Promotion and Prevention across Mental Accounts: When Financial Products Dictate Consumers' Investment Goals

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We propose that consumers' investment decisions involve processes of promotion and prevention regulation that are managed across separate mental accounts, with different financial products seen as representative of promotion versus prevention. Consistent with this hypothesis, we show that (*a*) investors are differentially sensitive to gains and losses and differentially risk seeking depending on the financial products being considered and (*b*) that these phenomena occur because of strong associations between financial products and promotion versus prevention. Therefore, investors' goals may be determined by the investment opportunities under evaluation rather than being independent of these opportunities, as is assumed in standard finance theory.

No theory of consumption can be complete without an understanding of how consumers manage their wealth. After all, consumption requires money, and money is for consumption. It is therefore surprising that consumer research has paid so little attention to consumers' investment decisions. In this article, we propose that consumers' investment decisions are guided by self-regulation systems called promotion and prevention (Higgins 1998). The promotion system is invoked to achieve financial gains, and the prevention system is invoked to avoid financial losses. Although, ideally, achieving financial gains and avoiding financial losses should be addressed simultaneously, we suggest that these concerns are managed separately across mental accounts: one account for promotion and another for prevention. Because consumers learn to associate different financial products with either promotion or prevention, their investment decisions can be unduly influenced by the motivational orientations (promotion or prevention) associated with different financial products. In particular, consumers' investment goals may be determined by the type of financial products under evaluation rather than being independent of the investment alternatives as standard finance theory would suggest.

Results from four experiments show that (*a*) investors are differentially sensitive to potential gains versus potential losses depending on the financial products involved; (*b*) investors are differentially risk seeking with money mentally associated with different financial accounts; (*c*) the mere evaluation of different financial products activates distinct promotion versus prevention orientations; and (*d*) the activation of promotion versus prevention orientations steers investors' decisions toward financial products that are consistent with these orientations. Taken together, these results indicate that investment decisions involve processes of promotion and prevention self-regulation that are managed across different mental accounts, with different financial products seen as representative of promotion versus prevention.

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SELF-REGULATION ACROSS FINANCIAL PRODUCTS

Investing as Mean-Variance Optimization

According to standard finance theory, investment decisions should be based on trade-offs between the expected returns of the available alternatives (e.g., individual stocks, mutual funds, real estate) and the risks associated with these alternatives (generally operationalized as the variance in each alternative's returns). This idea, known as mean-

variance optimization, emanates from the observation that assets with higher expected returns typically also have greater variability of returns. Modern portfolio theory (Markowitz 1952) holds, for instance, that, for any collection of securities, there is an efficient set of diversified portfolios that minimizes risk for given levels of expected returns and maximizes expected returns for given levels of risk. Rational investors should choose their portfolios from this efficient set and select the one that maximizes their utility given their own attitudes toward risk (i.e., how much they would personally trade variance for expected returns).

Although the purpose of this research is not to test standard finance theory per se, our findings bear on two central tenets of the theory. First, according to the theory, risks and returns should be considered simultaneously, not separately, when evaluating investment opportunities. Second, it is the investors' relative preference for risks versus expected returns that should dictate their evaluations of investment alternatives, not the reverse (i.e., the alternatives themselves should not determine investors' preference for risks vs. expected returns).

Investment Decisions as Self-Regulation

Because investment decisions are typically made to fulfill goals that are distant in time, these decisions are likely to be guided by processes of self-regulation. Self-regulation refers to the processes that individuals use to set their goals, select means to attain these goals, and assess progress toward these goals (e.g., Carver and Scheier 1998). According to regulatory focus theory (Higgins 1998), self-regulation involves two separate systems called promotion and prevention. The promotion system, which originates in the regulation of nurturance needs, relies on approach strategies when regulating toward desirable ends (e.g., practicing for several hours a day to become a good tennis player). This system is especially active under the pursuit of ideals, that is, the pursuit of wishes, dreams, and aspirations. In contrast, the prevention system, which originates in the regulation of security needs, relies on avoidance strategies when regulating toward desirable ends (e.g., refraining from smoking to become a good tennis player). The prevention system is especially active under the pursuit of oughts, that is, under the fulfillment of responsibilities, obligations, and duties.

Although both systems are assumed to coexist in every individual, one or the other may be temporarily or chronically more accessible. For instance, the promotion system can be made temporarily more accessible by priming a person's ideals (e.g., Higgins et al. 1994; Pham and Avnet 2004) or by framing a task in an approach manner (e.g., to find more than 90% of the solutions; Roney, Higgins, and Shah [1995]). Similarly, the prevention system can be made temporarily more accessible by priming a person's oughts or by framing a task in an avoidance manner (e.g., not to miss more than 10% of the solutions). In addition, the promotion system seems to be chronically more accessible among people from individualist cultures (Lee, Aaker, and Gardener 2000) and people with strong and accessible ideals (e.g., Higgins et al. 1986). Similarly, the prevention system seems to be chronically more accessible among people from collectivist cultures and people with strong and accessible oughts. We argue that these two systems play an important role in consumers' investment decisions—a role quite different from that documented in previous research (see Pham and Higgins [forthcoming] for a review).

We propose that consumers contemplate investment decisions in terms of two basic goals: (1) achieving financial gains and (2) preventing financial losses. These goals resemble the standard finance trade-off between risks and returns, except that it is the prospect of losses that is posited to motivate consumers, not the variability of returns (the standard finance definition of risk). We further propose that concerns related to the achievement of financial gains are regulated by the promotion system and concerns related to the avoidance of financial losses are regulated by the prevention system. In sum, we argue that, even though investment decisions seem very specific, they are in fact guided by systems of self-regulation that are general.

Mental Accounting of Promotion and Prevention

Theoretically, both potential financial gains and potential financial losses should be weighted in investment decisions. This is consistent with the standard finance principle that risks and expected returns should be assessed jointly. If investment decisions are indeed regulated by the promotion and prevention systems, ideally, both systems should be activated simultaneously. Indirect evidence suggests, however, that these two systems tend to operate separately. It has been found, for instance, that promotion not only increases the speed with which promotion-consistent emotions are assessed but also decreases the speed with which prevention-consistent emotions are assessed. Prevention produces the opposite effects (Shah and Higgins 2001). Likewise, Pham and Avnet (2004) found that promotion not only increases the reliance on affective information (presumably more compatible with promotion) but also decreases the reliance on substantive information (presumably more compatible with prevention). Again, prevention produces the opposite effects. Therefore, the engagement of either system, promotion or prevention, seems to be accompanied by the disengagement of the other system (see also Brendl, Higgins, and Lemm 1995). How can two systems that appear to inhibit each other govern decisions that ideally would require both systems to operate jointly? This issue brings us to our main hypothesis.

There is compelling evidence that consumers tend to compartmentalize their consumption activities and financial matters into separate mental categories (e.g., Heath and Soll 1996; Thaler 1985). According to Thaler (1985, 1999), this compartmentalization makes the allocation of wealth more tractable and the control of consumption more effective. Brendl, Markman, and Higgins (1998) suggest that mental accounts serve a more general function. They argue that mental accounts are typically set up around salient goals. A primary motivation for setting up these accounts is that goals

often conflict with each other (e.g., working hard vs. spending time with the family). Creating multiple accounts, each with their own goals, provides a mechanism for allocating limited resources (e.g., wealth, time, energy) across conflicting goals and for sheltering each goal from the interference of competing goals. Consistent with these ideas, we postulate that consumers rely on two separate mental accounts in their investment decisions: one that calls on the promotion system to regulate the achievement of financial gains and the other that calls on the prevention system to regulate the avoidance of financial losses. This compartmentalization allows both systems to regulate investment decisions without interfering with each other. However, within each account, each mode of financial self-regulation—promotion or prevention—tends to be pursued to the exclusion of the other.

We also propose that, over time, consumers come to see different financial products as representative of promotion versus prevention through repeated exposure to business news, promotional materials, financial advice, and so forth. We speculate, for example, that, everything else being equal, common stocks and small business ownerships are seen as relatively more representative of promotion, whereas government bonds and certificates of deposits are seen as relatively more representative of prevention. Similarly, independent of the types of assets held in these accounts, brokerage/trading accounts tend to be seen as relatively more representative of promotion, whereas savings and retirement accounts (e.g., 401[k]s, IRAs) are seen as relatively more representative of prevention. Because financial products are categorized in terms of promotion versus prevention, which involve separate systems, trade-offs between financial gains and financial losses—the psychological equivalent of the trade-offs between risks and returns in finance—are not performed simultaneously but only across mental accounts.

Effects on Investment Behavior

Sensitivity to Gains versus Losses. A major difference between promotion and prevention is a differential sensitivity to positive versus negative outcomes (Higgins 1998). Being approach oriented, the promotion system is more sensitive to the presence or absence of positive outcomes such as praise, achievements, and gains. In contrast, being avoidance oriented, the prevention system is more sensitive to the presence or absence of negative outcomes such as criticisms, failures, and losses. We hypothesize that, because financial products are mentally categorized in terms of promotion versus prevention, these products themselves may spontaneously trigger states of promotion versus prevention. As a result, financial products representative of promotion will be evaluated with a greater sensitivity to potential gains and lesser sensitivity to potential losses, and financial products representative of prevention will be evaluated with a greater sensitivity to potential losses and lesser sensitivity to potential gains. This proposition is a significant departure from both standard finance theory and previous work on regulatory focus theory (Pham and Higgins, forthcoming). Unlike standard finance theory, which considers investors' goals an exogenous given, this proposition suggests that these goals may become endogenously determined by the alternatives themselves. Unlike previous work on regulatory focus theory, which has examined promotion and prevention as preexisting motivational states that influence judgments and decisions, this proposition suggests that these motivational states can also be triggered by the objects of judgments and decisions.

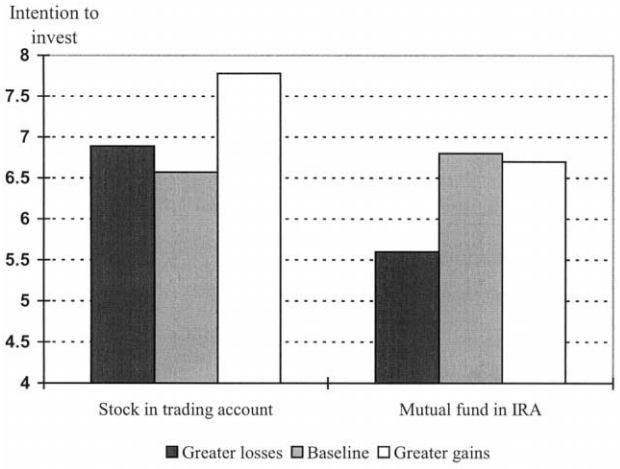
Risk Propensity. A major correlate of promotion versus prevention is a different propensity toward risk. In most situations, the activation of promotion entails greater risk taking, whereas the activation of prevention entails greater risk aversion. Two sets of mechanisms contribute to a difference in risk propensity across systems. First, because promotion centers on approaching matches to desired ends, this system creates an inherent drive to capture as many existing opportunities as possible (Higgins 1998). This drive generally translates into a more eager form of exploration and greater risk taking (e.g., Crowe and Higgins 1997; Pham and Avnet 2004). In contrast, because prevention centers on avoiding mismatches to desired ends, this system produces a drive to protect against potential mistakes. This drive generally translates into a more vigilant form of exploration and greater risk aversion. The difference in risk propensity is also a by-product of the two systems' differential attention to gains and losses. In many domains, options (e.g., surgery) with greater potential upsides (e.g., complete riddance of medical condition) also present greater potential downsides (e.g., life-threatening complications), whereas options (e.g., continuous medication) with smaller potential downsides (e.g., few side effects) are also those with smaller potential upsides (e.g., symptoms relief without complete cure). In a choice between (*a*) a risky alternative with greater upsides and greater downsides and (*b*) a conservative alternative with smaller downsides and smaller upsides, promotion focusing on positive outcomes would favor the risky option, whereas prevention focusing on negative outcomes would favor the conservative option.[1]

We therefore hypothesize, because financial products are mentally categorized in terms of promotion versus prevention, that these products themselves may spontaneously trigger different risk propensities. Financial products representative of promotion will engender greater risk seeking, whereas products representative of prevention will engender greater risk aversion. Again, this proposition departs from standard finance theory and previous work on regulatory

[1]Differential risk propensity is not a defining characteristic of regulatory focus, that is, promotion and prevention do not always mean risk seeking and risk aversion. It is only a correlate of the fact that, in most situations, capturing opportunities and achieving gains (promotion) generally increase risk, whereas preventing mistakes and avoiding losses (prevention) generally decrease risk. In situations where capturing gains does not entail greater risk and avoiding losses does not entail lower risk, promotion is not expected to produce risk seeking, nor is prevention expected to produce risk aversion. We return to this issue in the general discussion.

FIGURE 1

EXPERIMENT 1: INVESTMENT INTENTIONS AS A FUNCTION OF FINANCIAL PRODUCT AND PAYOFF



focus theory in that the investment alternatives themselves dictate the investors' risk attitudes and regulatory orientations.

Overview of the Studies

These ideas were tested across four experiments. Experiments 1, 2, and 4 were conducted among 722 adult consumers in the United States between spring 2000 and spring 2001. Experiment 3 was conducted among 107 university employees in Hong Kong in the fall of 2002. Experiment 1 tested the proposition that different financial products trigger asymmetric sensitivities to gains and losses. Experiment 2 tested the proposition that money mentally associated with different financial accounts is invested with different risk propensities. Experiments 3 and 4 provided more direct tests of the main hypothesis that different financial products are associated with distinct promotion versus prevention orientations.

EXPERIMENT 1

This experiment tests the prediction that different financial products may activate different promotion versus prevention orientations, resulting in asymmetric sensitivities to potential gains and potential losses across products. Respondents were presented with an investment opportunity involving either an individual stock in a trading account or a mutual fund in an IRA (individual retirement account). The gains and losses prospects of this investment opportunity were varied across respondents. It was predicted that, when evaluating an individual stock in a trading account (which is presumably more representative of promotion), respondents would be relatively more sensitive to potential gains than to potential losses. In contrast, when evaluating a mutual fund in an IRA (which is presumably more representative of prevention), respondents would be relatively more sensitive to potential losses than to potential gains.

Method

A total of 198 respondents were asked to imagine that they had $5,400 available and to evaluate an investment opportunity whose description was varied in a 2 × 3 between-subjects design. The first factor manipulated whether the investment opportunity was described as an individual stock offered in a trading account or as a mutual fund offered in an IRA. The second factor manipulated the potential payoffs of the investment opportunity. In the baseline condition, the opportunity was described as having an 85% chance of gaining 12% and a 15% chance of losing 4.5%. In the greater-gains condition, it was described as having an 85% chance of gaining 24% and a 15% chance of losing 4.5%. In the greater-losses condition, it was described as having an 85% chance of gaining 12% and a 15% chance of losing 13.5%. All respondents were told that gains and losses were to be realized in 1 yr. and that tax considerations were to be ignored. Respondents indicated their intention of investing in the opportunity on a nine-point scale.

It was predicted that the difference in investment intentions between the greater-gains condition and the baseline condition would be more pronounced in the stock-in-trading-account condition than in the mutual-fund-in-IRA condition. In contrast, the difference in investment intentions between the greater-losses condition and the baseline condition would be more pronounced in the mutual-fund-in-IRA condition than in the stock-in-trading-account condition.

Results

A 2 × 3 ANCOVA of the investment intentions, with income as a covariate, indicated that respondents were most willing to invest in the greater-gains condition ($M = 7.24$) and least willing to invest in the greater-losses condition ($M = 6.25$), with the baseline condition ($M = 6.68$) falling in between ($F(2, 189) = 3.86$, $p < .05$). Respondents were therefore sensitive to the payoff manipulation. They were also more willing to invest in the stock offered in the trading account ($M = 7.08$) than in the mutual fund offered in the IRA ($M = 6.37$; $F(1, 189) = 6.25$, $p < .02$).

More importantly, there was an interaction between payoffs and type of product ($F(2, 189) = 2.87$, $p < .06$). As illustrated in figure 1, in the stock-in-trading-account condition, investment intentions were significantly higher in the greater-gains condition ($M = 7.77$) than in the baseline condition ($M = 6.57$; $F(1, 189) = 6.14$, $p < .03$), which did not differ from the greater-losses condition ($M = 6.89$; $F < 1$). In contrast, in the mutual-fund-in-IRA condition, investment intentions were significantly lower in the greater-losses condition ($M = 5.60$) than in the baseline condition ($M = 6.79$; $F(1, 189) = 6.04$, $p < .03$), which did not differ from the greater-gains condition ($M = 6.70$; $F < 1$). Interaction contrasts confirmed that respondents were more sen-

sitive to the differences in losses in the mutual-fund-in-IRA condition than in the stock-in-trading-account condition ($F(1, 189) = 3.98$, $p < .05$) and more sensitive to the differences in gains in the stock-in-trading-account condition than in the mutual-fund-in-IRA condition ($F(1, 189) = 3.18$, $p < .07$).

Discussion

The results indicate that consumer investors may have asymmetric sensitivities to potential gains versus losses across financial products. When the investment opportunity was described as an individual stock in a trading account, respondents were more influenced by differences in potential gains than by differences in potential losses. However, when the opportunity was described as a mutual fund in an IRA, respondents were more influenced by differences in potential losses than by differences in potential gains. Given that respondents were explicitly told to consider a 1-yr. horizon and ignore any tax implications, this pattern of results cannot be explained by standard economic and finance principles.

We propose that the results arose because individual stocks and trading accounts are mentally associated with promotion, whereas mutual funds and IRAs are mentally associated with prevention. Decisions involving different financial products tend to trigger the motivational orientations typically associated with these products, which in turn result in asymmetric sensitivities to gains and losses. To the best of our knowledge, this study is the first to document that different regulatory orientations may be triggered by the options themselves. More direct evidence is provided in experiment 3.

EXPERIMENT 2

Experiment 1 suggests that equivalent investment opportunities made of different types of assets offered in different types of accounts trigger distinct promotion versus prevention orientations, which result in different sensitivities to potential gains and losses when evaluating these opportunities. Experiment 2 tests the prediction that, even if the type of asset is held constant, the mere association of investment capital to different types of financial accounts can trigger different promotion versus prevention inclinations in how this capital is invested outside these accounts. Specifically, money made available from a trading account will be treated with a stronger promotion focus and therefore invested in a more risk-seeking manner than money made available from a retirement account (an IRA), which will be treated with a stronger prevention focus and invested in a more risk-averse manner. Two forms of evidence were collected to document that these effects are caused by the differential activation of promotion and prevention. First, we show that the phenomenon is amplified when the respondents are encouraged to reflect on their goals, that is, when self-regulation is actively engaged. Second, we show that the observed changes in investment behavior are indeed mediated by differences in promotion versus prevention orientations.

Method

Design. A total of 271 respondents participated in a 2 × 2 between-subjects design. They were asked to imagine that $20,000 had become available for withdrawal from one of their accounts at no cost (no penalty, no fee, no tax, etc.). They could invest this money in a business venture where they had a 70% chance of earning an 18% return in 1 yr., and a 30% chance of losing 11% in 1 yr. The first factor manipulated whether the money had become available from a trading account or from an IRA. The second factor manipulated the salience of the respondents' investment goals. Before reading about the decision, respondents in the high-goal-salience condition were reminded of the importance of having clear objectives when making investment decisions and were encouraged to keep their investment objectives in mind when making their decisions. Respondents in the low-goal-salience condition did not receive such instructions.

Measures. Investment intentions were collected on a 9-point scale. The amount of money respondents were willing to invest (out of the $20,000) was measured in an open-ended manner. Respondents were also asked to write down reasons for their decisions. As a process measure of the activation of promotion versus prevention, respondents were asked to allocate 100 points between two concerns they might have had when making the decision: (*a*) gaining money and (*b*) avoiding losing money. Respondents also rated the amount of effort they put into making the decision on a 7-point scale.

Predictions. The decision implied a choice between the relatively safe option of leaving the money as cash in its original account and the relatively risky option of investing in the venture with its upsides and downsides. In such situations, promotion should favor risk seeking and prevention should favor risk aversion. It was therefore predicted that intentions to invest (and amount invested) would be higher when the money originated from a trading account (hypothesized to trigger promotion) than when it originated from an IRA (hypothesized to trigger prevention). Because the effects of promotion versus prevention should be stronger when self-regulation is actively engaged, it was also predicted that the effect of money origin would be stronger if respondents were asked to reflect on their investment goals. Finally, it was predicted that the effect of money origin on willingness to invest would be mediated by differences in concern for achieving gains versus avoiding losses, that is, differences in regulatory focus.

Results

Investment Intentions and Amount Invested. A 2 × 2 ANOVA of the investment intentions revealed a strong main effect of money origin ($F(1, 266) = 18.01$, $p < .001$;

TABLE 1

EXPERIMENT 2—MEANS AS A FUNCTION OF MONEY ORIGIN AND GOAL SALIENCE

	High goal salience		Low goal salience	
	Money from trading account ($n = 66$)	Money from IRA ($n = 70$)	Money from trading account ($n = 66$)	Money from IRA ($n = 68$)
Investment intention	6.45[a]	4.60[c]	5.36[b]	4.79[c]
Amount of money invested	$10,727[a]	$6,980[c]	$9,383[b]	$7,761[c]
Importance of achieving gains (%)	57.73[a]	42.17[b]	61.49[a]	40.78[b]
Importance of avoiding losses (%)	42.27[a]	57.83[b]	38.51[a]	59.22[b]

NOTE.—Different superscripts within each row indicate a significant difference at $p < .05$.

see table 1). As predicted, respondents were more willing to invest in the risky business venture when the money came from a trading account ($M = 5.91$) than when it came from an IRA ($M = 4.70$). Importantly, this effect interacted with goal salience ($F(1, 266) = 5.06$, $p < .05$). The tendency to take greater investment risks when the money came from a trading account (as opposed to an IRA) was more pronounced in the high-goal-salience condition ($M_{\text{Trading}} = 6.45$ vs. $M_{\text{IRA}} = 4.60$; $F(1, 266) = 21.24$, $p < .001$) than in the low-goal-salience condition ($M_{\text{Trading}} = 5.36$ vs. $M_{\text{IRA}} = 4.79$; $F(1, 266) = 1.97$, $p = .14$).[2] This amplification is consistent with a self-regulation interpretation. The main effect of goal salience was not significant ($F < 1$).

An ANOVA of the amount of money that respondents were willing to invest revealed a similar main effect of money origin ($F(1, 263) = 14.62$, $p < .001$). Respondents were willing to invest more when the money came from a trading account ($M = \$10{,}065$) than when it came from an IRA ($M = \$7{,}362$). Although the interaction was not significant ($F(1, 263) = 2.29$, $p = .13$), the effect of money origin was again slightly stronger under high goal salience ($M_{\text{Trading}} = \$10{,}727$ vs. $M_{\text{IRA}} = \$6{,}980$; $F(1, 263) = 14.51$, $p < .001$) than under low goal salience ($M_{\text{Trading}} = \$9{,}383$ vs. $M_{\text{IRA}} = \$7{,}761$; $F(1, 263) = 2.62$, $p = .11$). The main effect of goal salience was not significant ($F < 1$).

Mediation of Promotion versus Prevention. As anticipated, relative concern for achieving gains indicated that respondents were relatively more promotion oriented in the trading-account condition ($M = 59.57\%$) than in the IRA condition ($M = 41.48\%$; $F(1, 262) = 33.07$, $p < .001$). Equivalently, concerns for avoiding losses indicated that respondents were relatively more prevention oriented in the IRA condition ($M = 58.52\%$) than in the trading-account condition ($M = 40.43\%$). To test that this difference in regulatory focus mediated the effect of money origin on willingness to invest in the venture, we conducted four regressions. The first showed that respondents were more likely to invest when the money came from a trading account than when it came from an IRA ($\beta = 0.61$, $p < .001$). The second showed that respondents placed a greater weight on achieving gains (as opposed to avoiding losses) when the money came from a trading account than when it came from an IRA ($\beta = 9.07$, $p < .001$). The third showed that a greater concern for achieving gains (as opposed to avoiding losses) led to higher intention to invest ($\beta = 0.05$, $p < .001$). The final regression showed that the effect of money origin on investment intentions lost much of its significance ($\beta = 0.25$, $p = .07$) after controlling for concern for gains (Sobel's $Z = 4.95$; $p < .05$). In fact, 85.6% of the main effect of money origin on investment intentions was mediated by the difference in concern for gains versus losses across conditions.

Discussion

Respondents were found to be more willing to invest in a risky business venture with money originating from a trading account than with money originating from an IRA. This result suggests that the mere association of investment capital with different financial accounts triggers distinct promotion versus prevention orientations and, thus, different risk propensities. Three additional results support this interpretation. First, consistent with the idea that the phenomenon is linked to processes of self-regulation, the effect was amplified when respondents were encouraged to reflect on their financial goals. Second, respondents indeed had a greater concern for achieving gains (promotion) when the money came from a trading account and a greater concern for avoiding losses (prevention) when the money came from an IRA. Most importantly, the effect of money origin on investment intentions was almost entirely mediated by respondents' concern for achieving gains versus avoiding losses.

One could argue that although respondents were told to ignore any tax implications associated with the withdrawal of money from either account, some might still have factored in the tax advantages of IRAs. However, this explanation

[2] Although our hypotheses call for examining the simple effects of money origin within each level of goal salience, one could alternatively examine the simple effects of goal salience within each level of money origin. When the money came from a trading account, investment intentions increased significantly under high goal salience ($F(1, 266) = 7.24$, $p < .05$). However, when the money came from an IRA, investment intentions did not decrease significantly under high goal salience ($F < 1$). This null simple effect could be due to a floor effect or to a stronger chronic association between prevention and IRAs (compared to the association between promotion and trading accounts).

would not account for the finding that the main effect of money origin was almost entirely mediated by a difference in relative concern for gains versus losses. Moreover, in their open-ended responses, only seven of 271 respondents (2.6%) mentioned taxes as a consideration. (Omitting them leaves the main results unchanged.)

To account for the finding that the effect of money origin was stronger when respondents were reminded of their investment goals, one could also argue that such a reminder may have increased the amount of effort the respondents put into the decision, thereby reducing error rates in the high-goal-salience condition. However, a test of homogeneity of variance shows that the experimental error was equivalent across conditions ($F < 1$). Moreover, self-reports of amount of effort were also equivalent across goal salience conditions ($F(1, 262) = 1.4$, $p > .2$).

EXPERIMENT 3

In this experiment we attempt to provide more direct evidence that the phenomena observed in experiments 1 and 2 are caused by the mental categorization of financial products in terms of promotion versus prevention. If, as hypothesized, different financial products indeed trigger distinct promotion or prevention orientations, these orientations may carry over to unrelated tasks that are sensitive to promotion versus prevention. This experiment tests the prediction that different financial products can actually prime states of promotion versus prevention that will manifest themselves in subsequent judgments and choices. Respondents were asked to make several decisions involving either individual stocks offered in trading accounts or mutual funds offered in retirement accounts. After making these decisions, respondents performed two unrelated tasks that were expected to be sensitive to states of promotion versus prevention. It was predicted that respondents who had made decisions about individual stocks in trading accounts would perform these tasks in a more promotion-oriented manner, whereas those who had made decisions about mutual funds in retirement accounts would perform these tasks in a more prevention-oriented manner.

Method

Manipulation. A total of 107 respondents took part in two ostensibly unrelated studies. In the first study, respondents were asked to make three investment decisions similar to the decision respondents made in experiment 1. Each decision involved evaluating an investment opportunity whose return profile (payoffs and probabilities) was described. The opportunities' return profiles differed from one another but were held constant across conditions. The only experimental manipulation was of the type of financial product involved. In one condition, the three investment opportunities were labeled as individual stocks offered in a trading account. In the other condition, the opportunities were labeled as mutual funds offered in a retirement account.

Dependent Measures. After completing the first study, respondents were asked to complete two different tasks, both meant to assess their state of promotion versus prevention. The first task consisted of three separate consumption choices. The first choice was between two brands of grape juice. Brand A was described as rich in vitamin C and iron, thus promoting high energy (a promotion benefit), whereas Brand B was described as rich in antioxidants, thus reducing the risk of cancer and heart diseases (a prevention benefit). The second choice was between two brands of toothpaste. Brand X's strength was in cavity prevention (a prevention benefit) and Brand Z's was in tooth whitening (a promotion benefit). The third choice was between two snacks. One was a rich and tasty chocolate cake (presumably superior on the promotion-related dimension of taste), and the other was a healthy and fresh fruit salad (presumably superior on the prevention-related dimension of healthiness). Respondents indicated their preferences on 1 (option 1) to 9 (option 2) scales. It was expected that, across all three choices, respondents who had made decisions about individual stocks in trading accounts would tend to prefer the option with the promotion benefit (Brand A, Brand Z, and the chocolate cake), whereas respondents who had made decisions about mutual funds in retirement accounts would tend to prefer the option with the prevention benefit (Brand B, Brand X, and the fruit salad).

Respondents then completed a second task that has been shown to capture differences in regulatory focus (Higgins et al. 1994). Respondents were offered six possible strategies that they could use for friendship and asked to select three. Three of the six strategies were approach oriented (e.g., "to be generous and willing to give of myself"), and three were avoidance oriented (e.g., "to stay in touch and avoid losing contact with my friends"). It was expected that, compared to those who had made decisions about mutual funds in retirement accounts, respondents who had made decisions about individual stocks in trading accounts would select more approach strategies and fewer avoidance strategies.

Results

Consumption Decisions. A MANOVA of the preferences expressed in the three consumption choices revealed a significant main effect of type of investment alternative (Wilk's $\lambda = .881$, $F(3, 102) = 4.6$, $p < .01$). Univariate analyses showed that, compared to those in the individual-stock-in-trading-account condition, respondents in the mutual-fund-in-retirement-account condition were more likely to prefer (*a*) the brand of grape juice that reduced the risk of cancer and heart disease ($M = 6.17$ vs. 4.51; $F(1, 104) = 9.54$, $p < .01$), (*b*) the brand of toothpaste that promised cavity prevention ($M = 6.85$ vs. 5.74; $F(1, 104) = 4.51$, $p < .05$), and (*c*) the fruit salad ($M = 6.23$ vs. 5.42; $F(1, 104) = 1.75$, $p = .19$).

Strategies for Friendship. An ANOVA of the number of approach strategies chosen revealed a significant effect of type of investment alternative ($F(1, 105) = 4.77$, $p <$

.05). Respondents in the individual-stock-in-trading-account condition chose more approach strategies ($M = 1.78$ out of 3) than those in the mutual-fund-in-retirement-account condition ($M = 1.49$). (Of course, the number of avoidance strategies chosen exhibits the mirror effect.)

Discussion

The first two experiments suggest that certain financial products trigger different sensitivities to gains and losses and different risk propensities in investment decisions. This experiment provides more process-level evidence that these effects may be due to a mental categorization of financial products in terms of promotion versus prevention. It was found that the mere act of making decisions about different types of financial products resulted in subsequent unrelated decisions being carried out with distinctive promotion versus prevention orientations. Respondents who had just made decisions about individual stocks in trading accounts were found to prefer consumer products with promotion-related benefits and favor approach strategies in friendship. In contrast, respondents who had just made decisions about mutual funds in retirement accounts were found to prefer products with prevention-related benefits and favor avoidance strategies in friendship. Financial products can spontaneously prime states of promotion versus prevention that are sufficiently strong to influence subsequent behavior in totally different domains.

EXPERIMENT 4

Experiment 3 provided support for the main hypothesis (that financial products are mentally categorized in terms of promotion vs. prevention) by showing that the mere evaluation of financial products can prime distinct motivational orientations that carry over to subsequent unrelated tasks. In this experiment, we provide additional support for this hypothesis by showing the reverse effect. Specifically, we demonstrate that priming distinct regulatory focuses through unrelated tasks can affect consumers' investment allocations across different financial products. We also demonstrate that both different types of assets (individual stocks vs. mutual funds) and different types of accounts (trading accounts vs. IRAs) carry distinct associations to promotion versus prevention—an issue left open by experiments 1 and 3.

Method

A total of 253 respondents were assigned to either a promotion condition or a prevention condition. The experiment included two phases. In the first phase, respondents were asked to complete two tasks framed either in an approach manner or in an avoidance manner. As mentioned earlier, tasks framed in an approach manner tend to activate a state of promotion, whereas tasks framed in an avoidance manner tend to activate a state of prevention (e.g., Forster et al. 2001; Roney et al. 1995). The first task involved proofreading a short article. In the promotion condition, respondents were instructed to "find a maximum number of misspellings." In the prevention condition, respondents were instructed to "avoid missing any misspellings." The second task involved solving several anagrams. In the promotion condition, respondents were instructed to "construct the maximum number of words" and "identify more than two-thirds of all possible words." In the prevention condition, respondents were instructed to "avoid missing any words that can be constructed" and not "miss more than one-third of all possible words."

In the second phase, respondents were asked to imagine that they had inherited $2,000 and to make two separate allocation decisions. The first decision was between two different types of financial accounts. One option was to "deposit the money into your online trading account (e.g., E*Trade) for later investment"; the other option was to "deposit the money into an individual retirement account (IRA) for later investment." Respondents were asked to indicate which option they preferred on a 1 (online trading account) to 9 (IRA) scale, and specify how much of the $2,000 they would allocate to each type of account. The second allocation decision was between two types of assets. Respondents were instructed: "Regardless of which account you decided to deposit the inheritance money into, assume that you have a choice between investing in two assets: Stock A and Mutual Fund B. Each of them is 'average,' that is, typical of an average U.S. stock or an average U.S. mutual fund." They were further instructed to make their decisions "based on the given information and your knowledge of average returns and risks of stocks and mutual funds." Respondents were asked to indicate their preference on a 1 (stock A) to 9 (mutual fund B) scale and specify how much of the $2,000 they would allocate to each type of asset.

It was predicted that, compared to those primed with promotion, respondents primed with prevention would be more likely to allocate money (*a*) to the IRA, as opposed to the online trading account, and (*b*) to the mutual fund, as opposed to the individual stock.

Results

Allocation across Accounts. Across conditions, the mean relative preference for depositing the $2,000 in the IRA (as opposed to the online trading account) was 5.91, indicating that, on average, depositing the money in an IRA was judged more attractive than depositing the money in an online trading account ($t(252) = 5.50$, $p < .0001$). More importantly, as predicted, the preference for depositing money in an IRA (as opposed to a trading account) was stronger when a prevention focus was primed ($M = 6.33$) than when a promotion focus was primed ($M = 5.51$; $F(1, 251) = 6.05$, $p < .05$). The amount of money that respondents allocated to each type of account exhibited a similar pattern. Again, the mean allocation was skewed toward the IRA ($M = $1,142 out of $2,000), indicating that this type of account was perceived to be relatively more attractive than

a trading account ($t(252) = 4.16$, $p < .0001$). More importantly, there was again a main effect of regulatory focus ($F(1, 251) = 3.53$, $p = .06$). More money was allocated to the IRA (as opposed to the online trading account) when prevention was primed ($M = \$1{,}208$) than when promotion was primed ($M = \$1{,}081$). These findings indicate that certain types of financial accounts, such as IRAs, tend to be categorized in terms of prevention, whereas other types of accounts, such as online trading accounts, tend to be categorized in terms of promotion.

Allocation across Assets. Across conditions, the mean relative preference for investing the $2,000 in the mutual fund (as opposed to the individual stock) was 6.10, indicating that, on average, investing the money in a mutual fund was judged more attractive than investing in an individual stock ($t(252) = 7.39$, $p < .0001$). More importantly, as predicted, preference for investing in the mutual fund (as opposed to in the individual stock) was stronger when prevention was primed ($M = 6.48$) than when promotion was primed ($M = 5.75$; $F(1, 251) = 6.19$, $p < .02$). The amount of money allocated to the two types of assets exhibited a similar pattern. On average, allocations were skewed toward the mutual fund ($M = \$1{,}179$ out of $2,000; $t(252) = 5.39$, $p < .0001$), and this tendency was more pronounced when prevention was primed ($M = \$1{,}257$) than when promotion was primed ($M = \$1{,}107$; $F(1, 251) = 5.13$, $p < .05$). These results suggest that, independent of the types of accounts, certain types of assets, such as mutual funds, tend to be associated with prevention, whereas other types of assets, such as individual stocks, tend to be associated with promotion.

Discussion

Priming promotion versus prevention through unrelated tasks was found to produce significant differences in how money was allocated across different types of accounts and across different types of assets. When the unrelated tasks were framed in an avoidance manner, priming prevention, respondents' allocations tended to shift (*a*) toward the IRA (away from the online trading account) and (*b*) toward the mutual fund (away from the individual stock). In contrast, when the unrelated tasks were framed in an approach manner, priming promotion, respondents' allocations tended to shift (*a*) toward the online trading account (away from the IRA) and (*b*) toward the individual stock (away from the mutual fund). These effects were obtained while holding both the types of accounts and the types of assets constant across respondents.

GENERAL DISCUSSION

Financial Products as Carriers of Promotion and Prevention

In the minds of consumer investors, financial products seem to be associated with distinct self-regulatory orientations. Some products, such as individual stocks and trading accounts, seem to be identified with promotion and the achievement of gains. Other products, such as mutual funds and retirement accounts, seem to be identified with prevention and the avoidance of losses. These mental associations were evident in experiment 3, where the mere evaluation of investment opportunities, labeled either as individual stocks in trading accounts or as mutual funds in retirement accounts, was found to trigger distinct promotion or prevention orientations that carried over to unrelated judgments and decisions. These associations were also evident in experiment 4, where the mere priming of promotion versus prevention was found to influence how consumers allocated money across different types of assets and different types of accounts.

The connections that consumers draw between financial products and either promotion or prevention are not inconsequential. Experiment 1 revealed that consumers were more sensitive to an investment's upside potential and less sensitive to its downside potential if it was described as an individual stock in a trading account than if it was described as a mutual fund in a retirement account. Experiment 2 additionally showed that consumers were more willing to make risky investments if they associated their investment capital with a trading account than if they associated it with a retirement account. In short, consumers' relative concern for gains and losses and their attitude toward risk seem to shift depending on the type of financial products involved. As discussed further below, this finding has important implications.

One interpretation for experiments 1 and 2 is that different financial products trigger different sensitivities to gains and losses and different attitudes toward risk directly, not through promotion and prevention. Three sets of results challenge this interpretation. In experiment 2, the effect of type of account on respondents' willingness to make a risky investment was almost entirely mediated by the respondents' relative concern for promotion versus prevention. Moreover, experiment 3 clearly showed that the mere evaluation of different financial products does activate states of promotion or prevention. Finally, experiment 4 showed that priming states of promotion or prevention steers investors toward different types of financial products. These results suggest a clear connection between certain financial products and promotion or prevention.

Another interpretation for experiments 1 and 2 is that respondents may have assumed different financial situations depending on the type of products involved in the decisions. They may have assumed a greater income level when evaluating individual stocks in a trading account (as opposed to mutual funds in an IRA) or investing money drawn from a trading account (as opposed to an IRA). People with higher income can afford to take greater risks. Several pieces of evidence seem to conflict with this interpretation, however. In experiment 2, only 6% of the respondents mentioned income and wealth when explaining their decisions. These respondents were equally distributed across conditions, and

dropping them from the analyses does not affect the results. More importantly, a difference in assumed wealth cannot explain the findings of experiments 3 and 4.

Because promotion versus prevention is correlated with risk seeking versus risk aversion, one may also argue that the results were not driven by differences in regulatory focus but by differences in risk attitudes. We tend to disagree. Differences in risk attitudes are not defining characteristics of promotion versus prevention. Different risk attitudes are by-products of promotion and prevention in environments where seizing opportunities and achieving gains (i.e., promotion) increases risk and preventing mistakes and avoiding losses (i.e., prevention) decreases risk. As demonstrated by Zhou (2002, study 6), the correlation between promotion versus prevention and risk seeking versus risk aversion disappears in environments where the achievement of gains does not entail greater risk and the avoidance of losses does not entail lesser risk.

Overall, the findings seem consistent with the thesis that consumers' investment decisions are governed by processes of promotion and prevention self-regulation that are managed across separate mental accounts, with different financial products seen as representative of promotion versus prevention.

Looking Back, Looking Forward

When the Means Justify the Ends. The finding that different financial products trigger distinct promotion or prevention—and therefore different sensitivities to gains and losses and attitudes toward risk—is a major departure from previous regulatory focus research and from standard finance theory. Previous work on regulatory focus has treated promotion and prevention as contextual motivational states arising either from individual differences or from situational factors. Our findings show that promotion and prevention can also be activated by the targets of judgment and decision. In other words, promotion and prevention do not just dictate the means that people prefer; these motivational orientations can also be dictated by the means themselves. Similarly, finance theory assumes that investors' goals are exogenous and given. Our research shows that these goals may instead be endogenous and contingent on the investment alternatives. Consumers may infer their investment priorities *ex post* from the financial products available to them rather than evaluating these products based on their *ex ante* priorities. Again, the means seem to dictate the ends rather than the reverse.

The Compartmentalization of Financial Promotion and Prevention. The finding that consumers may regulate their finances using separate promotion- and prevention-oriented accounts is significant. There is growing evidence that promotion and prevention tend to inhibit each other. This article suggests a mechanism by which individuals may overcome the mutual inhibition of the two systems in domains where promotion and prevention both matter. Individuals may create separate mental accounts around promotion and prevention, and manage their self-regulation across accounts. The compartmentalization of financial promotion and prevention challenges another tenet of standard finance theory. According to the theory, the risks and expected returns of each alternative should be evaluated jointly, not separately. Our results suggest that these tradeoffs may be performed only across financial products.

That investors' mental accounts may focus exclusively on promotion or on prevention helps explain several economic puzzles. For instance, investors tend to be overconfident and trade too much with funds held in trading accounts (e.g., Odean 1999). This would be expected if trading accounts are associated with promotion, resulting in an overweighting of potential upsides and an underappreciation of potential downsides. Exclusive promotion encourages investor exuberance, which might have contributed to the recent stock market bubble. Similarly, considering that longer time horizons should theoretically encourage risk taking, many investors seem to be too conservative with the funds held in their retirement accounts (Shefrin 2000). These conservative retirement planners appear to underestimate inflation risks compared to investment risks. This would be expected if retirement accounts are associated with prevention, resulting in an overweighting of potential losses (and underweighting of potential gains), with inflation not considered a loss. Finally, our findings may also explain why, to the chagrin of many economists, most American consumers oppose the idea of allowing Social Security funds to be invested in the stock market. Again, this would be expected if Social Security is associated with prevention, making potential gains seemingly unimportant and potential losses clearly unacceptable.

Decision Making as Self-Regulation. More generally, our findings stress the importance of self-regulation in consumer decision making. There is more to consumer decision making than information search, multi-attribute brand comparisons, and heuristics and biases. For instance, traditional models of consumer decision making cannot explain easily why investment decisions, which typically entail large financial stakes, are often made with a seeming lack of diligence (e.g., Madrian and Shea 2001; Olshavsky and Granbois 1979). We believe that this apparent paradox arises because, in the financial domain at least, decision making takes on a more implicit form—one where generic processes of self-regulation dominate and the same basic strategies are applied over and over again (across mental accounts) rather than being reconsidered on every occasion. After all, investing is simple: it is about achieving financial gains and avoiding financial losses.

[*David Glen Mick and Dawn Iacobucci served as editors and Joel Huber served as associate editor for this article.*]

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