

# Anomalies

## Intertemporal Choice

George Loewenstein and Richard H. Thaler

Economics can be distinguished from other social sciences by the belief that most (all?) behavior can be explained by assuming that agents have stable, well-defined preferences and make rational choices consistent with those preferences in markets that (eventually) clear. An empirical result qualifies as an anomaly if it is difficult to “rationalize,” or if implausible assumptions are necessary to explain it within the paradigm. This column will present a series of such anomalies. Readers are invited to suggest topics for future columns by sending a note with some references to (or better yet copies of) the relevant research. Comments on anomalies printed here are also welcome. The address is: Richard Thaler, c/o *Journal of Economic Perspectives*, Johnson Graduate School of Management, Malott Hall, Cornell University, Ithaca, NY 14853.

### Introduction

Intertemporal choices, decisions in which the timing of costs and benefits are spread out over time, are both common and important. How much schooling to obtain, whom to marry, whether to have children, how much to save for retirement, how to invest, whether to buy a house, and if so which house to buy—all these vital decisions have strong intertemporal components. As examples of individual decision

■ *George Loewenstein is Associate Professor, Graduate School of Business, University of Chicago, Chicago, Illinois and Visiting Scholar, Russell Sage Foundation, New York, New York. Richard Thaler is Henrietta Johnson Louis Professor of Economics, Johnson Graduate School of Management, Cornell University, Ithaca, New York.*

making, intertemporal choices are also interesting because the relevant economic theory makes unusually testable predictions. In many contexts, economic theories of individual behavior are untestable because the predictions are too vague. Almost any choice, no matter how bizarre, can be rationalized by finding some utility function for which the choice represents an optimal solution. In contrast, for decisions involving choices between time streams of money (receipts and payments), economic theory makes a precise and testable prediction, namely that (at the margin) people should discount money streams at the (after-tax) market rate of interest ( $r$ ).

The existence of capital markets creates what amounts to an internal arbitrage opportunity for the consumer. If presented with an investment option that pays off at a rate higher than  $r$ , the consumer can enjoy greater consumption in every period by accepting the option and borrowing appropriately at rate  $r$ . Options that pay less than  $r$  should be rejected since they are dominated by lending in the capital market. The implication is that consumers should make intertemporal trade-offs so that their marginal rate of time preference equals the interest rate. Furthermore, consumers should be consistent in their intertemporal choices. The discount rate used should be constant across situations and over time. However, research shows that depending on the context examined, the implied discount rates of observed behavior can vary from negative to several hundred percent per year.

A well-known example of apparent negative discount rates is the fact that a large majority of U.S. taxpayers receive refunds every year from the Internal Revenue Service. These interest-free loans to the government are easily avoidable by adjusting the withholding rate. Similarly, many school teachers are given the choice between being paid in 9 monthly installments (September-June) or 12 (September-August). Most of those given this choice elect the latter option. Finally, studies of life-cycle consumption choices reveal that consumption tends to increase over time until retirement. In the absence of binding borrowing constraints, this pattern can only be consistent with the life-cycle theory if people have negative discount rates (see, Courant, Gramlich, and Laitner, 1986).

Examples of extremely high discount rates are also easy to find. A recent change in West Virginia law provides an example. Students under the age of 18 who drop out of school lose their driving permits. The first year results indicate that this law has reduced the dropout rate by one-third. It seems implausible that one-third of the high school dropouts were so close to the margin that the loss of driving privileges for a year or two (or more precisely, the expected costs of driving illegally for this period) could tip a rational human capital investment decision toward completing high school. Rather, the behavior seems to reveal extremely myopic preferences. A similar myopia is evident in the lament of a dermatologist that her warnings about the risk of skin cancer have little effect, but "My patients are much more compliant about avoiding the sun when I tell them that it can cause large pores and blackheads."

It is not just teenagers and sun lovers who display high discount rates. Most homeowners have too little insulation in their attics and walls, and fail to buy more expensive energy-efficient appliances even when the pay-back period for the extra expense is less than a year. Hausman's (1979) study of air conditioner purchases,

which examined consumer tradeoffs between purchase price and delayed energy payments, estimated an average consumer discount rate of about 25 percent. A subsequent study by Gately (1980) comparing pairs of refrigerators differing only in energy use and initial purchase price revealed that the implicit discount rates associated with purchasing the cheaper models were incredibly high: from 45 to 130 percent assuming an electricity cost of 3.8 cents per kilowatt hour, and from 120 to 300 percent at 10 cents per kilowatt hour. Most recently, Ruderman, Levine and McMahan (1986) computed the discount rates implicit in several different kinds of appliances (for the average model on the market, relative to the most efficient): space heaters, air conditioners, water heaters, refrigerators and freezers. They found that the implicit discount rate for room air conditioners was 17 percent, somewhat lower than Hausman's estimate. However, the discount rates for other appliances were much higher, e.g., gas water heater, 102 percent; electric water heater, 243 percent; and freezer, 138 percent. Economic theory has a clear prediction about these inefficient appliances—they will not be produced. But they are produced, and purchased.<sup>1</sup>

So, as usual, where there are testable predictions, there are anomalies. The remainder of this column examines a number of situations in which people do not appear to discount money flows at the market rate of interest or any other single discount rate. Discount rates observed in both laboratory and field decision-making environments are shown to depend on the magnitude and sign of what is being discounted, on the time delay, on whether the choice is cast in terms of speed-up or delay, on the way in which a choice is framed, and on whether future benefits or costs induce savoring or dread.

## Variations in the Discount Rate for an Individual

An experiment that investigated the first three of these effects was presented in Thaler (1981). Subjects (mostly students) were asked to imagine that they had won some money in a lottery conducted by their bank. They could take the money now or wait until later. They were asked how much they would need to be paid to make waiting as attractive as immediate payment. Each subject received a  $3 \times 3$  table to fill in with amounts of money varied along one dimension and length of time along the other. Four versions of the questionnaires were used, three involving gains, and one involving losses. In the losses version, subjects were asked to imagine that they had been issued a traffic fine that could either be paid at face value now or at an increased

<sup>1</sup>Two other explanations might be offered for the purchase of inefficient appliances: ignorance and illiquidity. According to the ignorance hypothesis, customers do not know, or bother to find out, the advantages of buying a more efficient model even though that information is plainly displayed on government mandated labels. According to the illiquidity argument, customers are so short of cash that they cannot afford to buy the more efficient model. (Of course, these are precisely the customers who cannot afford to buy the cheaper model!) Since most appliances are probably purchased on credit, and since the extra cost of the energy efficient model is relatively small, it seems unlikely that borrowing constraints are really the answer.

price later. In all cases subjects were asked to assume that there was no risk of not getting the reward (or of avoiding the fine) if they waited. All amounts were to be received (or paid) by mail.<sup>2</sup> The experiment thus manipulated the three variables of interest: the length of time to be waited; the magnitude of the outcome; whether the outcome is a gain or loss.

Three strong patterns emerged from the subjects' responses. First, discount rates declined sharply with the length of time to be waited, consistent with earlier findings for animals (Herrnstein, 1961; Ainslie, 1975). Second, discount rates declined with the size of the reward. Discount rates for small amounts (under \$100) were very high, while those for larger amounts were more reasonable. Third, discount rates for gains were much higher than for losses. Subjects needed to be paid a lot to wait for a reward, but were unwilling to pay very much to delay a fine.

These three findings have been replicated in a much larger study by Ben Zion, Rapoport, and Yagil (1989). They used a  $4 \times 4 \times 4$  design which manipulated the time delay (0.5, 1, 2, and 4 years), amount of money (\$40, 200, 1000, and \$5000), and scenario (postponing a gain; postponing a loss; expediting a gain; and expediting a loss). The subjects were undergraduate and graduate students in economics and finance at two Israeli universities, a relatively sophisticated subject pool. Their results are shown in Figure 1 (averaging across the four scenarios). As can be seen clearly, discount rates again decline sharply with the length of time to be waited and the size of the prize.<sup>3</sup>

We will discuss each of these three strong patterns of discount rate variations in turn.

### Dynamic Inconsistency

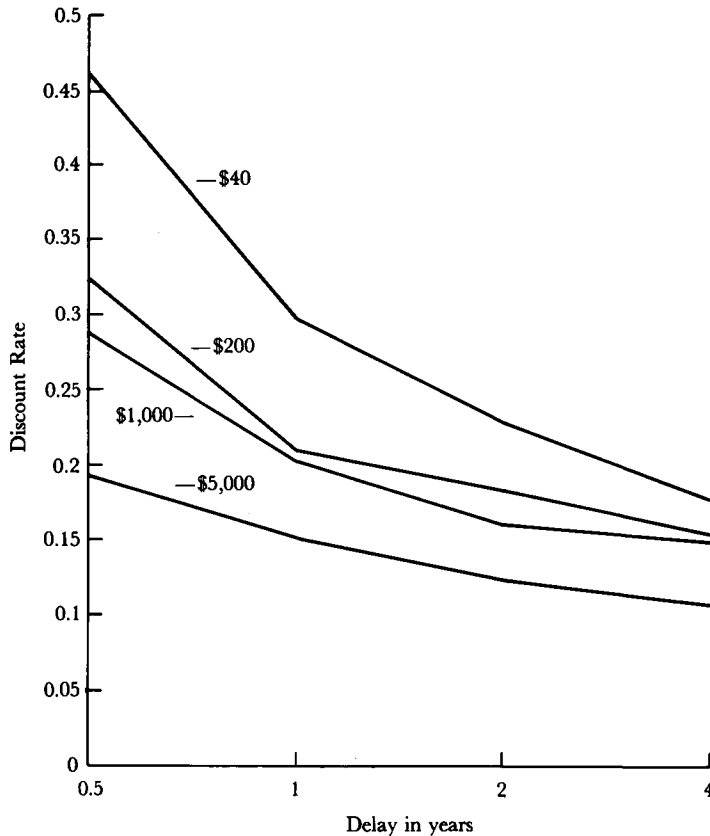
The negative relationship between discount rates and time delay has important consequences for the dynamic consistency of behavior. Suppose, as illustrated in Figure 2, that an individual must choose between two rewards, a small early reward  $S$ ,

<sup>2</sup>In this study, and some others described here, the questions asked were hypothetical. Of course, all things being equal it would be better to study actual choices. However, there are serious trade-offs between hypothetical and real money methods. Using hypothetical questions one can ask subjects to consider options that incorporate large amounts of money, both gains and losses, and delays of a year or more. In studies using real choices, the experimenter must reduce the size of the stakes and the length of the delay, and it is difficult to investigate actual losses. Also, in a hypothetical question, one can ask the subject to assume that there is no risk associated with future payments, while in experiments using real stakes, subjects must assess the experimenter's credibility. It is reassuring that in this domain, as well as many others, the phenomena discovered using hypothetical choices have been reproduced in studies using actual choices, see for example, Horowitz (1988), and Holcomb and Nelson (1989).

<sup>3</sup>It is obvious that whatever pattern of choices subjects indicate in these experiments, market interest rates do not depend (greatly) on either magnitude or time delay, but this does not imply that the experimental evidence is irrelevant for economics. Economics is concerned with predicting both market prices and individual behavior. Though arbitrageurs may assure that one cannot earn (much) more interest from buying and selling a series of 12 one-month treasury bills than a single one-year bond, this does not guarantee that predictions at the individual level will be accurate. If car customers elect financing over more attractive rebates, no (costless) arbitrage opportunity exists for anyone else. A bank could try to convince car buyers that they would be better off taking the rebate and financing the purchase at their bank, but such campaigns are expensive, and consumers may be skeptical regarding the impartiality of the advice they are being given.

Figure 1

## Discounting as a Function of Time Delay and Money Amount.

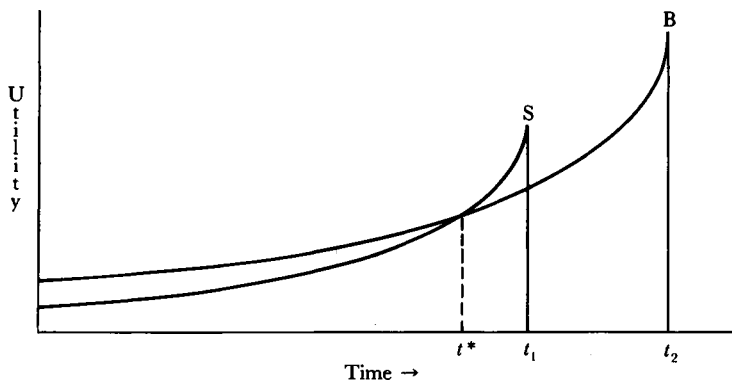


Source: Benzion et al. (1989).

which occurs at  $t_1$ , and a bigger later reward  $B$ , which occurs at  $t_2$ .<sup>4</sup> The lines represent the present utility of the rewards as perceived by the individual at different points in time. If the individual discounts the future at a constant rate, that is, if discounting is constant for different time delays, then the curves will never cross. However, if discounting decreases as a function of time delay, as the empirical research suggests, then the curves may cross, leading to a reversal of preference. When both rewards are sufficiently distant, the individual prefers  $B$ , but as  $S$  becomes more proximate, its relative value increases until at  $t^*$ ,  $S$  abruptly comes to dominate  $B$  in terms of present utility. The significance of the crossing curves is that behavior will not generally be consistent over time. In the morning, when temptation is remote, we vow to go to bed early, stick to our diet, and not have too much to drink. That night we stay out until 3:00 a.m., have two helpings of chocolate decadence, and sample every variety of Aquavit at a Norwegian restaurant. Applied to saving, as Strotz (1956)

<sup>4</sup>This analysis is based on Ainslie (1975).

*Figure 2*  
**Non-Exponential Discounting.**



Source: Ainslie (1975).

demonstrated, if the discount rate declines over time, then people will always consume more in the present than called for by their previous plans.

The problem of dynamic inconsistency raises questions about consumer sovereignty. Who is sovereign, the self who sets the alarm clock to rise early, or the self who shuts it off the next morning and goes back to sleep? It is instructive that we normally see the far-sighted self take actions which constrain or alter the behavior of the myopic self. Dieters pay money to stay on “fat farms” whose main appeal is that they guarantee to underfeed their guests; alcoholics take antabuse which causes nausea and vomiting if they take a drink; smokers buy cigarettes by the pack (rather than by the carton which is cheaper). And, though no longer fashionable, for many years Christmas clubs were extremely popular in the U.S. These savings plans offered the unusual combination of inconvenience (deposits were made in person every week), illiquidity (funds could not be withdrawn until late November), and low interest (in some cases, zero interest). Of course, illiquidity was the Christmas club’s *raison d’être* since customers wanted to assure themselves of funds to pay for Christmas presents. Recognizing the limited ability of conventional decision models to account for self-binding behavior and other forms of intrapersonal conflict, a number of authors have proposed models that view economic behavior as an internal struggle between multiple selves with conflicting preferences (Ainslie 1975, forthcoming; Elster, 1979; Schelling, 1984; Thaler and Shefrin, 1981; Winston, 1980).

### **Magnitude Effects**

The effect of magnitude on the discount rate is as strong as the effect of time delay. In both the Thaler and Benzion et al. studies using hypothetical questions, the implicit discount rates declined sharply with the size of the purchase. A similar result has been observed by Holcomb and Nelson (1989) over a small range of actual payoffs, \$5–\$17. Also, the very high discount rates observed for relatively small hypothetical rewards were obtained by Horowitz (1988) for an actual payoff of \$50.

There are two plausible behavioral explanations for the magnitude effect. The first is based on the psychology of perception (psychophysics): people are sensitive not only to relative differences in money amounts, but also to absolute differences (Loewenstein and Prelec, 1989b). The perceptual difference between \$100 now and \$150 in a year, for example, appears greater than the difference between \$10 now and \$15 in one year, so that many people are willing to wait for the extra \$50 in the first instance, but not for the \$5 in the second. The second explanation relies on notions of mental accounting (Shefrin and Thaler, 1988). Suppose that small windfalls are entered into a mental checking account and are largely consumed, while larger amounts are entered into a mental savings account, with a much smaller propensity to consume. Then the cost of waiting for a small windfall may be perceived to be foregone consumption, while in contrast, the opportunity cost of waiting for a large windfall is perceived as simply foregone interest. If foregone consumption is more tempting than foregone interest, the magnitude effect will be observed.<sup>5</sup> (The next installment in this feature, on savings, will discuss these issues in more detail).

### **Sign Effects**

The third strong empirical regularity in the discounting surveys is that the discount rate for gains is much greater than for losses. People are quite anxious to receive a positive reward, especially a small one, but are less anxious to postpone a loss. Part of this preference comes from a simple "debt aversion." Many people pay off mortgages and student loans quicker than they have to, even when the rate they are paying is less than they earn on safe investments.

### **Reference Points**

In descriptive theories of decision making under uncertainty, the distinction between gains and losses has received considerable attention. Decision makers do not appear to integrate outcomes with their wealth or existing consumption level, as normally assumed in expected utility theory. Rather individuals appear to react to events as changes, relative to some natural reference point. This observation was first made by Markowitz (1952), and more recently Kahneman and Tversky (1979) use changes in wealth relative to a reference point as the carriers of value in their prospect theory.

Reference points are also important in intertemporal choice (Loewenstein and Prelec, 1989a). Loewenstein (1988) offers the following demonstration of a reference point effect. An experiment was conducted using 105 high school sophomores and juniors. All subjects received a \$7 gift certificate for a local record shop. The expected time at which the students would receive the certificates was varied among one, four,

<sup>5</sup>It seems likely that there are also differential discount rates by type of consumption good. One might be more impatient to receive a new car than a new (energy-efficient) furnace, as long as the old furnace works. More research is needed on this question.

*Table 1*  
**Mean Amounts to Speed-up and Delay Consumption**  
**(\$7 Record Store Gift Certificate)**

<i>Time Interval</i>	<i>Delay</i>	<i>Speed-up</i>	<i>Significance</i>
1 week versus 4 weeks	\$1.09	\$.25	.001
4 weeks versus 8 weeks	\$.84	\$.37	.005
1 week versus 8 weeks	\$1.76	\$.52	.001

and eight weeks. The students were then given a series of binary choices between keeping their certificates at the originally appointed times, or trading them either for smaller certificates to be received earlier, or for larger certificates to be received later. For example, subjects who expected to receive a four week certificate were asked whether they would trade it for an eight week certificate, the value of which was varied between \$7.10 and \$10.00. They were told that the experimenter would select and implement one of their choices at random.

The design of this experiment allows the role of the reference point to be empirically tested. Some subjects were asked to make a tradeoff between the size of the reward and its *delay* from week 1 to week 4, while other subjects were making a tradeoff between the size of the reward and its *speed-up* from week 4 to week 1. If subjects were not influenced by reference points, then this manipulation would have no effect. The results of the experiment are shown in Table 1. The figures shown are the mean minimum amounts to speed up or delay consumption, depending on the condition. For all three comparisons, the mean delay premium is at least twice the mean speed-up cost, with all differences being statistically significant. Subjects demand more to wait past the expected arrival date than they are willing to pay to speed up its expected arrival. (Similar results are obtained by Benzion et al., 1989.) The result is compatible with Kahneman and Tversky's notion of *loss aversion*, the idea that the disutility of losing a given amount of money is significantly greater in absolute value than the utility of gaining the same amount.

Loss aversion also induces preferences for particular patterns of consumption over time. In situations when past consumption levels set reference points for future consumption, individuals may prefer an increasing consumption profile. For example, Loewenstein and Prelec (1989a) asked 95 Harvard undergraduates three questions. First, the students were asked to choose between two free dinners to be consumed on a Friday night in one month: a dinner at a fancy French restaurant, or a dinner at a local Greek restaurant. Most had the good sense to prefer the French dinner. Then, they were asked whether they would rather have the French dinner in one month or two months. Of those who selected the French dinner originally, 80 percent preferred to have it in one month rather than two, implying a positive discount rate. The third question offered subjects two hypothetical meals, the first in one month, the second in two months. Subjects were asked which order they preferred: Greek in one month, or



French in two months; or French in one month, and Greek in two months. Here, 57 percent of the French food lovers elected to have the Greek meal first. In a standard utility framework, this latter response implies a negative rate of time preference, inconsistent with the answer to the second question. There is no inconsistency, however, if people evaluate current consumption relative to past consumption and are loss averse. They simply prefer a pattern of increasing utility over time.

The preference for a rising consumption profile helps explain an anomaly in labor markets, namely that wages rise with age even when productivity does not (Medoff and Abraham, 1980). In many academic departments, for example, the highest paid faculty are the oldest, even if they are no longer the most productive. The two most important standard explanations for this pattern involve specific human capital and agency costs. The human capital argument is that firms offer the increasing age-earnings profile to encourage workers to stay in the firm long enough to make firm-specific training pay off. The agency cost argument, due to Lazear (1981), suggests that firms offer wages above marginal product for older workers to prevent workers from cheating and shirking. (A worker who gets caught risks losing the present value of the difference between pay and productivity.) While both of these explanations have merit in some occupations (see the articles by Carmichael and by Hutchens in this issue), Frank and Hutchens (forthcoming) show that the same pattern of wages is observed for two occupations in which neither traditional explanation is plausible, namely airline pilots and intercity bus drivers. In the case of pilots, Frank and Hutchens show that wages increase sharply with age while productivity does not. Yet, virtually all the training pilots receive is general, and pilots who shirk on (say) safety are amply punished by nature. Rather, in this case, it seems that the upward sloping age-earnings profile must be due to a preference for income growth, *per se*.

Evidence for such a pattern of preferences comes from a survey of 100 adults polled at the Museum of Science and Industry in Chicago (Loewenstein and Sicherman, 1989). Respondents were asked to choose between several hypothetical jobs which lasted six years and were identical except in the wage profile they offered. All jobs paid the same total *undiscounted* wages but differed in slope. For one job, wages decreased yearly. For another, they remained constant, and for the remaining five they increased at varying rates. In addition to interest, virtually every economic consideration favored the job with declining wages. For example, if the subject didn't like the job and quit, or was fired before the end of the six years, the declining wage option would provide greater total payments. Despite the incentives for selecting the decreasing wage profile, only 12 percent of the subjects liked it best. Another 12 percent preferred the flat profile, with all other subjects selecting one of the increasing profiles as their favorite.

A result such as this one always makes an economist wonder whether the subjects were just confused. Certainly, if the subjects had the logic of the economic argument explained to them (that the downward sloping wage profile plus saving dominates the others) they would come to their senses, right? To check on this, subjects were asked their preferences again, but after they had been presented with the economic argument favoring the declining profile, and with psychological arguments in favor of

increasing profiles. The effect of these arguments was minimal. The number of subjects preferring the increasing profile fell from 76 to 69 percent.

The preference for an increasing income stream can be understood by using two concepts discussed above: loss aversion and self-control. Loss aversion explains why workers prefer an increasing *consumption* profile (since the utility of current consumption will depend on previous consumption). Costly self-control explains why workers want an increasing *income* profile, because they cannot rely on themselves to save enough from a flat income (or declining) profile to produce the desired increasing consumption profile.

## Savoring and Dread

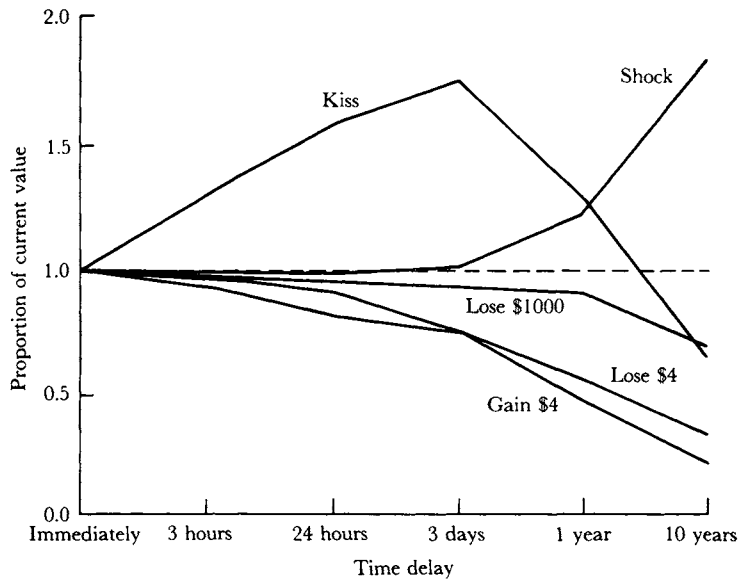
The standard discounted utility model assumes that the discount rate is constant and, normally, positive. Are there any circumstances in which people prefer to have gains postponed or losses expedited? Marshall (1891, p. 178) suggested one negative influence on the discount rate for gains: "When calculating the rate at which a future benefit is discounted, we must be careful to make allowance for the pleasures of expectation." We will use the terms *savoring* to refer to the positive utility derived from anticipating future pleasant outcomes and *dread* to refer to the negative contemplation of unpleasant outcomes.

The influence of both savoring and dread is demonstrated in the following experiment conducted by Loewenstein (1987). Subjects were asked to specify "the most you would pay now" to obtain (avoid) each of five outcomes, immediately, and following delays of: 3 hours, one day, 3 days, 1 year, and ten years. The five outcomes were: gain \$4; lose \$4; lose \$1000; receive a (non-lethal) 110 volt shock; receive a kiss from the movie star of your choice. The results are plotted in Figure 3.

Discounted utility predicts that the value of a gain and the aversiveness of a loss should decline monotonically with delay before the event occurs. People should want to consume gains as soon as possible and postpone losses as long as possible. As can be seen, however, the two non-monetary outcomes yielded quite different patterns of time preference. For the kiss from the movie star, subjects preferred to delay the outcome for three days, presumably to savor its anticipation. For the electric shock, subjects were willing to pay substantially more to avoid a shock to be received in one or ten years than one in the immediate future. In this case subjects seemed to be willing to pay to avoid having to worry about the event over an extended period of time.

While a kiss from a movie star and an electric shock are rather exotic experiences, Loewenstein (1987) has also obtained similar results for more mundane items. In a demonstration of the utility of savoring, 84 percent of his subjects indicated that they would prefer to receive a dinner at a fancy French restaurant on the second of three weekends rather than the first. To demonstrate dread, subjects were asked: (p. 674) "What is the least amount of money you would accept for cleaning 100 hamster cages at the Psychology Department's animal laboratory. You will be paid immediately . . . . The job is unpleasant but takes only three hours. How much would you need to be

**Figure 3**  
**Maximum Payment to Obtain / Avoid Outcomes at Selected Times.**  
**Proportion of Current Value ( $N = 30$ ).**



Source: Loewenstein (1987)

paid to clean the cages: (1) once during the next 7 days; (2) once during the week beginning one year from now?" The mean reservation wage for cleaning the cages next week was \$30 while the reservation wage for doing the task in a year was \$37. In fact, only 2 of 37 subjects gave a smaller response to question (2) than question (1).

## Commentary

The policy implications of this line of research are both interesting and treacherous. At a micro level, the high discount rates observed in some contexts (such as appliance purchases) and by some groups (such as teenagers) raise serious questions about consumer rationality. (As mentioned above, in many intertemporal situations involving self-control, individuals question *their own* ability to make rational, long-term choices.) How can it be rational for a consumer to choose a refrigerator that costs \$50 less than another equivalent model but consumes \$50 more in electricity every year? While such cases do not establish a need for government intervention, the presumption that consumers choose best for themselves is rather weakened.

At a macro level, the psychology of intertemporal choice complicates the already complicated question of selecting the proper social rate of discount. The standard view is that the market rate of interest, corrected for tax distortions, represents an

aggregation of individual time preferences, and is the appropriate social rate of time discounting. However, correcting for tax distortions is far from trivial, and the situation is further complicated by the internationalization of capital markets, which obscures the relationship between time preferences and interest rates in a particular country. Lind (forthcoming) argues that given these complications, the only reasonable way to determine the social rate of time preference is to elicit time preferences at the individual level. But if individuals do not discount everything at a single rate, then which rate is the one that is appropriate for social discounting? Suppose that an individual's freezer purchase implies a discount rate of 50 percent, but that the same person is indifferent between saving 10 lives this year and 10 lives in 20 years? How then should we decide between building another power plant and improving highway safety?

Many economists view the research on the psychology of decision making as a nuisance. The research often provides evidence that individuals violate certain assumptions of rational choice without offering alternative assumptions that can easily be incorporated into economic models. However, psychology can be constructive as well as destructive. For example, in the case of increasing wage profiles, the psychologists' observation that people care about changes in as well as absolute levels of income and consumption (which should be noncontroversial since economists don't argue about tastes) can reconcile the preference for increasing wage profiles with the standard economic assumption that people discount the future. The advantage of drawing on empirical research to suggest modifications in the utility function is that the proposed modifications are less ad hoc. A good example of this kind of reasoning, is offered by Constantinides (1988) in his paper on the "equity premium puzzle" (why are returns on stocks so much higher than on bonds?). Constantinides bases his explanation on the assumption that the utility of current consumption depends on past levels of consumption, or as he calls it, habit formation. A cynic might argue that if you try enough utility functions, you can explain anything. However, here that criticism would be misplaced. The habit formation assumption seems to fit intuitions about behavior, and is consistent with a great deal of empirical research. It is even testable. Explanations that rely on assumptions that are testable (or even better, true!) are more attractive than those based on assumptions which are untestable or implausible, for example those which depend on time-varying changes in the unobservable risk of economic catastrophe.

■ *The authors wish to thank without implicating George Ainslie, Colin Camerer, John Campbell, Werner De Bondt, Jon Elster, William Lang, and Nachum Sicherman for helpful comments, and Concord Capital Management and the Russell Sage Foundation for financial support.*

## References

- Ainslie, George**, "Specious Reward: A Behavioral Theory of Impulsiveness and Impulse Control," *Psychological Bulletin*, 1975, 82, 463-509.
- Ainslie, George**, *Picoeconomics: The Interaction of Successive Motivational States Within the Individual*. Cambridge: Cambridge University Press, forthcoming.
- Ben Zion, Uri, Amnon Rapoport, and Joseph Yagil**, "Discount Rates Inferred from Decisions: An Experimental Study," *Management Science*, March 1989, 35, 270-84.
- Constantinides, George**, "Habit Formation: A Resolution of the Equity Premium Puzzle," unpublished working paper, University of Chicago, Graduate School of Business, 1988.
- Courant, Paul, Edward Gramlich, and John Laitner**, "A Dynamic Micro Estimate of the Life-Cycle Model." In Aaron, Henry G., and Gary Burtless, eds., *Retirement and Economic Behavior*. Washington D.C.: Brookings Institution, 1986.
- Elster, Jon**, *Ulysses and the Sirens*. New York: Cambridge University Press, 1979.
- Frank, Robert, and Robert Hutchens**, "Feeling Better vs. Feeling Good: A Life-Cycle Theory of Wages," *Quarterly Journal of Economics*, forthcoming.
- Gately, Dermot**, "Individual Discount Rates and the Purchase and Utilization of Energy-Using Durables: Comment," *Bell Journal of Economics*, 1980, 11, 373-374.
- Hausman, Jerry**, "Individual Discount Rates and the Purchase and Utilization of Energy-Using Durables," *Bell Journal of Economics*, 1979, 10, 33-54.
- Herrnstein, Richard J.**, "Relative and Absolute Strength of Response as a Function of Frequency of Reinforcement," *Journal of Experimental Analysis of Behavior*. 1961, 4, 267-272.
- Holcomb, John H., and Paul S. Nelson**, "An Experimental Investigation of Individual Time Preference," unpublished working paper, 1989.
- Horowitz, John K.**, "Discounting Money Payoffs: An Experimental Analysis." working paper, Department of Agricultural and Resource Economics, University of Maryland, 1988.
- Kahneman, Daniel, and Amos Tversky**, "Prospect Theory: An Analysis of Decision Under Risk," *Econometrica*, 1979, 47, 363-91.
- Lazear, Edward**, "Agency, Earnings Profiles, Productivity, and Hours Restrictions," *American Economic Review*, 1981, 61, 606-620.
- Lind, Robert**, "Reassessing the Government's Discount Rate Policy in Light of New Theory and Data in a World Economy with a High Degree of Capital Mobility," *Journal of Environmental Economics and Management*, forthcoming.
- Loewenstein, George**, "Anticipation and the Valuation of Delayed Consumption," *Economic Journal*, 1987, 97, 666-684.
- Loewenstein, George**, "Frames of Mind in Intertemporal Choice," *Management Science*, 1988, 34, 200-214.
- Loewenstein, George, and Drazen Prelec**, "Anomalies in Intertemporal Choice: Evidence and Interpretation," Russell Sage Foundation Working Paper, 1989a.
- Loewenstein, George, and Drazen Prelec**, "Decision Making Over Time and Under Uncertainty: A Common Approach," working paper, University of Chicago, Center for Decision Research, 1989b.
- Loewenstein, George, and Nachum Sicherman**, "Do Workers Prefer Increasing Wage Profiles?" working paper, University of Chicago, Center for Decision Research, 1989.
- Marshall, Alfred**, *Principles of Economics*, 2nd ed. London: Macmillan, 1891.
- Markowitz, Harry**, "The Utility of Wealth," *Journal of Political Economy*, 1952, 60, 151-58.
- Medoff, James L., and Katharine G. Abraham**, "Experience, Performance and Earnings," *Quarterly Journal of Economics*, December 1980, 95, 703-36.
- Ruderman, Henry, Mark Levine, and James McMahon**, "Energy-Efficiency Choice in the Purchase of Residential Appliances." In Kempton, Willett, and Max Neiman, eds., *Energy Efficiency: Perspectives on Individual Behavior*. Washington D.C.: American Council for an Energy Efficient Economy, 1986.
- Schelling, Thomas**, "Self-Command in Practice, in Policy, and in a Theory of Rational Choice," *American Economic Review*, 1984, 74, 1-11.
- Shefrin, Hersh, and Richard H. Thaler**, "The Behavioral Life-Cycle Hypothesis," *Economic Inquiry*, October 1988, 26, 609-643.
- Strotz, Robert H.**, "Myopia and Inconsistency in Dynamic Utility Maximization," *Review of Economic Studies*, 1956, 23, 165-80.
- Thaler, Richard H.**, "Some Empirical Evidence on Dynamic Inconsistency," *Economics Letters*, 1981, 8, 201-207.
- Thaler, Richard H., and Hersh M. Shefrin**, "An Economic Theory of Self-Control," *Journal of Political Economy*, 89, 1981, 392-410.
- Winston, Gordon**, "Addiction and Backsliding," *Journal of Economic Behavior and Organization*, December 1980, 1, 295-324.



**This article has been cited by:**

1. Viviana Ventre, Roberta Martino, Fabrizio Maturo. 2023. Subjective perception of time and decision inconsistency in interval effect. *Quality & Quantity* 57:5, 4855-4880. [[Crossref](#)]
2. Junyi Chai. 2023. Subjective Happiness in Behavioral Contracts. *Journal of Happiness Studies* 24:7, 2245-2260. [[Crossref](#)]
3. İlknur ARSLAN ARAS. 2023. COVID-19 VE DAVRANIŞSAL İKTİSAT: KÜRESEL BİR PANDEMİ SIRASINDA İNSAN DAVRANIŞINI ANLAMAK. *Sağlık ve Sosyal Refah Araştırmaları Dergisi* . [[Crossref](#)]
4. Yue Wang, Xiaoyu Wang, Xiao Yang, Fangyuan Yuan, Ying Li. 2023. The influence of temporal focus on individual intertemporal decision-making in life history strategy framework. *Personality and Individual Differences* 211, 112250. [[Crossref](#)]
5. Peter E. Earl. 2023. Shackle's analysis of choice under uncertainty: its strengths, weaknesses and potential synergies with rival approaches. *Journal of Post Keynesian Economics* 46:3, 400-419. [[Crossref](#)]
6. Long Shi, Qihong Liu, Myongjin Kim. 2023. Does sunk-cost affect prices? Evidence from the US airline industry. *Journal of Economics & Management Strategy* 65. . [[Crossref](#)]
7. Joshua Fogel, Morris Azrak. 2023. Psychological variables related to decision making for mask wearing during the COVID-19 pandemic. *Current Issues in Personality Psychology* . [[Crossref](#)]
8. Thomas F Epper, Helga Fehr-Duda. 2023. Risk in Time: The Intertwined Nature of Risk Taking and Time Discounting. *Journal of the European Economic Association* 101. . [[Crossref](#)]
9. Debraj Ray, Nikhil Vellodi, Ruqu Wang. 2023. Past and Future: Backward and Forward Discounting. *Journal of the European Economic Association* 81. . [[Crossref](#)]
10. Hoori Rafieian, Marissa A. Sharif. 2023. It's the Effort That Counts: The Effect of Self-Control on Goal Progress Perceptions. *Journal of Marketing Research* 60:3, 527-542. [[Crossref](#)]
11. Cédric Gutierrez, Randolph Sloof, Donal Crilly. 2023. Time Is Not Money! Temporal Preferences for Time Investments and Entry into Entrepreneurship. *Organization Science* 87. . [[Crossref](#)]
12. Ivan Mitrouchev, Valerio Buonomo. 2023. Identity, ethics and behavioural welfare economics. *Economics and Philosophy* 18, 1-27. [[Crossref](#)]
13. Anik Mukherjee, Sundarraj Rangaraja P., Debra Vander Meer, Kaushik Dutta. 2023. Domain-independent real-time service provisioning in digital platforms: Featuring bundling and customer time-preference. *Decision Support Systems* 167, 113927. [[Crossref](#)]
14. Sumeet Lal, Trinh Xuan Thi Nguyen, Abdul-Salam Sulemana, Mostafa Saidur Rahim Khan, Yoshihiko Kadoya. 2023. Time Discounting and Hand-Sanitization Behavior: Evidence from Japan. *Sustainability* 15:8, 6488. [[Crossref](#)]
15. Sisi Hu, Courtney D. Boman, Benjamin R. Warner. 2023. Waiting for a Match: Mitigating Reactance in Prosocial Health Behavior Using Psychological Distance. *Health Communication* 38:4, 753-764. [[Crossref](#)]
16. Oscar Robayo-Pinzon, Sandra Rojas-Berrio, Mario R. Paredes, Gordon R. Foxall. 2023. Social media sites users' choice between utilitarian and informational reinforcers assessed using temporal discounting. *Frontiers in Public Health* 11. . [[Crossref](#)]
17. Viviana Ventre, Salvador Cruz Rambaud, Roberta Martino, Fabrizio Maturo. 2023. An analysis of intertemporal inconsistency through the hyperbolic factor. *Quality & Quantity* 57:1, 819-846. [[Crossref](#)]
18. Julie E. Delose, Michelle R. vanDellen. 2023. The role of temporal distance on forecasting the difficulty of goal pursuits. *The Journal of Social Psychology* 163:1, 19-38. [[Crossref](#)]

19. Salvador Cruz Rambaud, Fabrizio Maturo, Javier Sánchez García. 2023. Generalizing the concept of decreasing impatience. *AIMS Mathematics* 8:4, 7990-7999. [[Crossref](#)]
20. Aboudou Ouattara, Hubert de La Bruslerie. The Term Structure of Psychological Discount Rate: Characteristics and Functional Forms 103-129. [[Crossref](#)]
21. Rachelle C. Sampson, Yuan Shi. 2023. Are U.S. firms becoming more short-term oriented? Evidence of shifting firm time horizons from implied discount rates, 1980–2013. *Strategic Management Journal* 44:1, 231-263. [[Crossref](#)]
22. Jongmoo Jay Choi, Jimi Kim, Oded Shenkar. 2023. Temporal Orientation and Corporate Social Responsibility: Global Evidence. *Journal of Management Studies* 60:1, 82-119. [[Crossref](#)]
23. Arjun Sengupta, Krishna Savani. 2022. The cancellation heuristic in intertemporal choice shifts people's time preferences. *Scientific Reports* 12:1. . [[Crossref](#)]
24. Viviana Ventre, Roberta Martino. 2022. Quantification of Aversion to Uncertainty in Intertemporal Choice through Subjective Perception of Time. *Mathematics* 10:22, 4315. [[Crossref](#)]
25. Jeeva Somasundaram, Vincent Eli. 2022. Risk and time preferences interaction: An experimental measurement. *Journal of Risk and Uncertainty* 65:2, 215-238. [[Crossref](#)]
26. Sven Feurer, Kelly L. Haws. 2022. Justifiable justifications in sequential indulgent choice situations: A framework for future research based on perceived exceptionality. *Journal of Business Research* 149, 630-639. [[Crossref](#)]
27. Li Li, Li Jiang. 2022. How should firms adapt pricing strategies when consumers are time-inconsistent?. *Production and Operations Management* 31:9, 3457-3473. [[Crossref](#)]
28. Yannick Bammens, Paul Hünermund, Petra Andries. 2022. Pursuing Gains or Avoiding Losses: The Contingent Effect of Transgenerational Intentions on Innovation Investments. *Journal of Management Studies* 59:6, 1493-1530. [[Crossref](#)]
29. Nathan N. Cheek, Elena Reutskaja, Barry Schwartz. 2022. Balancing the Freedom–Security Trade-Off During Crises and Disasters. *Perspectives on Psychological Science* 17:4, 1024-1049. [[Crossref](#)]
30. Iman Ahmadi, Johannes Habel, Miaolei Jia, Nick Lee, Sarah Wei. 2022. Consumer Stockpiling Across Cultures During the COVID-19 Pandemic. *Journal of International Marketing* 30:2, 28-37. [[Crossref](#)]
31. Sebastian Majewski, Urszula Mentel. 2022. Analysis of the properties of weather regressors for econometric modelling: Example of weather stations in Poland. *JOURNAL OF INTERNATIONAL STUDIES* 15:2, 122-139. [[Crossref](#)]
32. Pierre D. Glynn, Scott J. Chiavacci, Charles R. Rhodes, Jennifer F. Helgeson, Carl D. Shapiro, Crista L. Straub. 2022. Value of Information: Exploring Behavioral and Social Factors. *Frontiers in Environmental Science* 10. . [[Crossref](#)]
33. Sushmita Choudhury Sen. 2022. TRANSFORMING HR PRACTICES WITH BEHAVIORAL ECONOMICS. *PARIPEX INDIAN JOURNAL OF RESEARCH* 108-111. [[Crossref](#)]
34. João V. Ferreira. 2022. Which choices merit deference? A comparison of three behavioural proxies of subjective welfare. *Economics and Philosophy* 4, 1-28. [[Crossref](#)]
35. Antonio Gualberto Pereira, Luís Eduardo Afonso. 2022. Desconto hiperbólico e efeito magnitude nas decisões intertemporais? Evidências de uma survey com escolhas monetárias. *Innovar* 32:84. . [[Crossref](#)]
36. Sukhee Kim, Jungyoon Choi, Yongju Yi, Hyungjun Kim. 2022. Analysis of Influencing Factors in Purchasing Electric Vehicles Using a Structural Equation Model: Focused on Suwon City. *Sustainability* 14:8, 4744. [[Crossref](#)]
37. Chen Sun, Jan Potters. 2022. Magnitude effect in intertemporal allocation tasks. *Experimental Economics* 25:2, 593-623. [[Crossref](#)]



38. Yu-Jui Huang, Zhou Zhou. 2022. A time-inconsistent Dynkin game: from intra-personal to inter-personal equilibria. *Finance and Stochastics* **26**:2, 301-334. [[Crossref](#)]
39. Thomas Meissner, Philipp Pfeiffer. 2022. Measuring preferences over the temporal resolution of consumption uncertainty. *Journal of Economic Theory* **200**, 105379. [[Crossref](#)]
40. Andrew D. Cuccia, Marcus M. Doxey, Shane R. Stinson. 2022. The Impact of Tax Incentive Structure on Taxpayers' Retirement Savings Decisions. *Journal of the American Taxation Association* **44**:1, 23-47. [[Crossref](#)]
41. Tim Schulz van Endert, Peter N. C. Mohr. 2022. Delay Discounting of Monetary and Social Media Rewards: Magnitude and Trait Effects. *Frontiers in Psychology* **13**. . [[Crossref](#)]
42. Alexandre Truc. 2022. Becoming paradigmatic: the strategic uses of narratives in behavioral economics. *The European Journal of the History of Economic Thought* **29**:1, 146-168. [[Crossref](#)]
43. Thomas Döring. Zentrale Erkenntnisse der Verhaltensökonomik – Zur begrenzten Rationalität des individuellen Entscheidungsverhaltens 15-42. [[Crossref](#)]
44. Alex Imas. Richard H. Thaler (1945–) 979-1004. [[Crossref](#)]
45. Philipp Lergetporer, Ludger Woessmann. 2022. Income Contingency and the Electorate's Support for Tuition. *SSRN Electronic Journal* **183**. . [[Crossref](#)]
46. Marco A. Palma. Neuroeconomics: An overview and applications to agricultural and food economics 5085-5116. [[Crossref](#)]
47. Alvaro Mezza, Daniel Ringo, Kamila Sommer. 2022. Student Loans, Access to Credit and Consumer Credit Demand. *SSRN Electronic Journal* **125**. . [[Crossref](#)]
48. Ben Grodeck, Toby Handfield, Matthew Kopec. 2022. The Effect of Compassion Fade on Altruistic Behavior: Experimental Evidence For a Guilt Mitigation Account. *SSRN Electronic Journal* **11**. . [[Crossref](#)]
49. Balázs Heidrich, Nóra Vajdovich. 2021. Quo vadis? - A családi vállalkozások összetett célszisztemének elemzése. *Vezetéstudomány - Budapest Management Review* **52**:11, 13-27. [[Crossref](#)]
50. Jean-Pierre Drugeon, Bertrand Wigniolle. 2021. On Markovian collective choice with heterogeneous quasi-hyperbolic discounting. *Economic Theory* **72**:4, 1257-1296. [[Crossref](#)]
51. Nitika Garg, Rahul Govind, Anish Nagpal. 2021. Message framing effects on food consumption: A social marketing perspective. *Australian Journal of Management* **46**:4, 690-716. [[Crossref](#)]
52. Ola Andersson, Jim Ingebretsen Carlson, Erik Wengström. 2021. Differences Attract: An Experimental Study of Focusing in Economic Choice. *The Economic Journal* **131**:639, 2671-2692. [[Crossref](#)]
53. Căzilia Loibl, Jodi Letkiewicz, Simon McNair, Barbara Summers, Wändi Bruine de Bruin. 2021. On the association of debt attitudes with socioeconomic characteristics and financial behaviors. *Journal of Consumer Affairs* **55**:3, 939-966. [[Crossref](#)]
54. Marco Lünich, Frank Marcinkowski, Kimon Kieslich. 2021. It's now or never! Future discounting in the application of the online privacy calculus. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* **15**:3. . [[Crossref](#)]
55. Alvaro Mezza, Daniel Ringo, Kamila Sommer. 2021. Student Loans, Access to Credit and Consumer Financial Behavior. *Finance and Economics Discussion Series* **2021**:049, 1-61. [[Crossref](#)]
56. Renata M. Heilman, Petko Kusev, Mircea Miclea, Joseph Teal, Rose Martin, Alessia Passanisi, Ugo Pace. 2021. Are Impulsive Decisions Always Irrational? An Experimental Investigation of Impulsive Decisions in the Domains of Gains and Losses. *International Journal of Environmental Research and Public Health* **18**:16, 8518. [[Crossref](#)]

57. Jasmin Mahmoodi, Martin K. Patel, Tobias Brosch. 2021. Pay now, save later: Using insights from behavioural economics to commit consumers to environmental sustainability. *Journal of Environmental Psychology* **76**, 101625. [[Crossref](#)]
58. Hubert de La Bruslerie, Alain Coën. 2021. Hyperbolic or exponential time discounting function?. *Finance* **Vol. 42:2**, 7-37. [[Crossref](#)]
59. Wing-Keung Wong. 2021. Editorial statement and research ideas for behavioral financial economics in the emerging market. *International Journal of Emerging Markets* **16:5**, 946-951. [[Crossref](#)]
60. Tomáš Želinský. 2021. Intertemporal Choices of Children and Adults from Poor Roma Communities: A Case Study from Slovakia. *Eastern European Economics* **59:4**, 378-405. [[Crossref](#)]
61. Christian Stoll, Michael A. Mehling. 2021. Climate change and carbon pricing: Overcoming three dimensions of failure. *Energy Research & Social Science* **77**, 102062. [[Crossref](#)]
62. Catherine Yeung, Teck-Hua Ho, Ryoko Sato, Noah Lim, Rob M. Van Dam, Hong-Chang Tan, Kwang-Wei Tham, Rehan Ali. 2021. Cash incentives for weight loss work only for males. *Behavioural Public Policy* **81**, 1-21. [[Crossref](#)]
63. Kaileigh A. Byrne, Stephanie G. Six, Reza Ghaiumy Anaraky, Maggie W. Harris, Emma L. Winterlind. 2021. Risk-taking unmasked: Using risky choice and temporal discounting to explain COVID-19 preventative behaviors. *PLOS ONE* **16:5**, e0251073. [[Crossref](#)]
64. Jean-Yves Lesueur. 2021. L'adhésion des assurés aux programmes de prévention santé : quels facteurs explicatifs ?. *Revue française d'économie* **Vol. XXXV:4**, 59-108. [[Crossref](#)]
65. Satoshi Kanazawa. 2021. Economics and Epicycles. *Perspectives on Psychological Science* **16:3**, 517-532. [[Crossref](#)]
66. Jia-Tao Ma, Lei Wang, Li-Na Chen, Quan He, Qing-Zhou Sun, Hong-Yue Sun, Cheng-Ming Jiang. 2021. Comparing mixed intertemporal tradeoffs with pure gains or pure losses. *Judgment and Decision Making* **16:3**, 709-728. [[Crossref](#)]
67. Alexandre Mayol, Carine Staropoli. 2021. Giving consumers too many choices: a false good idea? A lab experiment on water and electricity tariffs. *European Journal of Law and Economics* **51:2**, 383-410. [[Crossref](#)]
68. Terence C. Burnham, Jay Phelan. 2021. Ordinaries. *Journal of Bioeconomics* **23:1**, 1-14. [[Crossref](#)]
69. Wojciech Białaszek, Przemysław Marcowski, Paweł Ostaszewski. 2021. Risk inherent in delay accounts for magnitude effects in intertemporal decision making. *Current Psychology* **40:4**, 1680-1695. [[Crossref](#)]
70. Rocío Rodríguez, Göran Svensson, Carlos Ferro. 2021. Assessing the future direction of sustainable development in public hospitals: Time-horizon, path and action. *Health Policy* **125:4**, 526-534. [[Crossref](#)]
71. Sarthak Gaurav. 2021. Dynamic Inconsistency and Incentive Design: Insights from Behavioural Economics for HR Managers. *NHRD Network Journal* **14:2**, 193-205. [[Crossref](#)]
72. James Tee, Desmond P. Taylor. 2021. A Quantized Representation of Intertemporal Choice in the Brain. *IEEE Transactions on Molecular, Biological and Multi-Scale Communications* **7:1**, 1-9. [[Crossref](#)]
73. Jim McDavid, Kathryn Henderson. 2021. Hard won lessons learned in the evaluation field: Implications for behavioural insights practice. *Canadian Public Administration* **64:1**, 7-25. [[Crossref](#)]
74. Rüdiger von Nitzsch. Wie Menschen die Zeit bewerten 137-146. [[Crossref](#)]
75. Yu-Jui Huang, Zhenhua Wang. 2021. Optimal Equilibria for Multidimensional Time-Inconsistent Stopping Problems. *SIAM Journal on Control and Optimization* **59:2**, 1705-1729. [[Crossref](#)]

76. Căzilia Loibl, Jodi Letkiewicz, Simon McNair, Barbara Summers, Wändi Bruine de Bruin. 2021. On the Association of Debt Attitudes with Socio-Economic Characteristics and Financial Behaviors. *SSRN Electronic Journal* . [[Crossref](#)]
77. Marissa Sharif, Hoori Rafieian. 2021. It's the Effort that Counts: Exerting Self-Control Biases Goal Progress Perceptions. *SSRN Electronic Journal* **13** . [[Crossref](#)]
78. Abigail Hurwitz, Orly Sade. 2021. Is One Plus One Always Two? Insuring Longevity Risk While Having Multiple Savings Accounts. *SSRN Electronic Journal* **98** . [[Crossref](#)]
79. Julia Bogacki, Peter Letmathe. 2021. Representatives of future generations as promoters of sustainability in corporate decision processes. *Business Strategy and the Environment* **30**:1, 237-251. [[Crossref](#)]
80. Erhan Bayraktar, Jingjie Zhang, Zhou Zhou. 2021. Equilibrium concepts for time-inconsistent stopping problems in continuous time. *Mathematical Finance* **31**:1, 508-530. [[Crossref](#)]
81. Boris Houenou, Ecce F. Djogbenou. 2020. Predicting Household's Mobile Banking Saving Behavior in Western Kenya: An Algorithmic Approach. *Journal of African Development* **21**:1, 41-67. [[Crossref](#)]
82. Adriana Garcia, María José Muñoz Torrecillas, Salvador Cruz Rambaud. 2020. The improving sequence effect on monetary sequences. *Heliyon* **6**:12, e05643. [[Crossref](#)]
83. Fabrizio Adriani, Silvia Sonderegger. 2020. Optimal similarity judgments in intertemporal choice (and beyond). *Journal of Economic Theory* **190**, 105097. [[Crossref](#)]
84. Meihua Yu, Xiaoshu Wu, Liqin Huang, Siyang Luo. 2020. Residential mobility mindset enhances temporal discounting in the loss framework. *Physiology & Behavior* **225**, 113107. [[Crossref](#)]
85. Peter Agstner. 2020. Shareholder Conflicts in Close Corporations between Theory and Practice: Evidence from Italian Private Limited Liability Companies. *European Business Organization Law Review* **21**:3, 505-543. [[Crossref](#)]
86. Nicole L. Robinson, Jennifer Connolly, Leanne Hides, David J. Kavanagh. 2020. Social robots as treatment agents: Pilot randomized controlled trial to deliver a behavior change intervention. *Internet Interventions* **21**, 100320. [[Crossref](#)]
87. Yu-Jui Huang, Zhou Zhou. 2020. Optimal equilibria for time-inconsistent stopping problems in continuous time. *Mathematical Finance* **30**:3, 1103-1134. [[Crossref](#)]
88. Jonathan Cohen, Keith Marzilli Ericson, David Laibson, John Myles White. 2020. Measuring Time Preferences. *Journal of Economic Literature* **58**:2, 299-347. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
89. Gleb Beliakov, Jana Špírková, Tomasa Calvo. 2020. On the extended set of weights of the OWA functions. *International Journal of General Systems* **49**:4, 355-373. [[Crossref](#)]
90. Giuseppe Munda, Agata Matarazzo. 2020. On the impossibility of using “the correct” cost-benefit aggregation rule. *Journal of Economic Studies* **47**:5, 1119-1136. [[Crossref](#)]
91. Isabel María Parra Oller, Salvador Cruz Rambaud, María del Carmen Valls Martínez. 2020. Discount models in intertemporal choice: an empirical analysis. *European Journal of Management and Business Economics* **30**:1, 72-91. [[Crossref](#)]
92. Philipp Schreck, Dominik van Aaken, Karl Homann. 2020. “There’s Life in the Old Dog Yet”: The Homo economicus model and its value for behavioral ethics. *Journal of Business Economics* **90**:3, 401-425. [[Crossref](#)]
93. José Carlos R. Alcantud, Azadeh Zahedi Khameneh, Adem Kilicman. 2020. Aggregation of infinite chains of intuitionistic fuzzy sets and their application to choices with temporal intuitionistic fuzzy information. *Information Sciences* **514**, 106-117. [[Crossref](#)]

94. Azzurra Morreale, Luigi Mittone, Thi-Thanh-Tam Vu, Mikael Collan. 2020. To Wait or Not to Wait? Use of the Flexibility to Postpone Investment Decisions in Theory and in Practice. *Sustainability* **12**:8, 3451. [[Crossref](#)]
95. Yu-Jui Huang, Zhou Zhou. 2020. Optimal equilibria for time-inconsistent stopping problems in continuous time. *Mathematical Finance* . [[Crossref](#)]
96. Adam Bulley, Daniel L. Schacter. 2020. Deliberating trade-offs with the future. *Nature Human Behaviour* **4**:3, 238-247. [[Crossref](#)]
97. Manuel Siegrist, Gary Bowman, Evelyn Mervine, Colette Southam. 2020. Embedding environment and sustainability into corporate financial decision-making. *Accounting & Finance* **60**:1, 129-147. [[Crossref](#)]
98. Luis Mundaca, Margaret Samahita, Jonas Sonnenschein, Roman Seidl. Behavioural economics for energy and climate change policies and the transition to a sustainable energy use—A Scandinavian perspective 45-87. [[Crossref](#)]
99. Alvaro Mezza, Daniel Ringo, Shane Sherlund, Kamila Sommer. 2020. Student Loans and Homeownership. *Journal of Labor Economics* **38**:1, 215-260. [[Crossref](#)]
100. Manel Baucells, Alessandra Cillo. 2020. Predicting the Discount Rate of Multiple Future Payouts. *SSRN Electronic Journal* . [[Crossref](#)]
101. Long Shi, Qihong Liu, Myongjin Kim. 2020. Fuel Hedging and Behavior Bias: An Empirical Look at the U.S. Airline Industry. *SSRN Electronic Journal* **22** . [[Crossref](#)]
102. Yu-Jui Huang, Adrien Nguyen-Huu, Xun Yu Zhou. 2020. General stopping behaviors of naïve and noncommitted sophisticated agents, with application to probability distortion. *Mathematical Finance* **30**:1, 310-340. [[Crossref](#)]
103. Joachim Vosgerau, Irene Scopelliti, Young Eun Huh. 2020. Exerting Self-Control ≠ Sacrificing Pleasure. *Journal of Consumer Psychology* **30**:1, 181-200. [[Crossref](#)]
104. Blanche Segrestin, Laure-Anne Parpaleix. 2019. L'entreprise à mission comme vecteur de long terme. *Annales des Mines - Réalités industrielles* **Novembre 2019**:4, 39-44. [[Crossref](#)]
105. Daniela Di Bucci. 2019. Elementi di scienze comportamentali nella comprensione (e comunicazione) dei rischi di protezione civile. *PRISMA Economia - Società - Lavoro* :3, 46-58. [[Crossref](#)]
106. Steven A. Edelson. 2019. Promethean Business: From Financial Hedonism to Financial Eudaimonia. *Journal of Management Inquiry* **28**:4, 420-425. [[Crossref](#)]
107. Matthew T. Riccio, Patrick E. Shrout, Emily Balcetis. 2019. Interpersonal pursuit of intrapersonal health goals: Social cognitive–motivational mechanisms by which social support promotes self-regulatory success. *Social and Personality Psychology Compass* **13**:10. . [[Crossref](#)]
108. Thomas B. Swanton, Sally M. Gainsbury, Alex Blaszczynski. 2019. The role of financial institutions in gambling. *International Gambling Studies* **19**:3, 377-398. [[Crossref](#)]
109. Óscar García-Leal, Erick Barrón, Héctor Camarena-Pérez, Zirahuén Vilchez. 2019. Response rate correlates with indifference points in a delay-discounting procedure. *Journal of the Experimental Analysis of Behavior* **112**:2, 167-176. [[Crossref](#)]
110. BaekSun Kim, Heh-In Im. 2019. The role of the dorsal striatum in choice impulsivity. *Annals of the New York Academy of Sciences* **1451**:1, 92-111. [[Crossref](#)]
111. M. Blair Evans, Erin Shanahan, Scott Leith, Noah Litvak, Anne E. Wilson. 2019. Living for Today or Tomorrow? Self-Regulation amidst Proximal or Distal Exercise Outcomes. *Applied Psychology: Health and Well-Being* **11**:2, 304-327. [[Crossref](#)]
112. Mohammed Abdellaoui, Emmanuel Kemel, Amma Panin, Ferdinand M. Vieider. 2019. Measuring time and risk preferences in an integrated framework. *Games and Economic Behavior* **115**, 459-469. [[Crossref](#)]

113. Daniel D. Holt, Matthew R. Wolf. 2019. Delay discounting in the pigeon: In search of a magnitude effect. *Journal of the Experimental Analysis of Behavior* 111:3, 436-448. [[Crossref](#)]
114. Thomas Kourouxos, Thomas Bauer. 2019. Violations of dominance in decision-making. *Business Research* 12:1, 209-239. [[Crossref](#)]
115. Xiaoli Nan, Yan Qin. 2019. How Thinking about the Future Affects Our Decisions in the Present: Effects of Time Orientation and Episodic Future Thinking on Responses to Health Warning Messages. *Human Communication Research* 45:2, 148-168. [[Crossref](#)]
116. Dianna R. Amasino, Nicolette J. Sullivan, Rachel E. Kranton, Scott A. Huettel. 2019. Amount and time exert independent influences on intertemporal choice. *Nature Human Behaviour* 3:4, 383-392. [[Crossref](#)]
117. Manel Baucells, Lin Zhao. 2019. It Is Time to Get Some Rest. *Management Science* 65:4, 1717-1734. [[Crossref](#)]
118. Evgeniya Lukinova, Yuyue Wang, Steven F Lehrer, Jeffrey C Erlich. 2019. Time preferences are reliable across time-horizons and verbal versus experiential tasks. *eLife* 8. . [[Crossref](#)]
119. Salvador Cruz Rambaud, Joaquín López Pascual, María de los Ángeles del Pino Álvarez. 2019. Preferences over sequences of payments: A new validation of the q -exponential discounting. *Physica A: Statistical Mechanics and its Applications* 515, 332-345. [[Crossref](#)]
120. Tamam A. Albelwi, Robert D. Rogers, Hans-Peter Kubis. 2019. Exercise as a reward: Self-paced exercise perception and delay discounting in comparison with food and money. *Physiology & Behavior* 199, 333-342. [[Crossref](#)]
121. Tatiana Pozolotina, Svein Ottar Olsen. 2019. Consideration of immediate and future consequences, perceived change in the future self, and health behavior. *Health Marketing Quarterly* 36:1, 35-53. [[Crossref](#)]
122. Fabrizio Maturo, Viviana Ventre, Angelarosa Longo. On Consistency and Incoherence in Analytical Hierarchy Process and Intertemporal Choices Models 327-342. [[Crossref](#)]
123. Dominika Maison. Saving and Investing 105-141. [[Crossref](#)]
124. Keith Marzilli Ericson, David Laibson. Intertemporal choice 1-67. [[Crossref](#)]
125. Yu-Jui Huang, Zhou Zhou. 2019. The Optimal Equilibrium for Time-Inconsistent Stopping Problems---The Discrete-Time Case. *SIAM Journal on Control and Optimization* 57:1, 590-609. [[Crossref](#)]
126. Julia M. Ptaschunder. 2019. Time ≠ Time ≠ Time: A Research Agenda Mental Temporal Accounting and the Opening of Contract Theory for Work-Leisure Trade-Off Attention. *SSRN Electronic Journal* . [[Crossref](#)]
127. Julia M. Ptaschunder. 2019. Time ≠ Time ≠ Time: Mental Temporal Accounting. *SSRN Electronic Journal* . [[Crossref](#)]
128. Erhan Bayraktar, Jingjie Zhang, Zhou Zhou. 2019. On the Notions of Equilibria for Time-Inconsistent Stopping Problems in Continuous Time. *SSRN Electronic Journal* . [[Crossref](#)]
129. Lan XU, Quan CHEN, Nan CUI, Kaili LU. 2019. Enjoy the present or wait for the future? Effects of individuals&rsquo; view of time on intertemporal choice. *Acta Psychologica Sinica* 51:1, 96-105. [[Crossref](#)]
130. Andrew Burlinson, Monica Giulietti, Giuliana Battisti. 2018. Technology adoption, consumer inattention and heuristic decision-making: Evidence from a UK district heating scheme. *Research Policy* 47:10, 1873-1886. [[Crossref](#)]
131. Salvador Cruz Rambaud, María José Muñoz Torrecillas, Adriana Garcia. 2018. A Mathematical Analysis of the Improving Sequence Effect for Monetary Rewards. *Frontiers in Applied Mathematics and Statistics* 4. . [[Crossref](#)]

132. Yang-Yang Zhang, Lijuan Xu, Zhu-Yuan Liang, Kun Wang, Bing Hou, Yuan Zhou, Shu Li, Tianzi Jiang. 2018. Separate Neural Networks for Gains and Losses in Intertemporal Choice. *Neuroscience Bulletin* **34**:5, 725-735. [[Crossref](#)]
133. Todd M. Alessandri, Jan Mammen, Kimberly Eddleston. 2018. Managerial incentives, myopic loss aversion, and firm risk: A comparison of family and non-family firms. *Journal of Business Research* **91**, 19-27. [[Crossref](#)]
134. Salvador Cruz Rambaud, Isabel María Parra Oller, María del Carmen Valls Martínez. 2018. The amount-based deformation of the  $q$ -exponential discount function: A joint analysis of delay and magnitude effects. *Physica A: Statistical Mechanics and its Applications* **508**, 788-796. [[Crossref](#)]
135. José Alcantud, María Muñoz Torrecillas. 2018. Intertemporal Choice of Fuzzy Soft Sets. *Symmetry* **10**:9, 371. [[Crossref](#)]
136. Jennifer H. Pfeifer, Elliot T. Berkman. 2018. The Development of Self and Identity in Adolescence: Neural Evidence and Implications for a Value-Based Choice Perspective on Motivated Behavior. *Child Development Perspectives* **12**:3, 158-164. [[Crossref](#)]
137. Piotr Białowolski. 2018. Hard Times! How do Households Cope with Financial Difficulties? Evidence from the Swiss Household Panel. *Social Indicators Research* **139**:1, 147-161. [[Crossref](#)]
138. Paul A. M. Van Lange, Jeff Joireman, Manfred Milinski. 2018. Climate Change: What Psychology Can Offer in Terms of Insights and Solutions. *Current Directions in Psychological Science* **27**:4, 269-274. [[Crossref](#)]
139. Gaetano Marino, Giulio Zotteri, Francesca Montagna. 2018. Consumer sensitivity to delivery lead time: a furniture retail case. *International Journal of Physical Distribution & Logistics Management* **48**:6, 610-629. [[Crossref](#)]
140. SANNE R. VAN DUIN, HENRI C. DEKKER, JACCO L. WIELHOUWER, JUAN P. MENDOZA. 2018. The Tone from Above: The Effect of Communicating a Supportive Regulatory Strategy on Reporting Quality. *Journal of Accounting Research* **56**:2, 467-519. [[Crossref](#)]
141. María José Muñoz Torrecillas, Taiki Takahashi, Jesús Gil Roales-Nieto, Salvador Cruz Rambaud, Zaida Callejón Ruiz, Blas Torrecillas Jover. 2018. Impatience and Inconsistency in Intertemporal Choice: An Experimental Analysis. *Journal of Behavioral Finance* **19**:2, 190-198. [[Crossref](#)]
142. Justin R Yates. 2018. Dissecting drug effects in preclinical models of impulsive choice: emphasis on glutamatergic compounds. *Psychopharmacology* **235**:3, 607-626. [[Crossref](#)]
143. Hua Wang, Jie He. 2018. Implicit individual discount rate in China: A contingent valuation study. *Journal of Environmental Management* **210**, 51-70. [[Crossref](#)]
144. HanNa Lim. Decision-Making under Risk 43-64. [[Crossref](#)]
145. Laura Feiveson, Alvaro Mezza, Kamila Sommer. 2018. Student Loan Debt and Aggregate Consumption Growth. *FEDS Notes* **2018**:2127. . [[Crossref](#)]
146. Viktor Fedaseyev, Vitaliy Strohush. 2018. A Theory of Inefficient College Entry and Excessive Student Debt. *The B.E. Journal of Economic Analysis & Policy* **18**:1. . [[Crossref](#)]
147. Elliot T. Berkman. 2018. Value-based choice: An integrative, neuroscience-informed model of health goals. *Psychology & Health* **33**:1, 40-57. [[Crossref](#)]
148. Stephan Meyer. Intergenerational Choice Under Uncertainty: The Case of Future Energy Technologies—Legal and Economic Perspectives 171-189. [[Crossref](#)]
149. Fabrizio Ghisellini, Beryl Y. Chang. Time and Preferences 151-171. [[Crossref](#)]
150. Yu-Jui Huang, Adrien Nguyen-Huu. 2018. Time-consistent stopping under decreasing impatience. *Finance and Stochastics* **22**:1, 69-95. [[Crossref](#)]

151. Daniela Di Bucci, Lucia Savadori. 2018. Defining the acceptable level of risk for civil protection purposes: a behavioral perspective on the decision process. *Natural Hazards* **90**:1, 293-324. [[Crossref](#)]
152. Manel Baucells, Krzysztof Kontek, Michaa Lewandowski. 2018. Range and Sign Dependent Utility for Risk and Time. *SSRN Electronic Journal* . [[Crossref](#)]
153. Michael O'Donnell, Clayton Critcher, Leif D. Nelson. 2018. Variety Seeking Behavior in Bundle Construction: Choice Myopia and Combinatorics. *SSRN Electronic Journal* . [[Crossref](#)]
154. Peter Agstner. 2018. Shareholder Conflicts in Close Corporations: Between Theory and Practice. Evidence from Italian Private Limited Liability Companies. *SSRN Electronic Journal* **26** . [[Crossref](#)]
155. Josip Kotlar, Alfredo De Massis, Mike Wright, Federico Frattini. 2018. Organizational Goals: Antecedents, Formation Processes and Implications for Firm Behavior and Performance. *International Journal of Management Reviews* **20**:S1. . [[Crossref](#)]
156. Todd D. Gerarden, Richard G. Newell, Robert N. Stavins. 2017. Assessing the Energy-Efficiency Gap. *Journal of Economic Literature* **55**:4, 1486-1525. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
157. Björn Häckel, Stefan Pfosser, Timm Tränkle. 2017. Explaining the energy efficiency gap - Expected Utility Theory versus Cumulative Prospect Theory. *Energy Policy* **111**, 414-426. [[Crossref](#)]
158. Dinah Cohen-Vernik, Amit Pazgal. 2017. Price Adjustment Policy with Partial Refunds. *Journal of Retailing* **93**:4, 507-526. [[Crossref](#)]
159. Elizabeth Lim. 2017. CEO option wealth and firm risk-taking: An analysis of multiple reference points. *Long Range Planning* **50**:6, 809-825. [[Crossref](#)]
160. Nathaniel J. S. Ashby, Cleotilde Gonzalez. 2017. The Influence of Time Estimation and Time-Saving Preferences on Learning to Make Temporally Dependent Decisions from Experience. *Journal of Behavioral Decision Making* **30**:4, 807-818. [[Crossref](#)]
161. ###, Jinyong Lee, ##. 2017. A Dynamic Model of User Behavior in a Social Network Site. *Journal of Product Research* **35**:5, 101-110. [[Crossref](#)]
162. Valeria Di Cosmo, Denis O'Hora. 2017. Nudging electricity consumption using TOU pricing and feedback: evidence from Irish households. *Journal of Economic Psychology* **61**, 1-14. [[Crossref](#)]
163. Alvaro A. Mezza, Daniel R. Ringo, Shane M. Sherlund, Kamila Sommer. 2017. Student Loans and Homeownership. *Finance and Economics Discussion Series* **2016**:010r1. . [[Crossref](#)]
164. Daniel Read, Marc Scholten. Future-Oriented Decisions: Intertemporal Choice 35-50. [[Crossref](#)]
165. Simon Bager, Luis Mundaca. 2017. Making 'Smart Meters' smarter? Insights from a behavioural economics pilot field experiment in Copenhagen, Denmark. *Energy Research & Social Science* **28**, 68-76. [[Crossref](#)]
166. Naomi Mandel, Maura L. Scott, Sunghoon Kim, Rajiv K. Sinha. 2017. Strategies for improving self-control among naïve, sophisticated, and time-consistent consumers. *Journal of Economic Psychology* **60**, 109-125. [[Crossref](#)]
167. Stephen A. Atlas, Eric J. Johnson, John W. Payne. 2017. Time Preferences and Mortgage Choice. *Journal of Marketing Research* **54**:3, 415-429. [[Crossref](#)]
168. Pierre Livet. 2017. Temporal Discounting, Emotions and Agency. *OEconomia* :7-2, 191-200. [[Crossref](#)]
169. Kevin Gibson. Regarding Marginal Stakeholders 189-213. [[Crossref](#)]
170. Sreenath P. Kyathanahally, Ana Franco-Watkins, Xiaoxia Zhang, Vince D. Calhoun, Gopikrishna Deshpande. 2017. A Realistic Framework for Investigating Decision Making in the Brain With High Spatiotemporal Resolution Using Simultaneous EEG/fMRI and Joint ICA. *IEEE Journal of Biomedical and Health Informatics* **21**:3, 814-825. [[Crossref](#)]

171. ###. 2017. A Study of the Perceptual Difference between Loss and Gain and the Time Preference. *Journal of Governmental Studies(JGS)* **23**:1, 117-152. [[Crossref](#)]
172. Hans Rüdiger Pfister, Helmut Jungermann, Katrin Fischer. Nutzen und Präferenz 37-82. [[Crossref](#)]
173. Antonio Gualberto Pereira. 2017. Automatic Enrollment and Choices of Pension Plans: An Experimental Study in Brazil. *SSRN Electronic Journal* **84**. . [[Crossref](#)]
174. Bradley J. Ruffle, Anne Wilson. 2017. Tat Will Tell: Tattoos and Time Preferences. *SSRN Electronic Journal* . [[Crossref](#)]
175. Sanne R. van Duin, Henri C. Dekker, J. Wielhouwer, Juan P. Mendoza. 2017. The Tone from Above: The Effect of Communicating a Supportive Regulatory Strategy on Reporting Quality. *SSRN Electronic Journal* . [[Crossref](#)]
176. Geoffrey P. Martin, Robert M. Wiseman, Luis R. Gomez-Mejia. 2016. Going short-term or long-term? CEO stock options and temporal orientation in the presence of slack. *Strategic Management Journal* **37**:12, 2463-2480. [[Crossref](#)]
177. Geoffrey P. Martin, Robert M. Wiseman, Luis R. Gomez-Mejia. 2016. Bridging Finance and Behavioral Scholarship on Agent Risk Sharing and Risk Taking. *Academy of Management Perspectives* **30**:4, 349-368. [[Crossref](#)]
178. Rachel Baker, Brent Evans, Thomas Dee. 2016. A Randomized Experiment Testing the Efficacy of a Scheduling Nudge in a Massive Open Online Course (MOOC). *AERA Open* **2**:4, 233285841667400. [[Crossref](#)]
179. Alex Dubov, Liana Fraenkel, Elizabeth Seng. 2016. The Importance of Fostering Ownership During Medical Training. *The American Journal of Bioethics* **16**:9, 3-12. [[Crossref](#)]
180. Andres Silva, Lindsey M. Higgins, Micaela M. Kulesz. 2016. Nutritional Impact of Child-Directed TV Food Advertising Regulation: Are We Rearranging the Deck Chairs on the Titanic?. *Journal of the Association for Consumer Research* **1**:3, 422-444. [[Crossref](#)]
181. Emin Gahramanov, Xueli Tang. 2016. Impatient in Experiments, but Patient in Simulations: A Challenge to the Heckman-Type Model. *Economic Record* **92**:297, 268-290. [[Crossref](#)]
182. Elizabeth V. Hobman, Elisha R. Frederiks, Karen Stenner, Sarah Meikle. 2016. Uptake and usage of cost-reflective electricity pricing: Insights from psychology and behavioural economics. *Renewable and Sustainable Energy Reviews* **57**, 455-467. [[Crossref](#)]
183. Ana M. Franco-Watkins, Richard E. Mattson, Marc D. Jackson. 2016. Now or Later? Attentional Processing and Intertemporal Choice. *Journal of Behavioral Decision Making* **29**:2-3, 206-217. [[Crossref](#)]
184. Hooman Estelami. Cognitive Drivers of Suboptimal Financial Decisions: Implications for Financial Literacy Campaigns 10-25. [[Crossref](#)]
185. Shinsuke Ikeda. Varying Impatience 25-42. [[Crossref](#)]
186. E.T. Berkman, L.E. Kahn, J.L. Livingston. Valuation as a Mechanism of Self-Control and Ego Depletion 255-279. [[Crossref](#)]
187. Daniel Monroy. 2016. Decisiones Inconscientes: Sesgo De Status Quo Y Politicas PPblicas (Unaware Choices: Status Quo Bias and Public Policies). *SSRN Electronic Journal* **108**. . [[Crossref](#)]
188. Ziyuan Zhang, Ming Kong, Lisong Zhang, Zhongquan Li. 2015. Consideration of future consequences: Preliminary evidences for a four-factor distinction. *Personality and Individual Differences* **87**, 99-104. [[Crossref](#)]
189. Till Grüne-Yanoff. 2015. Models of Temporal Discounting 1937-2000: An Interdisciplinary Exchange between Economics and Psychology. *Science in Context* **28**:4, 675-713. [[Crossref](#)]



190. Hooman Estelami. 2015. Cognitive catalysts for distrust in financial services markets: An integrative review. *Journal of Financial Services Marketing* 20:4, 246-257. [[Crossref](#)]
191. Robert McEnany, David Strutton. 2015. Leading the (r)evolution: Succession and leadership rules for re-entrepreneurs. *Business Horizons* 58:4, 401-410. [[Crossref](#)]
192. Tae Wan Kim, Rosemarie Monge, Alan Strudler. 2015. Bounded Ethicality and The Principle That "Ought" Implies "Can". *Business Ethics Quarterly* 25:3, 341-361. [[Crossref](#)]
193. Jeffrey R. Brown, Zoran Ivković, Scott Weisbenner. 2015. Empirical determinants of intertemporal choice. *Journal of Financial Economics* 116:3, 473-486. [[Crossref](#)]
194. Keith M. Marzilli Ericson, John Myles White, David Laibson, Jonathan D. Cohen. 2015. Money Earlier or Later? Simple Heuristics Explain Intertemporal Choices Better Than Delay Discounting Does. *Psychological Science* 26:6, 826-833. [[Crossref](#)]
195. Natalie Slawinski, Pratima Bansal. 2015. Short on Time: Intertemporal Tensions in Business Sustainability. *Organization Science* 26:2, 531-549. [[Crossref](#)]
196. Ying-Fang Kao, K. Vela Velupillai. 2015. Behavioural economics: Classical and modern. *The European Journal of the History of Economic Thought* 22:2, 236-271. [[Crossref](#)]
197. Cary Deck, Salar Jahedi. 2015. Time Discounting in Strategic Contests. *Journal of Economics & Management Strategy* 24:1, 151-164. [[Crossref](#)]
198. Jerome Dumortier, Saba Siddiki, Sanya Carley, Joshua Cisney, Rachel M. Krause, Bradley W. Lane, John A. Rupp, John D. Graham. 2015. Effects of providing total cost of ownership information on consumers' intent to purchase a hybrid or plug-in electric vehicle. *Transportation Research Part A: Policy and Practice* 72, 71-86. [[Crossref](#)]
199. Elisha R. Frederiks, Karen Stenner, Elizabeth V. Hobman. 2015. Household energy use: Applying behavioural economics to understand consumer decision-making and behaviour. *Renewable and Sustainable Energy Reviews* 41, 1385-1394. [[Crossref](#)]
200. OUATTARA Aboudou, Hubert de La Bruslerie. 2015. Characteristics of the Term Structure of Psychological Discount Rate. *SSRN Electronic Journal* . [[Crossref](#)]
201. Todd Gerarden, Richard G. Newell, Robert N. Stavins. 2015. Assessing the Energy-Efficiency Gap. *SSRN Electronic Journal* 101. . [[Crossref](#)]
202. Thomas Meissner, Philipp Pfeiffer. 2015. I Want to Know it Now: Measuring Preferences Over the Temporal Resolution of Consumption Uncertainty. *SSRN Electronic Journal* . [[Crossref](#)]
203. Mark DesJardine, Pratima (Tima) Bansal. 2015. Failing to Meet Analysts Expectations: How Financial Markets Contribute to Corporate Short-Termism. *SSRN Electronic Journal* . [[Crossref](#)]
204. Julia M. Ptaschunder. 2015. Time Time Time. *SSRN Electronic Journal* . [[Crossref](#)]
205. Daniel Monroy. 2015. BEHAVIORAL ECONOMICS Y POLÍTICAS PÚBLICAS: Algunos problemas y sus soluciones (Behavioral Economics and Public Policies: Some Problems and Their Solutions - In Spanish). *SSRN Electronic Journal* . [[Crossref](#)]
206. Elisha Frederiks, Karen Stenner, Elizabeth Hobman. 2015. The Socio-Demographic and Psychological Predictors of Residential Energy Consumption: A Comprehensive Review. *Energies* 8:1, 573-609. [[Crossref](#)]
207. Thomas Döring. Zentrale Erkenntnisse der Verhaltensökonomik – Zur begrenzten Rationalität des individuellen Entscheidungsverhaltens 15-37. [[Crossref](#)]
208. Peter A. Hall, Geoffrey T. Fong, Genevieve Sansone. Time Perspective as a Predictor of Healthy Behaviors and Disease-Mediating States 339-352. [[Crossref](#)]
209. Ambre Nicolle. 2015. Are Consumers Myopic? Evidence from Handset and Mobile Services Choices. *SSRN Electronic Journal* 96. . [[Crossref](#)]

210. Patrick S. Johnson, Evan S. Herrmann, Matthew W. Johnson. 2015. Opportunity costs of reward delays and the discounting of hypothetical money and cigarettes. *Journal of the Experimental Analysis of Behavior* **103**:1, 87-107. [[Crossref](#)]
211. Fabio Paglieri, Elsa Addressi, Agnese Sbaffi, Maria Isabella Tasselli, Alexia Delfino. 2015. Is it patience or motivation? On motivational confounds in intertemporal choice tasks. *Journal of the Experimental Analysis of Behavior* **103**:1, 196-217. [[Crossref](#)]
212. Sven Hoeppe. 2014. The unintended consequence of doorstep consumer protection: surprise, reciprocation, and consistency. *European Journal of Law and Economics* **38**:2, 247-276. [[Crossref](#)]
213. Reinoud Joosten. 2014. Social dilemmas, time preferences and technology adoption in a commons problem. *Journal of Bioeconomics* **16**:3, 239-258. [[Crossref](#)]
214. Thomas Dohmen. 2014. Behavioral labor economics: Advances and future directions. *Labour Economics* **30**, 71-85. [[Crossref](#)]
215. Ana Cordeiro Santos, Vânia Costa, Nuno Teles. 2014. The Political Economy of Consumption and Household Debt: An Interdisciplinary Contribution\*. *RCCS Annual Review* :6. . [[Crossref](#)]
216. Joris-Johann Lenssen, Nikolay A. Dentchev, Ludwig Roger. 2014. Sustainability, risk management and governance: towards an integrative approach. *Corporate Governance: The international journal of business in society* **14**:5, 670-684. [[Crossref](#)]
217. Elizabeth V. Hobman, Elisha R. Frederiks. 2014. Barriers to green electricity subscription in Australia: "Love the environment, love renewable energy ... but why should I pay more?". *Energy Research & Social Science* **3**, 78-88. [[Crossref](#)]
218. V. I. YUKALOV, D. SORNETTE. 2014. SELF-ORGANIZATION IN COMPLEX SYSTEMS AS DECISION MAKING. *Advances in Complex Systems* **17**:03n04, 1450016. [[Crossref](#)]
219. David DeSteno, Ye Li, Leah Dickens, Jennifer S. Lerner. 2014. Gratitude. *Psychological Science* **25**:6, 1262-1267. [[Crossref](#)]
220. Leonard Green, Joel Myerson, Ariana Vanderveldt. Delay and Probability Discounting 307-337. [[Crossref](#)]
221. Alexander Peysakhovich. 2014. How to commit (if you must): Commitment contracts and the dual-self model. *Journal of Economic Behavior & Organization* **101**, 100-112. [[Crossref](#)]
222. Bart Cockx, Corinna Ghirelli, Bruno Van der Linden. 2014. Is it socially efficient to impose job search requirements on unemployed benefit claimants with hyperbolic preferences?. *Journal of Public Economics* **113**, 80-95. [[Crossref](#)]
223. Jeong-Yeol Park, SooCheong (Shawn) Jang. 2014. Revisit and satiation patterns: Are your restaurant customers satiated?. *International Journal of Hospitality Management* **38**, 20-29. [[Crossref](#)]
224. Wenhui Zhang, Hui Wang, Craig L. Pearce. 2014. Consideration for future consequences as an antecedent of transformational leadership behavior: The moderating effects of perceived dynamic work environment. *The Leadership Quarterly* **25**:2, 329-343. [[Crossref](#)]
225. Adrian R. Camilleri, Richard P. Larrick. 2014. Metric and Scale Design as Choice Architecture Tools. *Journal of Public Policy & Marketing* **33**:1, 108-125. [[Crossref](#)]
226. Xiaoli Nan, Jarim Kim. 2014. Predicting H1N1 Vaccine Uptake and H1N1-Related Health Beliefs: The Role of Individual Difference in Consideration of Future Consequences. *Journal of Health Communication* **19**:3, 376-388. [[Crossref](#)]
227. ###, HwangDucksoon. 2014. The Response of Household Consumption to Income Tax Refunds. *Journal of Consumption Culture* **17**:1, 49-68. [[Crossref](#)]
228. Pratima Bansal, Mark R. DesJardine. 2014. Business sustainability: It is about time. *Strategic Organization* **12**:1, 70-78. [[Crossref](#)]

229. Hanno Beck. Der Schwache Mensch: Zinsen, Diäten und Sucht 197-253. [[Crossref](#)]
230. Neil B. Niman. The Future of Higher Education 159-173. [[Crossref](#)]
231. Neil B. Niman. Creating a Game-Based Student Experience 145-158. [[Crossref](#)]
232. Alexander Harin. 2014. A 'Certain-Uncertain' Inconsistency of the Main Experimental System of Utility and Prospect Theories and Models. *SSRN Electronic Journal* . [[Crossref](#)]
233. Hanno Beck. Der Schwache Mensch: Zinsen, Diäten und Sucht 197-253. [[Crossref](#)]
234. Jonathan W. Leland. 2013. Equilibrium Selection, Similarity Judgments, and the “Nothing to Gain/ Nothing to Lose” Effect. *Journal of Behavioral Decision Making* **26**:5, 418-428. [[Crossref](#)]
235. Giles W. Story, Ivaylo Vlaev, Ben Seymour, Joel S. Winston, Ara Darzi, Raymond J. Dolan. 2013. Dread and the Disvalue of Future Pain. *PLoS Computational Biology* **9**:11, e1003335. [[Crossref](#)]
236. Catherine Eckel, Cathleen Johnson, Claude Montmarquette. 2013. Human capital investment by the poor: Informing policy with laboratory experiments. *Journal of Economic Behavior & Organization* **95**, 224-239. [[Crossref](#)]
237. Imke Kappes, Thomas Schmid. 2013. The Effect of Family Governance on Corporate Time Horizons. *Corporate Governance: An International Review* **21**:6, 547-566. [[Crossref](#)]
238. Leonard Green, Joel Myerson, Luís Oliveira, Seo Eun Chang. 2013. Delay discounting of monetary rewards over a wide range of amounts. *Journal of the Experimental Analysis of Behavior* **100**:3, 269-281. [[Crossref](#)]
239. David J. Hardisty, Kirstin C. Appelt, Elke U. Weber. 2013. Good or Bad, We Want it Now: Fixed-cost Present Bias for Gains and Losses Explains Magnitude Asymmetries in Intertemporal Choice. *Journal of Behavioral Decision Making* **26**:4, 348-361. [[Crossref](#)]
240. Brian C. Cadena, Benjamin J. Keys. 2013. Can Self-Control Explain Avoiding Free Money? Evidence from Interest-Free Student Loans. *The Review of Economics and Statistics* **95**:4, 1117-1129. [[Crossref](#)]
241. Tomoki Fujii. 2013. Modeling myopia: Application to non-renewable resource extraction. *Mathematical Social Sciences* **66**:2, 95-104. [[Crossref](#)]
242. Ana Cordeiro Santos, Vânia Costa, Nuno Teles. 2013. A economia política do consumo e do crédito às famílias: Um contributo interdisciplinar. *Revista Crítica de Ciências Sociais* :101, 09-38. [[Crossref](#)]
243. Bertrand Wigniolle. 2013. Fertility in the absence of self-control. *Mathematical Social Sciences* **66**:1, 71-86. [[Crossref](#)]
244. Andreas König, Nadine Kammerlander, Albrecht Enders. 2013. The Family Innovator's Dilemma: How Family Influence Affects the Adoption of Discontinuous Technologies by Incumbent Firms. *Academy of Management Review* **38**:3, 418-441. [[Crossref](#)]
245. Yuri Biondi, Giuseppe Marzo. Decision Making Using Behavioral Finance for Capital Budgeting 421-444. [[Crossref](#)]
246. Fabio Paglieri. 2013. THE COSTS OF DELAY: WAITING VERSUS POSTPONING IN INTERTEMPORAL CHOICE. *Journal of the Experimental Analysis of Behavior* **99**:3, 362-377. [[Crossref](#)]
247. Michael R. Caputo. 2013. The intrinsic comparative dynamics of infinite horizon optimal control problems with a time-varying discount rate and time-distance discounting. *Journal of Economic Dynamics and Control* **37**:4, 810-820. [[Crossref](#)]
248. Jeff Galak, Justin Kruger, George Loewenstein. 2013. Slow Down! Insensitivity to Rate of Consumption Leads to Avoidable Satiation. *Journal of Consumer Research* **39**:5, 993-1009. [[Crossref](#)]
249. Kyong-Mee Chung, ###. 2013. Effects of reward magnitude on the performance of delayed discounting task: focusing on smoking and drinking behaviors. *Korean Journal of Clinical Psychology* **32**:1, 55-76. [[Crossref](#)]

250. Jeffrey S. Stein, Gregory J. Madden. Delay Discounting and Drug Abuse: Empirical, Conceptual, and Methodological Considerations 165-208. [[Crossref](#)]
251. Hua Sun, Michael Seiler. 2013. Hyperbolic Discounting, Reference Dependence, and its Implications for the Housing Market. *Journal of Real Estate Research* 35:1, 1-24. [[Crossref](#)]
252. Christine Neill. 2013. What You Don't Know Can't Help You: Lessons of Behavioural Economics for Tax-Based Student Aid. *SSRN Electronic Journal* . [[Crossref](#)]
253. Alexander Peysakhovich. 2013. How to Commit (If You Must): Commitment Contracts and the Dual-Self Model. *SSRN Electronic Journal* 13. . [[Crossref](#)]
254. Salvador Cruz Rambaud, María José Muñoz Torrecillas. An Analysis of Inconsistency in Intertemporal Choice 97-108. [[Crossref](#)]
255. Niamh O. Riordan, Tom Acton, Kieran Conboy, Willie Golden. It Is About Time: Investigating the Temporal Parameters of Decision-Making in Agile Teams 455-465. [[Crossref](#)]
256. Bart L. W. Cockx, Corinna Ghirelli, Bruno Van der Linden. 2013. Monitoring Job Search Effort with Hyperbolic Time Preferences and Non-Compliance: A Welfare Analysis. *SSRN Electronic Journal* 115. . [[Crossref](#)]
257. James Andreoni,, Charles Sprenger. 2012. Risk Preferences Are Not Time Preferences. *American Economic Review* 102:7, 3357-3376. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
258. Robyn A. LeBoeuf, Eldar Shafir. Decision Making 301-321. [[Crossref](#)]
259. Todd L. McKerchar, C. Renee Renda. 2012. Delay and Probability Discounting in Humans: An Overview. *The Psychological Record* 62:4, 817-834. [[Crossref](#)]
260. Limor Hatsor. 2012. Occupational choice: Teacher quality versus teacher quantity. *Labour Economics* 19:4, 608-623. [[Crossref](#)]
261. James J. Chrisman, Pankaj C. Patel. 2012. Variations in R&D Investments of Family and Nonfamily Firms: Behavioral Agency and Myopic Loss Aversion Perspectives. *Academy of Management Journal* 55:4, 976-997. [[Crossref](#)]
262. Eric Dolansky, Mark Vandenbosch. 2012. Perceived variance and preference for sequences of outcomes. *Journal of Product & Brand Management* 21:4, 285-292. [[Crossref](#)]
263. Mohammad G. Nejad, Hooman Estelami. 2012. Pricing financial services innovations. *Journal of Financial Services Marketing* 17:2, 120-134. [[Crossref](#)]
264. Daniel Read, Shane Frederick, Mara Airoidi. 2012. Four days later in Cincinnati: Longitudinal tests of hyperbolic discounting. *Acta Psychologica* 140:2, 177-185. [[Crossref](#)]
265. Epaminondas Panas, Athanasios N. Yannacopoulos. 2012. Ramsey meets Laibson and Itô: Effects of hyperbolic discounting on stochastic growth. *The Journal of Economic Asymmetries* 9:1, 51-65. [[Crossref](#)]
266. Kirsten Wüst, Hanno Beck. 2012. Student Effort in Preparing for Exams: Intertemporal Preferences and Loss Aversion. *Decision Sciences Journal of Innovative Education* 10:2, 245-262. [[Crossref](#)]
267. Stefanie Lena Heinzle. 2012. Disclosure of Energy Operating Cost Information: A Silver Bullet for Overcoming the Energy-Efficiency Gap?. *Journal of Consumer Policy* 35:1, 43-64. [[Crossref](#)]
268. Bernadette Kamleitner, Erik Hoelzl, Erich Kirchler. 2012. Credit use: Psychological perspectives on a multifaceted phenomenon. *International Journal of Psychology* 47:1, 1-27. [[Crossref](#)]
269. Ruby Roy Dholakia. Buy Now, Pay Later: Financing the Future 143-171. [[Crossref](#)]
270. Xiaoli Nan. 2012. Relative Persuasiveness of Gain- Versus Loss-Framed Human Papillomavirus Vaccination Messages for the Present- and Future-Minded. *Human Communication Research* 38:1, 72-94. [[Crossref](#)]

271. Viktor Fedaseyev, Vitaliy Strohush. 2012. Loans from the Government, Overinvestment by Households, and Asset Bubbles. *SSRN Electronic Journal* . [[Crossref](#)]
272. Shane Flynn. 2012. Financial Decision-Making in Irish Households. *SSRN Electronic Journal* . [[Crossref](#)]
273. Thomas F. Epper, Helga Fehr-Duda. 2012. The Missing Link: Unifying Risk Taking and Time Discounting. *SSRN Electronic Journal* **101**. . [[Crossref](#)]
274. Enrica Carbone, Gerardo Infante. 2012. Are Groups Better Planners than Individuals? An Experimental Analysis. *SSRN Electronic Journal* **75**. . [[Crossref](#)]
275. Enrica Carbone, Gerardo Infante. 2012. The Effect of a Short Planning Horizon on Intertemporal Consumption Choices. *SSRN Electronic Journal* . [[Crossref](#)]
276. Anna Breman. 2011. Give more tomorrow: Two field experiments on altruism and intertemporal choice. *Journal of Public Economics* **95**:11-12, 1349-1357. [[Crossref](#)]
277. Y. Biondi. 2011. Cost of capital, discounting and relational contracting: endogenous optimal return and duration for joint investment projects. *Applied Economics* **43**:30, 4847-4864. [[Crossref](#)]
278. James J. Chrisman, Jess H. Chua, Lloyd P. Steier. 2011. Resilience of Family Firms: An Introduction. *Entrepreneurship Theory and Practice* **35**:6, 1107-1119. [[Crossref](#)]
279. G. T. Lumpkin, Keith H. Brigham. 2011. Long-Term Orientation and Intertemporal Choice in Family Firms. *Entrepreneurship Theory and Practice* **35**:6, 1149-1169. [[Crossref](#)]
280. Isabelle Le Breton-Miller, Danny Miller. 2011. Commentary: Family Firms and the Advantage of Multitemporality. *Entrepreneurship Theory and Practice* **35**:6, 1171-1177. [[Crossref](#)]
281. Floris Heukelom. 2011. What to Conclude from Psychological Experiments: The Contrasting Cases of Experimental and Behavioral Economics. *History of Political Economy* **43**:4, 649-681. [[Crossref](#)]
282. Swee-Hoon Chuah, James Devlin. 2011. Behavioural economics and financial services marketing: a review. *International Journal of Bank Marketing* **29**:6, 456-469. [[Crossref](#)]
283. Jeffery L. Guyse, Jay Simon. 2011. Consistency Among Elicitation Techniques for Intertemporal Choice: A Within-Subjects Investigation of the Anomalies. *Decision Analysis* **8**:3, 233-246. [[Crossref](#)]
284. Alan Rozanski. Integrating the Management of Psychosocial and Behavior Risk Factors into Clinical Medical Practice 355-374. [[Crossref](#)]
285. Stephen E. Satchell, Susan Thorp. 2011. Uncertain survival and time discounting: intertemporal consumption plans for family trusts. *Journal of Population Economics* **24**:1, 239-266. [[Crossref](#)]
286. Arthur J. Robson, Larry Samuelson. The Evolutionary Foundations of Preferences 221-310. [[Crossref](#)]
287. Floris Heukelom. Building and Defining Behavioral Economics 1-29. [[Crossref](#)]
288. Baitshopi Tebogo. 2011. Valuing Securities and Managing Portfolios Under Uncertainty: A Reminder of the Underlying Assumptions. *SSRN Electronic Journal* **25**. . [[Crossref](#)]
289. William P. Neace, Kate Deer, Steven Michaud, Lauren Bolling. Uncertainty Is Psychologically Uncomfortable: A Theoretic Framework for Studying Judgments and Decision Making Under Uncertainty and Risk 93-117. [[Crossref](#)]
290. Jinyong Lee. 2010. The Effect of Temporal Distance on Consumer Decision Making : Focusing on Comparative Analysis between Economic and Psychological Perspectives and Suggestions for Future Research. *Journal of Consumption Culture* **13**:4, 201-222. [[Crossref](#)]
291. Gharad Bryan, Dean Karlan, Scott Nelson. 2010. Commitment Devices. *Annual Review of Economics* **2**:1, 671-698. [[Crossref](#)]
292. M. Skourtos, A. Kontogianni, P. A. Harrison. 2010. Reviewing the dynamics of economic values and preferences for ecosystem goods and services. *Biodiversity and Conservation* **19**:10, 2855-2872. [[Crossref](#)]

293. Yan Sun, Shu Li. 2010. The effect of risk on intertemporal choice. *Journal of Risk Research* **13**:6, 805-820. [[Crossref](#)]
294. Rodrigue Mendez. 2010. Un désir d'épargne... inassouvi. Essai sur les conséquences de l'escompte quasi-hyperbolique. *Revue d'économie politique* Vol. **120**:3, 453-486. [[Crossref](#)]
295. Simon Caney. Human rights, climate change, and discounting 113-130. [[Crossref](#)]
296. Carl-Friedrich Elmer. 2010. CO<sub>2</sub>-Emissionsstandards für Personenkraftwagen als Instrument der Klimapolitik im Verkehrssektor – Rationalität, Gestaltung und Wechselwirkung mit dem Emissionshandel. *Vierteljahrshefte zur Wirtschaftsforschung* **79**:2, 160-178. [[Crossref](#)]
297. Elyès Jouini, Jean-Michel Marin, Clotilde Napp. 2010. Discounting and divergence of opinion. *Journal of Economic Theory* **145**:2, 830-859. [[Crossref](#)]
298. Herbert Walther. 2010. Anomalies in intertemporal choice, time-dependent uncertainty and expected utility – A common approach. *Journal of Economic Psychology* **31**:1, 114-130. [[Crossref](#)]
299. Yuri Biondi. 2010. Cost of Capital, Discounting, and Relational Contracting: Endogenous Optimal Return and Duration for Joint Investment Projects. *SSRN Electronic Journal* **60**. . [[Crossref](#)]
300. Swee-Hoon Chuah. 2010. Do Human Values Explain Economic Behavior? An Experimental Study. *SSRN Electronic Journal* . [[Crossref](#)]
301. Chloe Tergiman. 2010. Entrepreneurship Does Pay. *SSRN Electronic Journal* . [[Crossref](#)]
302. Lisa L. Shu, Max H. Bazerman. 2010. Cognitive Barriers to Environmental Action: Problems and Solutions. *SSRN Electronic Journal* . [[Crossref](#)]
303. Catherine C. Eckel, Cathleen A. Johnson, Claude Montmarquette. 2010. Human Capital Investment by the Poor: Informing Policy with Laboratory and Field Experiments. *SSRN Electronic Journal* . [[Crossref](#)]
304. Suzanne H. Mitchell, Vanessa B. Wilson. 2010. The subjective value of delayed and probabilistic outcomes: Outcome size matters for gains but not for losses. *Behavioural Processes* **83**:1, 36-40. [[Crossref](#)]
305. Michael E. Drew. 2009. The Puzzle of Financial Reporting and Corporate Short-Termism: A Universal Ownership Perspective. *Australian Accounting Review* **19**:4, 295-302. [[Crossref](#)]
306. . Références bibliographiques 177-196. [[Crossref](#)]
307. David DeSteno. 2009. Social Emotions and Intertemporal Choice. *Current Directions in Psychological Science* **18**:5, 280-284. [[Crossref](#)]
308. Shao-gang Chen, Feng Xue. Application research of price discrimination method in natural gas pricing 1696-1701. [[Crossref](#)]
309. SOPHIE TAYLER, JOANA ARANTES, RANDOLPH C. GRACE. 2009. Temporal discounting for monetary and close relationship outcomes. *Personal Relationships* **16**:3, 385-400. [[Crossref](#)]
310. Katherine L. Milkman, Todd Rogers, Max H. Bazerman. 2009. Highbrow Films Gather Dust: Time-Inconsistent Preferences and Online DVD Rentals. *Management Science* **55**:6, 1047-1059. [[Crossref](#)]
311. Hessel Oosterbeek, Anja van den Broek. 2009. An empirical analysis of borrowing behaviour of higher education students in the Netherlands. *Economics of Education Review* **28**:2, 170-177. [[Crossref](#)]
312. Kirsten Wüst, Hanno Beck. 2009. Ökonomische Theorie der Zeit und Psychologie. *List Forum für Wirtschafts- und Finanzpolitik* **35**:1, 45-62. [[Crossref](#)]
313. Hooman Estelami. 2009. Cognitive drivers of suboptimal financial decisions: Implications for financial literacy campaigns. *Journal of Financial Services Marketing* **13**:4, 273-283. [[Crossref](#)]
314. Erica Field. 2009. Educational Debt Burden and Career Choice: Evidence from a Financial Aid Experiment at NYU Law School. *American Economic Journal: Applied Economics* **1**:1, 1-21. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]

315. Philip Zimbardo, John Boyd. Die Gegenwart 119-162. [[Crossref](#)]
316. Tommy Gärling, Erich Kirchler, Alan Lewis, Fred van Raaij. 2009. Psychology, Financial Decision Making, and Financial Crises. *Psychological Science in the Public Interest* **10**:1, 1-47. [[Crossref](#)]
317. Anna Alberini, Stefania Tonin, Margherita Turvani. 2009. Rates of Time Preferences for Saving Lives in the Hazardous Waste Site Context. *SSRN Electronic Journal* . [[Crossref](#)]
318. Graciela Chichilnisky. 2009. Avoiding Extinction: Equal Treatment of the Present and the Future. *SSRN Electronic Journal* . [[Crossref](#)]
319. Katherine L. Milkman, Todd Rogers, Max H. Bazerman. 2009. Highbrow Films Gather Dust: Time-Inconsistent Preferences and Online DVD Rentals. *SSRN Electronic Journal* . [[Crossref](#)]
320. Jeff T. Larsen, Lee M. Cohen. 2009. Smoking attitudes, intentions, and behavior among college student smokers: Positivity outweighs negativity. *Addiction Research & Theory* **17**:6, 637-649. [[Crossref](#)]
321. Graciela Chichilnisky. 2009. Avoiding Extinction: Equal Treatment of the Present and the Future. *Economics: The Open-Access, Open-Assessment E-Journal* . [[Crossref](#)]
322. L. Venkatachalam. 2008. Behavioral economics for environmental policy. *Ecological Economics* **67**:4, 640-645. [[Crossref](#)]
323. David Leiser, Ofer H. Azar, Liat Hadar. 2008. Psychological construal of economic behavior. *Journal of Economic Psychology* **29**:5, 762-776. [[Crossref](#)]
324. Bernd Huber, Marco Runkel. 2008. HYPERBOLIC DISCOUNTING, PUBLIC DEBT AND BALANCED BUDGET RULES. *Scottish Journal of Political Economy* **55**:5, 543-560. [[Crossref](#)]
325. Katherine L. Milkman, Todd Rogers, Max H. Bazerman. 2008. Harnessing Our Inner Angels and Demons: What We Have Learned About Want/Should Conflicts and How That Knowledge Can Help Us Reduce Short-Sighted Decision Making. *Perspectives on Psychological Science* **3**:4, 324-338. [[Crossref](#)]
326. . The Cambridge Handbook of Psychology and Economic Behaviour **6**, . [[Crossref](#)]
327. Paul Webley, Ellen K. Nyhus. Inter-temporal choice and self-control: saving and borrowing 105-131. [[Crossref](#)]
328. Adi Livnat, Nicholas Pippenger. 2008. Systematic mistakes are likely in bounded optimal decision-making systems. *Journal of Theoretical Biology* **250**:3, 410-423. [[Crossref](#)]
329. Morris Altman. 2008. Behavioral Economics, Economic Theory and Public Policy. *SSRN Electronic Journal* **81**. . [[Crossref](#)]
330. Daniel Read, Shane Frederick, Mara Airoidi. 2008. Longitudinal Tests of Intertemporal Preference Reversals Due to Hyperbolic Discounting. *SSRN Electronic Journal* . [[Crossref](#)]
331. Michael S. Barr, Jane K. Dokko. 2008. Paying to Save: Tax Withholding and Asset Allocation among Low- and Moderate-Income Taxpayers. *SSRN Electronic Journal* . [[Crossref](#)]
332. Xuanming Su. 2008. A Model of Consumer Inertia With Applications to Dynamic Pricing. *SSRN Electronic Journal* . [[Crossref](#)]
333. Michael S. Barr, Jane K. Dokko. 2007. Paying to Save: Tax Withholding and Asset Allocation Among Low-and Moderate-Income Taxpayers. *Finance and Economics Discussion Series* **2007**:11, 1-44. [[Crossref](#)]
334. Scott A. Jeffrey, Rebecca Hodge. 2007. Factors influencing impulse buying during an online purchase. *Electronic Commerce Research* **7**:3-4, 367-379. [[Crossref](#)]
335. Gregory S. Berns, David Laibson, George Loewenstein. 2007. Intertemporal choice – toward an integrative framework. *Trends in Cognitive Sciences* **11**:11, 482-488. [[Crossref](#)]

336. Fernando S. Machado, Rajiv K. Sinha. 2007. Smoking Cessation: A Model of Planned vs. Actual Behavior for Time-Inconsistent Consumers. *Marketing Science* 26:6, 834-850. [[Crossref](#)]
337. John Monterosso, George Ainslie. 2007. The behavioral economics of will in recovery from addiction. *Drug and Alcohol Dependence* 90, S100-S111. [[Crossref](#)]
338. Seow Eng Ong, Tien Foo Sing, Alan Hwee Loon Teo. 2007. Delinquency and Default in Arms: The Effects of Protected Equity and Loss Aversion. *The Journal of Real Estate Finance and Economics* 35:3, 253-280. [[Crossref](#)]
339. Srabana Dasgupta, S. Siddarth, Jorge Silva-Risso. 2007. To Lease or to Buy? A Structural Model of a Consumer's Vehicle and Contract Choice Decisions. *Journal of Marketing Research* 44:3, 490-502. [[Crossref](#)]
340. Robert R. Prechter, Wayne D. Parker. 2007. The Financial/Economic Dichotomy in Social Behavioral Dynamics: The Socionomic Perspective. *Journal of Behavioral Finance* 8:2, 84-108. [[Crossref](#)]
341. Iris Geva-May. 2007. "We Seem to Have Always Spoken in Prose . . ." Policy Analysis Is a Clinical Profession: Implications for Policy Analysis Practice and Instruction. *Policy Studies Journal* 35:2, 135-164. [[Crossref](#)]
342. Gerhard Sorger. 2007. Time-preference and commitment. *Journal of Economic Behavior & Organization* 62:4, 556-578. [[Crossref](#)]
343. Peter A. Hall, Geoffrey T. Fong. 2007. Temporal self-regulation theory: A model for individual health behavior. *Health Psychology Review* 1:1, 6-52. [[Crossref](#)]
344. Alexander Gattig, Laurie Hendrickx. 2007. Judgmental Discounting and Environmental Risk Perception: Dimensional Similarities, Domain Differences, and Implications for Sustainability. *Journal of Social Issues* 63:1, 21-39. [[Crossref](#)]
345. Elyes Jouini, Clotilde Napp, Jean-Michel Marin. 2007. Discounting and Divergence of Opinion. *SSRN Electronic Journal* 68. . [[Crossref](#)]
346. Brian E. Roe, Timothy C. Haab. 2007. Using Biomedical Technologies to Inform Economic Modeling: Challenges and Opportunities for Improving Analysis of Environmental Policies. *SSRN Electronic Journal* . [[Crossref](#)]
347. Katherine L. Milkman, Todd Rogers, Max H. Bazerman. 2007. Harnessing Our Inner Angels and Demons: What We Have Learned About Want/Should Conflicts and How that Knowledge Can Help Us Reduce Short-Sighted Decision Making. *SSRN Electronic Journal* 82. . [[Crossref](#)]
348. Stephen E. Satchell, Susan Thorp. 2007. Discounting and Consumption Over an Uncertain Horizon: Draw-Down Plans for Family Trusts. *SSRN Electronic Journal* . [[Crossref](#)]
349. Jimena Ramírez-Marín, Francisco J. Medina, Wolfgang Steinel. 2007. Negotiating for Better or Worse: Changing Pie Sizes Affect Negotiation Relationships. *SSRN Electronic Journal* . [[Crossref](#)]
350. Jane Dokko, Michael S. Barr. 2007. Paying to Save: Tax Withholding and Asset Allocation among Low- and Moderate-Income Taxpayers. *SSRN Electronic Journal* . [[Crossref](#)]
351. Antoine Bommier. 2006. UNCERTAIN LIFETIME AND INTERTEMPORAL CHOICE: RISK AVERSION AS A RATIONALE FOR TIME DISCOUNTING. *International Economic Review* 47:4, 1223-1246. [[Crossref](#)]
352. Yuri Biondi. 2006. The double emergence of the Modified Internal Rate of Return: The neglected financial work of Duvillard (1755 – 1832) in a comparative perspective. *The European Journal of the History of Economic Thought* 13:3, 311-335. [[Crossref](#)]
353. Max H. Bazerman. 2006. Climate Change as a Predictable Surprise. *Climatic Change* 77:1-2, 179-193. [[Crossref](#)]
354. Neil Stewart, Nick Chater, Gordon D.A. Brown. 2006. Decision by sampling. *Cognitive Psychology* 53:1, 1-26. [[Crossref](#)]



355. Bruce K. Johnson, Michael J. Mondello, John C. Whitehead. 2006. Contingent Valuation of Sports. *Journal of Sports Economics* 7:3, 267-288. [[Crossref](#)]
356. Teck H. Ho, Noah Lim, Colin F. Camerer. 2006. Modeling the Psychology of Consumer and Firm Behavior with Behavioral Economics. *Journal of Marketing Research* 43:3, 307-331. [[Crossref](#)]
357. P. Read Montague, Brooks King-Casas, Jonathan D. Cohen. 2006. IMAGING VALUATION MODELS IN HUMAN CHOICE. *Annual Review of Neuroscience* 29:1, 417-448. [[Crossref](#)]
358. Sara J. Estle, Leonard Green, Joel Myerson, Daniel D. Holt. 2006. Differential effects of amount on temporal and probability discounting of gains and losses. *Memory & Cognition* 34:4, 914-928. [[Crossref](#)]
359. Barry Sopher, Arnav Sheth. 2006. A Deeper Look at Hyperbolic Discounting. *Theory and Decision* 60:2-3, 219-255. [[Crossref](#)]
360. Robyn A. Leboeuf. 2006. Discount Rates for Time versus Dates: The Sensitivity of Discounting to Time-Interval Description. *Journal of Marketing Research* 43:1, 59-72. [[Crossref](#)]
361. David Laibson. Decision-Making, Intertemporal . [[Crossref](#)]
362. Nira Munichor, Ido Erev, Arnon Lotem. 2006. Risk attitude in small timesaving decisions. *Journal of Experimental Psychology: Applied* 12:3, 129-141. [[Crossref](#)]
363. Monica Ortendahl. 2006. Using time framing effects to improve health education. *International Journal of Health Promotion and Education* 44:3, 92-96. [[Crossref](#)]
364. Elif Incekara. 2006. Credit Card Competition and Naive Hyperbolic Consumers. *SSRN Electronic Journal* . [[Crossref](#)]
365. Max H. Bazerman, Michael Watkins. 2005. Airline Security, the Failure of 9/11, and Predictable Surprises. *International Public Management Journal* 8:3, 365-377. [[Crossref](#)]
366. Terry L. Babcock-Lumish. 2005. Venture Capital Decision-Making and the Cultures of Risk: An Application of Q Methodology to US and UK Innovation Clusters. *Competition & Change* 9:4, 329-356. [[Crossref](#)]
367. Gary Aston-Jones, Jonathan D. Cohen. 2005. AN INTEGRATIVE THEORY OF LOCUS COERULEUS-NOREPINEPHRINE FUNCTION: Adaptive Gain and Optimal Performance. *Annual Review of Neuroscience* 28:1, 403-450. [[Crossref](#)]
368. Geoffrey Heal. Chapter 21 Intertemporal Welfare Economics and the Environment 1105-1145. [[Crossref](#)]
369. James A. Leitzel. 2005. From Harm to Robustness: A Principled Approach to Vice Regulation. *SSRN Electronic Journal* 96. . [[Crossref](#)]
370. Max H. Bazerman. 2005. Climate Change as a Predictable Surprise. *SSRN Electronic Journal* . [[Crossref](#)]
371. Howell E. Jackson. 2005. Accounting for Social Security Benefits. *SSRN Electronic Journal* . [[Crossref](#)]
372. . Bibliographie 259-274. [[Crossref](#)]
373. Gerhard Sorger. 2004. Consistent planning under quasi-geometric discounting. *Journal of Economic Theory* 118:1, 118-129. [[Crossref](#)]
374. Patricko Honohan, Richard B. Howarth, Kurt Schuler, Paul T. von Hippel. 2004. Comments. *Journal of Economic Perspectives* 18:2, 271-276. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
375. E J Levin, Y Ma, R E Wright. 2004. Profit maximization in a multi-product firm with impatient customers. *Journal of the Operational Research Society* 55:3, 211-218. [[Crossref](#)]
376. R Bartels, D.G Fiebig, A McCabe. 2004. The value of using stated preference methods: a case study in modelling water heater choices. *Mathematics and Computers in Simulation* 64:3-4, 487-495. [[Crossref](#)]
377. Christian Ullrich. Kooperation durch dynamische Effekte 129-208. [[Crossref](#)]

378. Klaus Spremann. Die Ziele langfristiger Geldanlage 183-204. [[Crossref](#)]
379. Leonard Green, Joel Myerson. 2004. A Discounting Framework for Choice With Delayed and Probabilistic Rewards. *Psychological Bulletin* **130**:5, 769-792. [[Crossref](#)]
380. Leonard Green, Joel Myerson, Daniel D. Holt, John R. Slevin, Sara J. Estle. 2004. DISCOUNTING OF DELAYED FOOD REWARDS IN PIGEONS AND RATS: IS THERE A MAGNITUDE EFFECT?. *Journal of the Experimental Analysis of Behavior* **81**:1, 39-50. [[Crossref](#)]
381. Liam Graham, Dennis J. Snower. 2004. Hyperbolic Discounting and the Phillips Curve. *SSRN Electronic Journal* . [[Crossref](#)]
382. Peter A. Hall, Geoffrey T. Fong†. 2003. The effects of a brief time perspective intervention for increasing physical activity among young adults. *Psychology & Health* **18**:6, 685-706. [[Crossref](#)]
383. Pedro H. Albuquerque. 2003. A practical log-linear aggregation method with examples: heterogeneous income growth in the USA. *Journal of Applied Econometrics* **18**:6, 665-678. [[Crossref](#)]
384. Uri Benzion, Joseph Yagil. 2003. Portfolio Composition Choice: A Behavioral Approach. *Journal of Behavioral Finance* **4**:2, 85-95. [[Crossref](#)]
385. Leonard Green, Joel Myerson, Rachel Schneider. 2003. Is there a magnitude effect in tipping?. *Psychonomic Bulletin & Review* **10**:2, 381-386. [[Crossref](#)]
386. Arie Kapteyn, Federica Teppa. 2003. Hypothetical Intertemporal Consumption Choices. *The Economic Journal* **113**:486, C140-C152. [[Crossref](#)]
387. George A. Akerlof. 2003. Behavioral Macroeconomics and Macroeconomic Behavior. *The American Economist* **47**:1, 25-47. [[Crossref](#)]
388. Connel Fullenkamp, Rafael Tenorio, Robert Battalio. 2003. Assessing Individual Risk Attitudes Using Field Data From Lottery Games. *Review of Economics and Statistics* **85**:1, 218-226. [[Crossref](#)]
389. George Deltas. 2003. The Small-Sample Bias of the Gini Coefficient: Results and Implications for Empirical Research. *Review of Economics and Statistics* **85**:1, 226-234. [[Crossref](#)]
390. George Ainslie, John Monterosso. Hyperbolic Discounting as a Factor in Addiction 35-69. [[Crossref](#)]
391. Shashi Kant. 2003. Extending the boundaries of forest economics. *Forest Policy and Economics* **5**:1, 39-56. [[Crossref](#)]
392. Anne Wilson, Michael Ross. 2003. The identity function of autobiographical memory: Time is on our side. *Memory* **11**:2, 137-149. [[Crossref](#)]
393. Gregory Mark Besharov. 2003. Second-best Considerations in Correcting Cognitive Biases. *SSRN Electronic Journal* . [[Crossref](#)]
394. Yehoshua Liebermann, Meyer Ungar. 2002. Efficiency of consumer intertemporal choice under life cycle cost conditions. *Journal of Economic Psychology* **23**:6, 729-748. [[Crossref](#)]
395. Christian Gollier. 2002. Discounting an uncertain future. *Journal of Public Economics* **85**:2, 149-166. [[Crossref](#)]
396. Fred Graham, Alan G. Isaac. 2002. The behavioral life-cycle theory of consumer behavior: survey evidence. *Journal of Economic Behavior & Organization* **48**:4, 391-401. [[Crossref](#)]
397. Daniel T. Gilbert, Michael J. Gill, Timothy D. Wilson. 2002. The Future Is Now: Temporal Correction in Affective Forecasting. *Organizational Behavior and Human Decision Processes* **88**:1, 430-444. [[Crossref](#)]
398. Henrich R. Greve. 2002. Sticky Aspirations: Organizational Time Perspective and Competitiveness. *Organization Science* **13**:1, 1-17. [[Crossref](#)]
399. Daniel T. Gilbert, Jane E. J. Ebert. 2002. Decisions and revisions: The affective forecasting of changeable outcomes. *Journal of Personality and Social Psychology* **82**:4, 503-514. [[Crossref](#)]

400. Rajagopal Raghunathan, Yaacov Trope. 2002. Walking the tightrope between feeling good and being accurate: Mood as a resource in processing persuasive messages. *Journal of Personality and Social Psychology* **83**:3, 510-525. [[Crossref](#)]
401. Jesus Fernandez-Villaverde, Arijit Mukherji. 2002. Can We Really Observe Hyperbolic Discounting?. *SSRN Electronic Journal* . [[Crossref](#)]
402. Sally Blount, Gregory A. Janicik. 2001. When Plans Change: Examining How People Evaluate Timing Changes in Work Organizations. *Academy of Management Review* **26**:4, 566-585. [[Crossref](#)]
403. Mariëtte Berndsen, Joop van der Pligt. 2001. Time is on my side: Optimism in intertemporal choice. *Acta Psychologica* **108**:2, 173-186. [[Crossref](#)]
404. Gretchen B Chapman. 2001. Time preferences for the very long term. *Acta Psychologica* **108**:2, 95-116. [[Crossref](#)]
405. Anja De Waegenaere, Peter P. Wakker. 2001. Nonmonotonic Choquet integrals. *Journal of Mathematical Economics* **36**:1, 45-60. [[Crossref](#)]
406. Russell W Coff, Kevin J Lavery. 2001. Roadblocks to competitive advantage: how organizational constraints and individual decision biases hinder investments in strategic assets. *The Journal of High Technology Management Research* **12**:1, 1-24. [[Crossref](#)]
407. Egon Franck, Josef Zellner. Emotionale Grenzen der Vernunft und ihre Konsequenzen für die Neue Institutionenökonomie 249-276. [[Crossref](#)]
408. Gretchen B. Chapman, Noel T. Brewer, Elliot J. Coups, Susan Brownlee, Howard Leventhal, Elaine A. Levanthal. 2001. Value for the future and preventive health behavior. *Journal of Experimental Psychology: Applied* **7**:3, 235-250. [[Crossref](#)]
409. Hooman Estelami. 2001. Determinants of Discount Rates in Consumer Credit Decisions. *Journal of Marketing Theory and Practice* **9**:1, 63-73. [[Crossref](#)]
410. Maria Manuela Ducla-Soares, Clara Clara Costa-Duarte, Maria Antonieta Cunha-e-Sa. 2001. The Hyperbolic Forest Owner. *SSRN Electronic Journal* . [[Crossref](#)]
411. Pamaria Rekaiti, Roger Van den Bergh. 2000. Cooling-Off Periods in the Consumer Laws of the EC Member States. A Comparative Law and Economics Approach. *Journal of Consumer Policy* **23**:4, 371-408. [[Crossref](#)]
412. Peter H. M. P. Roelofsma, Daniel Read. 2000. Intransitive intertemporal choice. *Journal of Behavioral Decision Making* **13**:2, 161-177. [[Crossref](#)]
413. Harrell Chesson, W. Kip Viscusi. 2000. The heterogeneity of time-risk tradeoffs. *Journal of Behavioral Decision Making* **13**:2, 251-258. [[Crossref](#)]
414. Christine Poulos, Dale Whittington. 2000. Time Preferences for Life-Saving Programs: Evidence from Six Less Developed Countries. *Environmental Science & Technology* **34**:8, 1445-1455. [[Crossref](#)]
415. Vital Anderhub. 2000. *Experimental Economics* **3**:2, 137-152. [[Crossref](#)]
416. Yaacov Trope, Ayelet Fishbach. 2000. Counteractive self-control in overcoming temptation. *Journal of Personality and Social Psychology* **79**:4, 493-506. [[Crossref](#)]
417. Eric M. Engen, William G. Gale, Cori E. Uccello. 2000. The Adequacy of Household Saving. *SSRN Electronic Journal* . [[Crossref](#)]
418. Max H. Bazerman. 2000. Sources of Environmentally Destructive Behavior: Individual, Organizational and Institutional Perspectives. *SSRN Electronic Journal* . [[Crossref](#)]
419. Heinz Jansen, Cécile Denis. 1999. A welfare cost assessment of various policy measures to reduce pollutant emissions from passenger road vehicles. *Transportation Research Part D: Transport and Environment* **4**:6, 379-396. [[Crossref](#)]

420. Gretchen B. Chapman, Elliot J. Coups. 1999. Time Preferences and Preventive Health Behavior. *Medical Decision Making* 19:3, 307-314. [[Crossref](#)]
421. Young-Hee Cho, L.Robin Keller, M.Lynne Cooper. 1999. Applying Decision-Making Approaches to Health Risk-Taking Behaviors: Progress and Remaining Challenges. *Journal of Mathematical Psychology* 43:2, 261-285. [[Crossref](#)]
422. Kimberly A. Wade-Benzoni. 1999. Thinking About the Future. *American Behavioral Scientist* 42:8, 1393-1405. [[Crossref](#)]
423. Brian J Zikmund-Fisher, Andrew M Parker. 1999. Demand for rent-to-own contracts: a behavioral economic explanation. *Journal of Economic Behavior & Organization* 38:2, 199-216. [[Crossref](#)]
424. Omar Azfar. 1999. Rationalizing hyperbolic discounting. *Journal of Economic Behavior & Organization* 38:2, 245-252. [[Crossref](#)]
425. Peter Kooreman, Ton Steerneman. 1998. A note on the energy-efficiency investments of an expected cost minimizer. *Resource and Energy Economics* 20:4, 373-381. [[Crossref](#)]
426. Norman Henderson, Ian Langford. 1998. Cross-Disciplinary Evidence for Hyperbolic Social Discount Rates. *Management Science* 44:11-part-1, 1493-1500. [[Crossref](#)]
427. Annemarije A Overton, Alan J MacFadyen. 1998. Time discounting and the estimation of loan duration. *Journal of Economic Psychology* 19:5, 607-618. [[Crossref](#)]
428. Jannett Highfill, Douglas Thorson, William V. Weber. 1998. Tax Overwithholding as a Response To Uncertainty. *Public Finance Review* 26:4, 376-391. [[Crossref](#)]
429. Gretchen B. Chapman, Jennifer R. Winquist. 1998. The magnitude effect: Temporal discount rates and restaurant tips. *Psychonomic Bulletin & Review* 5:1, 119-123. [[Crossref](#)]
430. Geoffrey Heal. Interpreting Sustainability 3-22. [[Crossref](#)]
431. Andrea Beltratti, Graciela Chichilnisky, Geoffrey Heal. Sustainable Use of Renewable Resources 49-76. [[Crossref](#)]
432. Gretchen B. Chapman. Sooner or Later 83-113. [[Crossref](#)]
433. Graciela Chichilnisky. 1998. The Economics of Global Environmental Risks. *SSRN Electronic Journal* . [[Crossref](#)]
434. Antonis Simintiras, Adamantios Diamantopoulos, Judith Ferriday. 1997. Pre-purchase satisfaction and first-time buyer behaviour: some preliminary evidence. *European Journal of Marketing* 31:11/12, 857-872. [[Crossref](#)]
435. Leonard Green, Joel Myerson, Edward Mcfadden. 1997. Rate of temporal discounting decreases with amount of reward. *Memory & Cognition* 25:5, 715-723. [[Crossref](#)]
436. Stephen Shmanske. 1997. Life-Cycle Happiness in a Discounted Utility Model. *Kyklos* 50:3, 383-407. [[Crossref](#)]
437. R. B. Barsky, F. T. Juster, M. S. Kimball, M. D. Shapiro. 1997. Preference Parameters and Behavioral Heterogeneity: An Experimental Approach in the Health and Retirement Study. *The Quarterly Journal of Economics* 112:2, 537-579. [[Crossref](#)]
438. Elizabeth Atherton, Simon French. Issues In Supporting Intertemporal Choice 135-156. [[Crossref](#)]
439. Graciela Chichilnisky. 1997. What is Sustainable Development. *SSRN Electronic Journal* . [[Crossref](#)]
440. Geoffrey M. Heal. 1997. Interpreting Sustainability. *SSRN Electronic Journal* . [[Crossref](#)]
441. Richard Wahlund, Jonas Gunnarsson. 1996. Mental discounting and financial strategies. *Journal of Economic Psychology* 17:6, 709-730. [[Crossref](#)]
442. Norman Henderson, William J. Sutherland. 1996. Two truths about discounting and their environmental consequences. *Trends in Ecology & Evolution* 11:12, 527-528. [[Crossref](#)]

443. John L. Pender. 1996. Discount rates and credit markets: Theory and evidence from rural india. *Journal of Development Economics* 50:2, 257-296. [[Crossref](#)]
444. Kevin J. Lavy. 1996. Economic "Short-Termism": The Debate, The Unresolved Issues, and The Implications for Management Practice and Research. *Academy of Management Review* 21:3, 825-860. [[Crossref](#)]
445. Peter Kooreman. 1996. Individual discounting, energy conservation, and household demand for lighting. *Resource and Energy Economics* 18:1, 103-114. [[Crossref](#)]
446. Han Bleichrodt, Amiram Gafni. 1996. Time preference, the discounted utility model and health. *Journal of Health Economics* 15:1, 49-66. [[Crossref](#)]
447. Siegwart M. Lindenberg. Short-Term Prevalence, Social Approval, and the Governance of Employment Relations 129-147. [[Crossref](#)]
448. Geoffrey M. Heal, Graciela Chichilnisky, Andrea Beltratti. 1996. Sustainable Use of Renewable Resources. *SSRN Electronic Journal* . [[Crossref](#)]
449. Ernst Mohr. 1995. Greenhouse policy persuasion: towards a positive theory of discounting the climate future. *Ecological Economics* 15:3, 235-245. [[Crossref](#)]
450. Jonathan Baron, Jay Schulkin. 1995. The problem of global warming from a decision-theoretic perspective. *Social Epistemology* 9:4, 353-368. [[Crossref](#)]
451. Gretchen B. Chapman, Arthur S. Elstein. 1995. Valuing the Future. *Medical Decision Making* 15:4, 373-386. [[Crossref](#)]
452. Norman Henderson, Ian Bateman. 1995. Empirical and public choice evidence for hyperbolic social discount rates and the implications for intergenerational discounting. *Environmental & Resource Economics* 5:4, 413-423. [[Crossref](#)]
453. James K. Hammitt. 1995. Outcome and value uncertainties in global-change policy. *Climatic Change* 30:2, 125-145. [[Crossref](#)]
454. Peter Kooreman. 1995. Individual discounting and the purchase of durables with random lifetimes. *Economics Letters* 48:1, 29-32. [[Crossref](#)]
455. Jason F. Shogren, Thomas D. Crocker. Valuing Ecosystems and Biodiversity 33-46. [[Crossref](#)]
456. John Quiggin, John Horowitz. 1995. Time and risk. *Journal of Risk and Uncertainty* 10:1, 37-55. [[Crossref](#)]
457. Donald A. Redelmeier, Daniel N. Heller, Milton C. Weinstein. 1994. Time Preference in Medical Economics. *Medical Decision Making* 14:3, 301-303. [[Crossref](#)]
458. Maureen L. Cropper, Sema K. Aydede, Paul R. Portney. 1994. Preferences for life saving programs: how the public discounts time and age. *Journal of Risk and Uncertainty* 8:3, 243-265. [[Crossref](#)]
459. Soo Hong Chew, Joanna L. Ho. 1994. Hope: An empirical study of attitude toward the timing of uncertainty resolution. *Journal of Risk and Uncertainty* 8:3, 267-288. [[Crossref](#)]
460. Clive L. Spash. 1994. Double CO2 and beyond: benefits, costs and compensation. *Ecological Economics* 10:1, 27-36. [[Crossref](#)]
461. Bruno S. Frey, Reiner Eichenberger. 1994. Economic incentives transform psychological anomalies. *Journal of Economic Behavior & Organization* 23:2, 215-234. [[Crossref](#)]
462. William V. Weber, Jannett K. Highfill, Mathew J. Morey. A Cross-Country Comparison of Consumer Discount Rates 56-68. [[Crossref](#)]
463. Norbert Schwarz, Michaela Wänke, Herbert Bless. 1994. Subjective Assessments and Evaluations of Change: Some Lessons from Social Cognition Research. *European Review of Social Psychology* 5:1, 181-210. [[Crossref](#)]

464. Fareena Sultan, Russell S. Winer. 1993. Time preferences for products and attributes and the adoption of technologydriven consumer durable innovations. *Journal of Economic Psychology* 14:4, 587-613. [[Crossref](#)]
465. MARY E. DEILY, W. ROBERT REED. 1993. Temptation, Willpower, and the Problem of Rational Self-Control. *Rationality and Society* 5:4, 455-472. [[Crossref](#)]
466. Bruno S. Frey. 1993. From economic imperialism to social science inspiration. *Public Choice* 77:1, 95-105. [[Crossref](#)]
467. Donald A. Redelmeier, Daniel N. Heller. 1993. Time Preference in Medical Decision Making and Cost - Effectiveness Analysis. *Medical Decision Making* 13:3, 212-217. [[Crossref](#)]
468. Milton C. Weinstein. 1993. Time-preference Studies in the Health Care Context. *Medical Decision Making* 13:3, 218-219. [[Crossref](#)]
469. Thomas D Crocker, Jason F Shogren. 1993. Dynamic inconsistency in valuing environmental goods. *Ecological Economics* 7:3, 239-254. [[Crossref](#)]
470. Jan Abel Olsen. 1993. On what basis should health be discounted?. *Journal of Health Economics* 12:1, 39-53. [[Crossref](#)]
471. Bruno S. Frey. From economic imperialism to social science inspiration 95-105. [[Crossref](#)]
472. Charles Vlek, Gideon Keren. 1992. Behavioral decision theory and environmental risk management: Assessment and resolution of four 'survival' dilemmas. *Acta Psychologica* 80:1-3, 249-278. [[Crossref](#)]
473. JAMES H. HOLCOMB, PAUL S. NELSON. 1992. Another Experimental Look at Individual Time Preference. *Rationality and Society* 4:2, 199-220. [[Crossref](#)]
474. John Komlos, Richard Landes. 1991. Anachronistic Economics: Grain Storage in Medieval England. *The Economic History Review* 44:1, 36. [[Crossref](#)]
475. Frank Stähler. Literaturverzeichnis 165-178. [[Crossref](#)]
476. Howard Rachlin. 1990. Why do People Gamble and Keep Gambling despite Heavy Losses?. *Psychological Science* 1:5, 294-297. [[Crossref](#)]
477. Siegwart Lindenberg. Social Rationality versus Rational Egoism 635-668. [[Crossref](#)]
478. Barry Sopher, Arnav Sheth. A Deeper Look at Hyperbolic Discounting 125-150. [[Crossref](#)]
479. . E-Service Customization 19-46. [[Crossref](#)]
480. Massimo Egidi. Le processus dual du raisonnement : origines, problèmes et perspectives 11-54. [[Crossref](#)]