount or percentage saved, which was our primary focus. However, in addition to saving the gain, the scenarios gave respondents several options for spending the gain. To see whether any consistent pattern of spending emerged, we ran a MANOVA for each scenario using all the response categories (rather than just the amount saved). The independent variable was the work versus windfall factor. Table 4 summarizes how respondents allocated their gains in the windfall condition as compared with the work condition. For example, in the television/VCR windfall scenario, respondents saved less and spent significantly more to upgrade the first purchase (i.e., the television) as compared with the work scenario. In the shoes/jeans scenario, respondents again saved less in the windfall condition but here spent it to upgrade the second purchase (i.e., the jeans). Overall, with the exception of the car scenario, there were no significant differences between the windfall and work conditions for spending on “other” for any of the scenarios. Beyond this, few patterns emerge. It is likely that the nature of the products, including the range of choices available, will impact whether and how consumers spend a savings.

4. Discussion

Our results provide some evidence that buyers do treat work and windfall savings differently. Individuals appear to attach subjective values to money and, in turn, set up different accounts depending on how money is saved. In the case of windfall, buyers tend to allocate dollars saved to a “spend now” account when specific subsequent purchases are planned.

Table 4. How windfall condition spending compares to work condition spending

	TV/VCR	Phone/ Calculator	Shoes/ Jeans	Plane/ Hotel	TV	Sofa	Car
Save	Less	Less ^a	Less	Same	Same	Same	Less
Upgrade first purchase	More	More	Same	n/a	Same	Same	n/a
Upgrade second purchase	Same	Same	More	More ^a	n/a	n/a	n/a
Spend on other	Same	Same	Same	Same	Same	Same	More

^aSignificant at 0.10 level.

When only one item was intended for purchase, buyers tended to treat work and windfall savings equally. Of additional interest is the discovery that the phenomenon holds for varying magnitudes of savings, ranging from \$10 to \$800.

Understanding how psychological responses to types of savings affect subsequent purchases has implications for pricing and promotion decisions. If consumers are more likely to spend windfall savings, unadvertised specials may offer a previously unsuspected bonus to retailers. (This is not intended to suggest that unadvertised specials are preferable but rather that they may have a more pleasant side effect than previously suspected.) In a similar vein, the findings suggest that "economics of information" signs (such as those used by Russo, 1977) may have additional benefits. For example, ways of showing consumers how they are saving money, such as comparative savings-per-basket signs in supermarkets, may make them more likely not only to shop at the particular store—but to spend more money there too.

The finds also imply that in-store coupons can be less costly to retailers than mailed-out coupons when used. Compared to mailed-out coupons, which usually require some consumer effort (e.g., clipping, storing, carrying), in-store coupons are windfalls. If consumers are more likely to spend the windfall coupon savings within the store, total retailer revenues increase.

Several limitations should be acknowledged. Our primary goal was to explore whether worked-for versus windfall savings would have different effects on subsequent purchasing decisions in an array of contexts. However, our desire to examine a number of divergent products and buying situations resulted in a weakened level of control. Future research is needed to specifically determine the effects of single versus multiple purchases, magnitude of savings, and product classes differences.

For multiple-purchase scenarios, uncertainty regarding the effects of product desirability created a possible confound. An interesting follow-up study would be to rotate the order of the products in those scenarios involving two purchases. Specifically, half the respondents would get a savings on shoes before buying jeans, and half on the jeans before buying shoes. A finding that respondents were more likely to upgrade the first purchase in both cases might imply that the "accounts" are quite specific and that a gain on one item is less likely to be allocated for spending on a subsequent item.

Finally, the use of scenarios limits the generalizability of our results. What respondents say they would do ultimately may be different from how they would behave in a more natural situation where many uncontrolled variables coexist. Future research could include naturalistic methods to increase external validity and process-tracing techniques to increase understanding of why normative principles are violated.

This study offers an initial step toward understanding how mental accounting processes impact consumers' subsequent purchasing decisions, but other questions remain to be explored. One such question is whether the effects are the same for "related" (e.g., television and VCR) and "unrelated" (e.g., television and jeans) purchases. In addition, while this study seems to indicate that the effects hold under divergent levels of savings, further research could address the question of the effects of magnitude of savings on subsequent purchase to determine whether the effects have a monetary threshold or particular functional form.

Most consumer behavior research has dealt with decision making regarding single purchases—typically the selection of a single alternative from some choice set. While this

research has often been important and insightful, it has left a realistic piece of the puzzle unexplored. In many (most?) consumer-choice situations, multiple not single purchases are made, and, given the current trends in retailing (e.g., super stores like Hypermart), shopping trips that involve single purchases are likely to become more a rarity than a rule. There is much to explore regarding multiple purchases, and we have looked at just one aspect in which initial purchases can influence subsequent decision making.

Appendix

The following scenario presents the windfall condition:

The weather forecast calls for a thunderstorm, so you decide it's a good time to rent a movie and stay at home. Unfortunately, lightning from the storm causes a power surge that fries both your TV and VCR. Luckily, you have insurance and are able to repurchase both items. After receiving your insurance check, you head for your local electronics store to make your purchases. Upon entering the store, you decide to first examine the television sets. To your surprise, the store is running a special which offers \$50 off any television set. Given that you are saving \$50 off what you expected to pay, indicate what you would do with this savings by allocating it to one or more of the following categories. You may allocate all the savings to one category or in any proportion among categories—but the total must sum to \$50.

- Save _____ dollars for some unspecified future use.
- Upgrade TV: Spend _____ dollars on a better TV set.
- Upgrade VCR: Spend _____ dollars on a better VCR.
- Other purchase: Spend _____ dollars on something else in the store.

The work condition is identical, except that the sentence beginning with "To your surprise" is replaced with the following two sentences.

You aren't particularly satisfied with the prices, so you decide to shop around for the best buy. After spending half your Saturday traveling from one store to another, you find a store that is offering \$50 off on any television.

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Notes

1. A two-way ANOVA with order of treatment as the second factor indicated that order effects were not present. Although the data violated assumptions of normality, Scheffe (1959) has demonstrated that for the fixed-effects

- model, lack of normality is not an important matter, especially when sample sizes are large and factor-level sample sizes are equal. Even under violations of normality, the point estimates of factor-level means remain unbiased, and the F test is little affected in terms of level of significance or power of the test. More important, homogeneity of variance, an assumption of greater concern, was not violated for any of the scenarios.
2. ANCOVA is not used for reporting the basic treatment results for the within-subjects analysis because there were cases of missing values for the covariates while full information was available for the treatment variable. By the nature of the within-subjects portion of this design, covariates will have no effect on the treatment results, as such using the full ANCOVA model for treatment analysis serves only to reduce sample size for the analysis. This is not the case for between-subjects analysis. The full ANCOVA within-subjects model is presented later to test the significance of the covariates.

References

- Arkes, H.R., C.A. Joyner, J. Nash, M. Pezzo, C. Christensen, W. Schweigert, L. Boehm, K. Siegel-Jacobs, and E. Stone. (1990). "The Psychology of Windfall Gains." *Convention of the Psychonomic Society*, New Orleans (November).
- Hogarth, R., and M.W. Reder. (1986). "Perspectives from Economics and Psychology." *Journal of Business*, 59, 185-207.
- Kahneman, Daniel, and Amos Tversky. (1979). "Prospect Theory: An Analysis of Decision Under Risk." *Econometrica*, 47 (March), 263-291.
- Kahneman, Daniel, and Amos Tversky. (1984). "Choices, Values, and Frames." *American Psychologist*, 39 (April), 341-350.
- Katona, George. (1974). "Psychology and Consumer Economics." *Journal of Consumer Research*, 1 (June), 1-8.
- Katona, George. (1975). *Psychological Economics*. New York: Elsevier.
- Russo, J. Edward. (1977). "The Value of Unit Price Information." *Journal of Marketing Research*, 14 (May), 193-201.
- Scheffé, Henry. (1959). *The Analysis of Variance*, New York: John Wiley & Sons.
- Thaler, Richard H. (1980). "Toward a Positive Theory of Consumer Choice." *Journal of Economic Behavior and Organization*, 1 (March), 39-60.
- Thaler, Richard H. (1985). "Mental Accounting and Consumer Choice." *Marketing Science*, 4(3) (Summer), 199-214.
- Thaler, Richard H., and Eric J. Johnson. (1990). "Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice." *Management Science*, 36(6) (June), 643-660.
- Tversky, Amos, and Daniel Kahneman. (1981). "The Framing of Decisions and Psychology of Choice." *Science*, 211 (January), 453-458.
- Van Praag, B. (1985). "Linking Economics with Psychology: An Economist's View." *Journal of Economic Psychology*, 6, 289-311.