

emphasizing obvious dimensions such as cost, risk, security, privacy, and speed.

A glance at key trends in the use of different payment instruments should cast doubt on the adequacy of this circumscribed conception of consumer needs. Among the major categories, debit cards have been the fastest growing segment, and as of 2006 have displaced credit cards as the top payment method by total number of transactions. Credit cards, however, have multiple advantages and no countervailing disadvantages relative to debit cards: they provide a short-term interest-free loan, they increase liquidity, giving the option of costless conversion of the balance into uncollateralized debt, and they are much more likely to be bundled with attractive reward programs.<sup>1</sup> Therefore, on financial grounds, it is hard to understand the appeal of the debit card.<sup>2</sup>

Similar considerations apply to prepaid cards, which function like a debit card except that the funds are not linked to a bank account. Instead, the consumer preloads a certain amount on the card at activation time, and the purchases are then deducted from the balance until no funds remain (most, but not all cards can be reloaded). These cards, which are often marketed as a “bank account in your wallet,” provide even less liquidity than debit cards, yet are projected to be the fastest growing segment over the next five years.

It is hard to ascribe the success of either method, debit or prepaid, to dramatic financial or technological innovations. Rather, experimentation with different payment methods eventually generated products tapping into overlooked but evidently important consumer needs.<sup>3</sup> In the remainder of this chapter, I speculate on what these needs might be. These speculations are inspired by recent experimental findings in behavioral economics and by inferences from marketplace phenomena. I do not discuss technological developments per se; instead, my goal is to outline broad psychological goals that are important when considering ideas for new technologies and mechanisms.

By payment arrangements I refer to the full set of financial obligations incurred with a purchase, not just to the properties of individual transactions. One can, after all, pay for goods and services many ways.

## 5

DRAZEN PRELEC

*Consumer Behavior and the Future  
of Consumer Payments*

A billboard ad for a prepaid long-distance telephone card once ran the slogan “Now you can call your loved ones and not think about how much it costs.” The ad points to a basic dilemma in consumer attitudes to payment. From a pleasure standpoint, one would like to minimize thought of payment. From a decision standpoint, however, one definitely needs to know how much something costs. The dilemma may be expressed by saying that the consumer wants to know the cost of consumption, but does not want to think unduly about it.

In this chapter I take up the question of what consumers might ideally want from payment arrangements. Granted, to speak of payments as providing any positive benefits at all may seem unusual. It is more natural to think of payments as a necessary evil that financial and technological innovations can perhaps mitigate. On the financial side, these innovations can give consumers more flexibility about how they will pay, thus more control over time and risk. Technology, in turn, can make individual transactions more convenient, fast, and secure.

These are not insignificant objectives. They are largely concerned, though, with removing the imperfections of traditional modes of payment. If there is a utopian vision here, it is an essentially negative one, of total financial liquidity and effortless, instant transactions. The implicit model of consumer preference is elementary in the extreme,

In a retail setting one has the choice between paying in cash or using a card. Among cards, there are again many possibilities—credit cards, debit cards, charge cards, stored value cards, prepaid cards, and others. Online purchases also present payment options, for example, between card charges, electronic currencies, and the old-fashioned paper bill (BillMeLater). In many product categories choices are offered between flat and variable rates, between *prix fixe* and *à la carte* offerings, and between owning and renting. A producer can charge separately for the hardware and the software, for the basic model and for any options, for the initial version and for upgrades, not to speak of discounts, surcharges, frequent-flyer miles, and such. From the perspective of the producer, the selection of a pricing arrangement presents such opportunities for invention and creative refinement to make the task more an integral part of product design than a textbook pricing exercise.

A theory of design is a formulation of general principles rather than a set of quantitative rules. Such principles should address the question of what consumers want from payment arrangements beyond the obvious financial and transactional benefits. I venture here a preliminary assessment, namely, that they want

- to enjoy goods and services as if they were free,
- to be able to justify any payments with specific and salient benefits, and
- to preserve financial responsibility and self-control.

This is a provisional definition of the core benefits of payment arrangements. These benefits are not naturally aligned, and arrangements that cater to one often do so at the expense of another. The challenging design objective is to reconcile them. This is where technology might help.

### **Removing the Moral Tax on Consumption**

The observation that payments take some of the glow off consumption is a commonplace. To refresh our intuitions let us perform a simple thought experiment: imagine a lavish dinner, with the best possible food, wonderful service, and in the company of a few favorite friends.

However, you are personally responsible for the full cost of the dinner—perhaps beforehand the group drew straws to determine who would pay, and you got the short one. The total price is expected to be greater than any single dinner bill you have ever absorbed (take whatever figure comes to mind and then double it). Let us call this Scenario A.

Now, imagine that a few days before the planned dinner, the restaurant called to inform you that—as part of a special promotion celebrating its recently acquired third Michelin star—the establishment will pick up the full bill. The dinner is complimentary. Let us call this Scenario B.

The critical question is whether there is any reason to expect a difference between how the dinner experience will feel under the two scenarios. If your intuition is that it will feel exactly the same—because the consumption components are identical, the same food and the same company, after all—then you qualify as a rational consumer. In my experience, posing this question informally, it is extremely rare to encounter a rational consumer of this description. There is instead a robust majority opinion that the free scenario will allow for greater satisfaction, especially as one moves from dessert to coffee and the mint tray arrives without the customary check. The minor financial windfall created by the phone call bleeds over into the dinner experience (to be fair, there is also minority opinion that the dinner will actually feel better in the first scenario because the high cost will “concentrate the mind”).

Analyzing this from a utilitarian perspective, one could conclude that if the complimentary dinner experience measures up to  $u$  utils, then full payment experience is diminished, say by  $-Du$ . This may be obvious but, from a rational perspective, is quite odd. When a person pays for the dinner, the price represents an opportunity cost—perhaps it means no new sport coat this season. But this does not explain why the foregone sport coat should hover in the background and spoil the dinner experience. The consumer seems to pay twice, first with the necessary opportunity cost (no coat) and then with an entirely unnecessary *moral tax* on consumption, to the tune of  $Du$ .<sup>4</sup>

The moral tax represents the psychological intrusion of payments into consumption, robbing the consumer from some portion of rightful enjoyment. The rational consumer, in contrast, should enjoy all goods and services as if they were free.<sup>5</sup> To him prices are simply a counter, with no hedonic consequences.

The presence of the moral tax creates a new motive, which is to structure payments in such a way to minimize the hedonic loss. Here are some strategies that work.<sup>6</sup>

### *Prepayment*

A simple yet effective device for reducing the moral tax is to prepay for things. Consumers will readily reveal such a preference in questionnaires.<sup>7</sup>

Imagine that you are planning a one-week vacation to the Caribbean, six months from now. The vacation will cost \$1,200. You have two options for financing the vacation: six monthly payments of \$200 each during the six months either before the vacation (A) or after you return (B).

Most consumers (63 percent) prefer option A, in spite of the significant penalty in foregone interest. However, the preference for prepayment is not always present, as shown by the next example.

Imagine that, six months from now, you are planning to purchase a clothes washer and dryer for your new residence. The two machines together will cost \$1,200. You have two options for financing: six monthly payments of \$200 each during the six months either before (A) or after (B) the washer-dryer arrives.

Here, most consumers (76 percent) prefer option B. In general, with consumer durables people prefer to buy on an installment plan, with payments starting when the durable is delivered.

The financial decision is identical in both examples. What then accounts for the shift in preference? When probed further, consumers say that the reason for prepayment in the vacation question is to protect the

vacation experience from thoughts of cost. A second reason is that the payments themselves feel better if they are made in advance of the vacation. In other words, they are an investment toward the vacation. By contrast, payments made after the vacation feel naked—not covered by any future benefits.

The situation with the washer-dryer is different. It is a utilitarian product that provides little experiential satisfaction; the amount of pleasure exposed to the moral tax is low. The washer-dryer is also a durable, so the payments can be seen as a contribution to an ongoing series of benefits, rather than as a charge for past consumption.

Feelings about consumption and payments reflect a double-entry mental (psychological) accounting system, in which feelings about payments are influenced by what these payments are for, and feelings about consumption are influenced by associated payments.<sup>8</sup> There is cross talk between consumption and payments, they cannot be analyzed independently. Moreover, the mental accounting system is *prospective*, emphasizing future events and largely ignoring past ones. Prospective accounting creates two distinct reasons to prepay: payments feel like an investment and consumption feels free.<sup>9</sup>

The desire for prepayment is a robust but still too little appreciated and understood phenomenon. It has gone unrecognized partly because of a long-standing view of consumers as myopic, self-indulgent creatures, and partly because the decision to prepay for consumption is often made indirectly—for instance, by choosing to own rather than rent a product.<sup>10</sup> Imagine, for example, that you are thinking about purchasing a tuxedo, on the assumption that your social activities require black tie dress about once every few years or so. Setting aside the purely financial considerations, might you not say to yourself, “Let me make this one-time investment and never again have to think about the cost of dressing up for these parties.” Even in the absence of an actual prepayment mechanism, consumers can capture some of the same hedonic benefits by mentally setting aside or budgeting a requisite amount; many existing payment practices can be understood precisely as facilitators of such a mental prepayment. With a *prix fixe* menu, for instance, one can psy-

chologically absorb the costs before the food arrives at the table and enjoy the dinner as if it were prepaid.

### *Buffer Currencies*

Prepayment carries several obvious disadvantages. One is opportunity cost in foregone interest. Another is that prepayment is typically irreversible, committing the consumer to items or activities that may later prove undesirable. Are there payment methods that provide the psychological benefits of prepayment but preserve flexibility in making decisions?

Token currencies, such as casino chips or the beads used to pay for drinks at Club Med vacation resorts, let the consumer purchase in advance without requiring him or her to specify the basket of goods for which the tokens will be exchanged. Purchase decisions can still be made on the fly but consumption feels relatively free because the currency itself has been prepaid. I refer to these currencies as *hedonic buffers* because by interposing themselves between real money and consumption, they protect consumption from the moral tax. Moreover, the acquisition of the buffer currency has aspects of an investment.

Prepaid cards are relatively new and a promising mechanism for creating any number of buffer currencies. The balance on a prepaid card is in principle completely fungible. Yet the cards provide a soft constraint in that the funds are earmarked for a particular category of expenses. The earmarking contributes to the feeling that subsequent consumption is prepaid. For example, travel cards provide the psychological benefits of a fully prepaid vacation package without locking in any of the details. Gift cards and employee incentive (reward) cards have the same characteristics. They preserve the moral-tax advantage of a gift (guilt-free enjoyment), but give the recipient flexibility about how to spend the money.<sup>11</sup>

### *Frequency Programs*

Frequency programs such as frequent flyer miles are another form of buffering currency. Products acquired with the currency are often perceived—and indeed officially designated—as free, such as a free ticket

or a free upgrade obtained with miles. In reality, they are only prepaid, not free.

The perception that a business-class or first-class upgrade is free removes the moral tax from what otherwise is likely to feel like a complete extravagance. The passenger who has paid for the upgrade out of his or her pocket will be tempted to scrutinize the experience to see whether it indeed justifies the price. Such scrutiny highlights the moral tax, leading to even lower satisfaction. In contrast, the free upgrade passenger can savor the flight luxuries without giving thought to their cost.

A distinctive feature of the reward program currency is that it must be earned over time. From the moral tax perspective, this creates a double benefit. First, the original purchases acquire the secondary characteristics of a savings plan. At the moment of purchase, consumers can choose to concentrate on the increments to the buffer currency balance and ignore the reductions in their real currency account. Because it is difficult if not impossible to convert dollars into the buffer currency directly, purchase transactions become the only available method for building up a buffer balance. Second, consumers who might otherwise feel guilty about purchasing a luxury item will feel less guilt if the item was in effect earned through a patient accumulation of previous purchases. The guilt-reducing aspect of frequency programs has been nicely shown in recent studies. Ran Kivetz and Itamar Simonson, for example, found that as the effort requirement in the program increases, consumer preferences about how to cash in on the reward points shift toward luxuries.<sup>12</sup> In effect, the consumer is gradually building up a license to indulge, and the size of license is proportional to the invested effort.

### *Bundling*

Payment arrangements vary in how tightly they link costs and consumption. We refer to this as the level of *financial coupling* of purchases and payments.<sup>13</sup> Coupling is a generalization of time discounting, and takes into account not only the time interval between two events but also the strength and clarity of the causal links between them. Like time

discounting, a lower level of coupling will also reduce the moral tax. Several factors affect coupling.

Returning to the lavish dinner example, let us vary the scenario one more time, and imagine that the dinner is included as part of a weekend getaway package for you and your friends. The total cost, for which you again are unfortunately responsible, would in this case be even larger and include hotel and other expenses. The contribution of the dinner to this total cost is not known, however. We can say that when the check arrives it requires only an endorsing signature but does not present a specific dollar figure. How would this affect the enjoyment of the dinner?

Faced with this situation, most people feel that the dinner experience would fall somewhere between the previous two cases—not as good as the free dinner but definitely better than the dinner with known cost. It is as if the ambiguity in the imputation of cost to the dinner is resolved in the direction of a lower figure and lower moral tax. A priori, one might think that risk aversion would create greater sensitivity to ambiguous costs, but that does not seem to be the case as long as the total cost of the package is known. Moral taxes need not add up. This argues for all-inclusive over à la carte pricing, where the cost of individual components and options is indicated separately.

### *Fixed Payment Plans and Subscriptions*

The same principle applies to decisions between fixed versus variable payment plans for services.<sup>14</sup> This can be seen in responses to a question about health clubs.

Mr. A and Mr. B both joined health clubs. Mr. A's club charged a fixed fee for each month of usage. Mr. B charged an hourly fee. By chance, both men used the health club about the same amount, and both ended up getting a bill for the same amount at the end of the month. Who enjoyed himself more while using the club?

From an economic standpoint, the correct inference from the facts as stated is that Mr. B should enjoy the club more. In deciding whether to

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visit the club on any given day, both individuals should balance the pleasure of exercise against the total opportunity costs, which include time, travel, and fees. Because only Mr. B has to pay the hourly fee, his opportunity cost is higher, implying that the utility he derives from an hour at the club is higher than that Mr. A derives. Yet, in our survey most people (by a 3:1 margin) judged that Mr. A would enjoy the club more.

A scrupulous accountant in the role of Mr. A might amortize the fixed fee over the total number of monthly visits to the health club, and arrive (in this case) at the same per visit cost as Mr. B, and suffer the same moral tax. But how many consumers will go through this mental amortization process? Of course, if the number of visits is low, one might reach the conclusion that the club is not worth the expense. But the individual visits would still be protected from the moral tax.

The moral tax involves only costs that are direct causal consequences of a consumption decision, not those that set up the consumption opportunity. The tax targets the final element in the causal chain and largely ignores the preceding ones. Therefore, payment arrangements that create zero marginal costs will support a feeling that consumption is free, and sustain higher satisfaction levels.

### **Accounting for Costs, and Minimizing Pain-of-Payment**

We now turn to the other half of the consumer's double-entry mental accounting system, which deals with feelings generated by the payment transaction.

#### *Eliminating Uncovered Payments*

The success of the Netflix subscription plan for DVD rentals is a textbook example of the importance of both sides of the system. Currently, the most popular Netflix plan charges a monthly fee and allows a subscriber to rent up to three DVDs at a time, with unlimited exchanges. This minimizes the moral tax on consumption, because the DVD is mentally prepaid and the marginal cost of watching an extra movie is zero.

However, the plan also provides a benefit on the payment side, at least relative to standard rental arrangements. On the Netflix plan, subscribers hang on to the DVDs for as long as they like and no late fees apply. With standard rental arrangements, when consumers return DVDs late and incur the fee, it may be due to simple neglect (*bounded rationality*) rather than to a deliberate purchase of an extra night of viewing. For the forgetful consumer on the standard plan, the late fee is an *uncovered payment*, that is, a payment for which the consumer cannot identify any salient benefit (one could associate an option-value benefit with the late fee, but it is not likely most consumers would do so). By eliminating these annoying payments, Netflix increases average satisfaction.

The Netflix plan illustrates more a general lesson, namely, that it may be better to solve the bounded rationality problem than to try to exploit it. Consumers are typically better at deciding about which of several items to consume than at deciding whether it is worth consuming an item of a certain type at a given price. Netflix allows consumers to concentrate on picking the right film and thus eliminates the second decision—whether watching any movie on a given night is worth the marginal cost. Moreover, consumers tend to be absent-minded and often forget to return items when due. Although one could craft a strategy around maximizing rental volume and unintended late fees, the superior approach, in this case at least, is to forfeit these traditional sources of revenue and cultivate long-run happiness with the service.

### Overaccounting

As mentioned earlier, mental accounting terms do not need to add up, which opens the door to counting benefits multiple times. Pennies-a-day payment plans probably exploit mental double-counting. Because the product is typically indivisible, nothing mentally corresponds to the product fragment being purchased with a single payment. The consumer can thus easily exaggerate the contribution of each payment to the final price.

*Transactions Coupling*

An important psychological difference among payment instruments is how tightly they couple consumption and payment. The causal link is most direct with a cash or debit card purchase—the money disappears when the purchase is made. Payment by check imposes a delay, but the causal link is otherwise equally straightforward. With a charge card, there is single bill at the end of the month; payment for a given purchase is both delayed and combined with payments for other items. Hence the level of coupling is somewhat weaker because no single item is responsible for the total.

For a credit card, the connection becomes even more blurred, especially if a balance is maintained on the card from month to month. In principle, one could take each payment and decide how to apply it to the items previously charged on the card. This exercise would allow a person to cross items off the list as they are paid off. It is more realistic to assume that a consumer who maintains a balance is not aware which items are responsible for the total or which items should be considered paid for.

Weak coupling may explain consumers' striking ambivalence toward credit card usage. At the moment of purchase, the moral tax is small because the payments can be delayed, indefinitely if need be. Moreover, because payments will be combined with those for other goods, no single transaction or set of transactions necessarily constitute payment for that particular item. In this sense, the item may seem free.

At the same time, when the consumer writes a check clearing some part of the credit card bill, the expense cannot be traced to any individual purchases. This makes credit card payments exceptionally distasteful—it is not obvious what is being received in exchange for the payment except the ability to continue using the card. Indeed, a survey of attitudes to payment found that a credit card bill (of \$300) is ranked as most painful of many different categories of bills, even topping parking tickets or dental bills (all for the same amount of \$300).<sup>15</sup> It may also explain why credit cards are paradoxically judged to be a costly method of payment, more costly than debit.<sup>16</sup>

## Preserving Self-Control

We now turn to the third proposed benefit of pricing arrangements, namely, the desire to preserve accountability and self-control. Here, credit cards are often raised as a problematic payment method. The liberating effect of credit cards on purchase behavior is consistent with cross-sectional evidence,<sup>17</sup> and has been documented in at least two controlled experiments.<sup>18</sup> In one, MBA students had the opportunity to bid for basketball tickets to a sold-out Celtics game—the final game of the regular season, with playoff home-court advantage hinging on the outcome.<sup>19</sup> The auction used the incentive compatible second-price sealed-bid format. Half the participants received a bidding sheet that requested payment in cash within a twenty-four-hour grace period, and the other half received a sheet requesting payment by major credit card. Subjects were not aware of the existence of the different sets of instructions.

Bids in the credit card condition were on average twice as high as those in the cash condition (\$61 versus \$20, with median values of \$41 and \$25, respectively). The difference cannot be explained by liquidity constraints in the cash condition. On that hypothesis, cash condition subjects should have been willing to use their credit card to purchase cash from the experimenter at a 100 percent markup. This is simply not credible. It is interesting also that the result failed to replicate with a more fungible prize of stated value (a \$175 gift certificate to a local restaurant), suggesting that the credit card willingness-to-pay premium is not constant across types of goods.<sup>20</sup>

Tickets to a sold-out game are a relative indulgence with an ambiguous market value. The usual norms on what is reasonable to pay may not apply, leaving the subject a great deal of freedom to come up with a reasonable figure. In these situations, where market prices are not known, consumer valuations of products are easily influenced by irrelevant variables, such as hypothetical anchoring questions.<sup>21</sup> Indeed, consumer valuation for a product is better conceptualized as an interval instead of a point value. If the price falls outside of that interval, the decision becomes cognitive and relatively easy, that is, reachable without an introspective

balancing of pleasures and pains. When the price is within the interval, the consumer falls back on an intrinsically unstable hedonic calculus. That payment is by credit card may assuage some of the sting of payment, pushing the valuation upward.

From the bidding data in the basketball ticket experiment, one cannot conclude that the individuals in the credit card condition are bidding too high; it is just as possible that the cash bids are too low relative to the utility that the game would provide. There could be an irrational pain associated with physically handing over cash. Notably, although the credit card bids went as high as \$325, no cash bid exceeded \$100. Regardless which group is in error, it is clear that individuals do not fully appreciate the extent to which their valuation can be influenced by payment method. Again, we take it as self-evident that one could not sell cash for credit card charges at 100 percent premium, at least not to MBA students.

If the payment method works its magic under the radar, there are two important implications. First is that consumers who accumulate excessive card balances may not initially appreciate that anything has changed in their spending patterns. They may think that they are maintaining the same criteria for purchases, yet see the balances inexplicably increase. For such consumers, a useful experiment would be to switch to cash transactions for a trial period without adopting any other self-control measure, and see if this produces any change in expenditure patterns. Second, unaware of the credit card effect, consumers may not reveal the need for an alternative payment method in interviews. This may explain why very few mention self-control to explain their use of debit cards.<sup>22</sup>

### *Addictive Consumption*

Can credit card use become an addiction? To qualify as such it would have to meet two conditions. First, it would have to be a compulsion, that is, a behavior a person indulges in knowing that it is harmful. Second, it would have to tap a brain mechanism common to substance addictions. Judging from the availability of self-help programs, credit cards are indeed a compulsion for at least some of the population. There

is little hard evidence bearing on the second condition, however. In a provocative early study, which was unfortunately never followed up on, subjects were asked to indicate how much they were hypothetically willing to pay for various products, which were presented on a computer screen.<sup>23</sup> Brochures showing credit card logos lay on a table within view of a control group, but were unrelated to the products being evaluated. Subjects who inquired about them were told that they were left over from a previous experiment. The presence of the brochures led to higher product valuations (by a factor of two), and faster response times, both effects indicating a greater motivation to purchase.

A psychologist would see here the fingerprints of a classical (Pavlovian) conditioning process. The credit card shopper has experienced many occasions on which the physical stimuli associated with the card (look, feel) anticipated the purchases. If the act of purchase produces a pleasant “rush,” then, by the conditioning process, the anticipatory stimuli will eventually trigger an opposite and unpleasant physiological response, which we experience as a craving. The only way to suppress the craving is to complete the purchase. In the basketball ticket experiment, we had asked subjects to take their credit cards from their wallets and write down the last four digits, ostensibly for later identification purposes.<sup>24</sup>

### *Neuroscience of Shopping*

We are only beginning to understand the neuroscience of consumer decision making, and this is not the place for a review of neuroeconomics.<sup>25</sup> However, one recent brain imaging study of shopping bears mentioning.<sup>26</sup> In the study, subjects faced a series of purchase decisions while their brain activity was imaged with the fMRI scanner. Each purchase decision began with a computer display of an actual product, followed a few seconds later by the price. The subject then indicated, by button press, whether they would choose to purchase the product at that price. The time between the product and the price presentations allowed separate measurement of brain activity, responding to the product and to the price. The profile of activity triggered by product presentation roughly

mimicked the patterns observed earlier with presentations of rewarding stimuli (activation in the brain dopaminergic networks, encompassing the striatum and the medial prefrontal cortex).

Of more interest is the profile of activation in response to price. Presentation of high prices generated activity in the insular cortex, which has been otherwise implicated in processing of pain, aversion, and disgust. The magnitude of the insular response in the shopping task was proportional to the difference between the posted price and the value of the product (as assessed separately, outside the fMRI scanner). In other words, prices in excess of what the consumer was willing to pay elicited an aversive response that could be measured by the brain scan, which is consistent with the pain of paying hypothesis.

#### *A Functional Explanation*

Why are consumers exposed to the pain of paying? The most likely explanation is that the pain is there to shore up self-control mechanisms. Self-control is of course a hallmark virtue of human character and is defined as the ability to avoid temptations and to make choices that promote more distant goals. Willingness of the tired body to exercise and of the tired mind to another hour of work are two examples of positive self-control—the tolerance of short-term pain in return for a larger but more remote and uncertain gain. Turning down a chocolate dessert or an attractive purchase opportunity are examples of negative self-control—avoiding immediate and certain satisfaction to preserve broader financial objectives or self-esteem.<sup>27</sup> Both modes are central to normal adult functioning, and several categories of psychological disturbance—impulsivity, addiction, and psychopathy—appear to be intimately associated with chronic lack of self-control.<sup>28</sup>

Although the mechanisms that support self-control are not completely understood, what is evident—and highly relevant to the design of payment arrangements—is that successful exercise of self-control can exact a steep price. Self-control requires energy, drawing on the same bodily resources as tasks requiring physical effort. Self-control is more likely to break down when these resources are depleted through fatigue. Con-

versely, exercising self-control (for example, by resisting tasty food) actually makes a person physically weaker, as measured by how hard they can squeeze a handgrip.<sup>29</sup> Many of the strategies people use to exercise self-control have a dark side. Excessive control of appetite or sexual feelings can produce a permanent loss of the capacity for pleasure (anorexia or frigidity, for example). Strict personal rules raise the stakes on minor actions, leading to behavioral rigidity and compulsion.<sup>30</sup>

Consumer finance is one of the major arenas in which the individual's self-control is put to the test.<sup>31</sup> The benefits of the purchase decision are typically more immediate than the costs and are also more salient—the costs are only an opportunity cost, and people rarely know how exactly they would use the money saved by declining the purchase. In fact, merely reminding people that refraining from buying a product for \$x will essentially give them \$x to spend for other purchases reduces purchase rates in an experimental setting.<sup>32</sup>

Pain of paying and the moral tax can be seen as mechanisms for redressing the imbalance in the decisional balance sheet, which would otherwise be chronically tilted in favor of the decision to purchase. Like most taxes, it provides a second-best solution, placing a deadweight burden on the consumer.<sup>33</sup> Indeed, a recent large survey of consumer attitudes to spending found that more consumers confess to being too tight (in the sense of not spending on “things they should spend it on”) rather than too loose (in the sense of spending “when they would do better not to spend”).<sup>34</sup> The miser who is unable to enjoy even the smallest luxuries is of course a stock figure; what is surprising, in light of the current press attention to consumer overspending, is that there are so many closet misers in the general population.

### **Hedonic or Economic Efficiency: The Big Trade-Off**

In designing new payment methods, it is natural to focus on the transaction. Usually the method involves some innovation in the transaction process, for example, integrating transactional capabilities with other electronic media and devices. This feature captures the imagination and

forms the foundation for an advertising campaign. Moreover, from the corporate point of view, transactions drive revenue, making transaction volume the first and most obvious metric to watch.

For these reasons, it is easy to overlook the fact that for the consumer, the transaction is only a means, not the end; it is the cutlery, not the meal. The quality of the transaction is entangled with the quality of the decisions the transaction implements. There is evidence, both from the field and from the lab, that a payment method is not just an instrument for carrying out a purchase decision reached on some independent grounds, but actually a causal ingredient to the decision. If a payment mechanism chronically encourages poor decisions, consumer enthusiasm for the method will wane. At the same time, consumers may not be fully aware of or able to explain why their transaction preferences are changing.

In upholding decision quality as a criterion, it may seem that we are broadening the canvas too much. How is one to define decision quality without imposing paternalistic preferences? This is obviously a thorny issue, and any proposal is bound to be speculative. I suggested earlier that the ideal payment method would provide the consumer three key benefits: first, reduce or eliminate the moral tax, allowing the consumer to enjoy goods and services as if they were free; second, provide an accounting function, letting the consumer justify any payment with specific benefits; and, third, encourage an appropriate level of spending, that is, it should preserve financial responsibility and bolster self-control.

There are two tensions in play here. One is that arrangements that reduce the moral tax tend also to make it more difficult to track expenses, reducing financial accountability. The second is that if the moral tax is essential for self-control, successfully eliminating the tax will automatically encourage overspending.

Many of payment arrangements considered in this chapter may be construed as ad hoc attempts to solve the moral tax problem. All such attempts run up against an underlying trade-off between economic efficiency—understood as more liquidity, more options, lower costs—and hedonic efficiency, understood as the satisfaction or utility extracted

Table 5-1. *The Fundamental Trade-off in Pricing Arrangements*

<i>Promoting hedonic efficiency</i>	<i>Promoting economic efficiency</i>
Owning	Renting or leasing
Prepayment, investing	Postpayment, borrowing
Gift rewards, earmarking	Cash rewards, liquidity
Multiple currencies and accounts	Single currency, one comprehensive account
Flat rate plans, subscriptions	Fee-per-use plans
Prix fixe, bundled options	À la carte, unbundled options
Hidden taxes and fees, public goods	Explicit taxes and fees, market goods

from a given product or experience. Simply put, economic efficiency is about selecting the best option, and hedonic efficiency is about getting the most out of whatever option you do select, or whatever option is selected on your behalf.

Table 5-1 presents contrasting pairs of arrangements, so that one element in the pair (the left column) enhances hedonic efficiency, and the other (the right column) economic.<sup>35</sup> The table glosses over who is responsible for choosing the arrangement; in some cases it is the consumer (owning versus renting), in some cases the producer (frequency reward plans), and in some government policy (the scope of free public amenities).

At the top of the list is the choice of whether to purchase an item or simply rent or lease. Economic efficiency argues for renting if the rental market offers similar terms. Ownership has many economic disadvantages, starting with its relative irreversibility. One's future tastes are hard to forecast and circumstances change. It is costly to dispose of or sell an object that no longer serves your needs. However, possessions are not subject to the same moral tax as rentals. If you take your own car for an afternoon drive in the country, time and gas are the only costs that might come to mind. If you rent, the rental bill will surely be factored into the equation.

The common characteristics of the economic arrangements (column 2) is that they simultaneously expand options, and by making marginal

costs explicit and easy to track, encourage more rational choice among these options. In contrast, the arrangements in column 1 introduce constraints and complications that restrict options and, by eliminating marginal costs, give rise to inefficient consumer decisions. What the hedonistic arrangements accomplish in return is to provide relief from the moral tax. Their proliferation and popularity in spite of their economic drawbacks testifies to the reality of the moral tax. The desire to avoid the tax finds a comprehensive expression in the socialist utopia in which all goods are dispensed freely.<sup>36</sup>

Framed this way, the dilemma appears difficult to resolve. The illiquidity of frequent flyer miles is precisely the feature that sustains the illusion that a flight obtained with those miles is free. If miles could be bought and sold without restriction, then the distinction between the two currencies would collapse, as would the notion of a free upgrade. The blocked exchange seems essential to the hedonic benefit.

Yet this general conclusion may be too pessimistic. One can imagine ways of removing, or at least displacing, outward the trade-off between our two opposed efficiency criteria. A useful analogy can be made with the strategies and arguments developed by the soft paternalism movement, which has gained a great deal of attention in public policy discussions recently.<sup>37</sup> Soft paternalism, also known as libertarian or asymmetric paternalism, replaces prohibitions and mandates with the judicious construction of a choice architecture that biases decisions in a desired direction without abridging ultimate freedom of choice. The canonical design challenge is the formulation of the default option, which passive or confused individuals tend to adopt. When this formulation is handled well, the change in behavior can be dramatic.<sup>38</sup>

In the context of payment arrangements, the analogous goal would be to translate the hard constraints embodied in hedonistic arrangements into discretionary soft constraints, which the consumer could cancel if needed. The distinction between renting and owning could be finessed by hybrid arrangements, such time-sharing and renting to own, and by the increasing availability of electronic secondhand markets. Payment mech-

anisms should facilitate the selection of entire consumption policies, such as subscriptions and flat rate plans, allowing quick adjustment to more optimal policies in response to changes in consumption rates. Prepayment should be made easy and reversible, with compensation provided for lost interest. Whenever possible, transactions should sustain the experience of investment toward future consumption.

The ultimate paternalistic goal here is easy to state but not easy to achieve. It is to promote decisions that the consumer would, on reflection, recognize as correct, that is, in his or her best interests. We discussed the three core benefits of payment arrangements as if they are logically separate. Psychologically, however, it is likely that the third one—the desire for self-control and the desire to escape the anxieties associated with lack of self-control—provides the motivational fuel for the first two. A person who makes consumption decisions in perfect confidence that these decisions are right is probably also exempt from moral tax, and from the pain of paying.<sup>39</sup> Whether new technologies in payment mechanisms will be able to secure this goal remains to be seen.

## Notes

1. Marc A. Fusaro, “Debit vs. Credit: A Model of Self-Control with Evidence from Checking Accounts,” Working Paper (Greenville, N.C.: East Carolina University, 2008).

2. There is evidence that consumers who maintain a credit card balance (“revolvers”) are more likely to use a debit card, even if they are not close to the limit on their credit card balances. The debit card preference among revolvers is taken as evidence of rational price sensitivity, because such consumers face unavoidable interest on any new credit card charges. Jonathan Zinman, “Debit or Credit?” Working Paper (Hanover, N.H.: Dartmouth College, 2006). But, if the consumer has enough funds to cover the debit card payment, why does he or she not apply those funds to reduce the credit card balance?

3. The headline text for the prepaid card section on the consumer advisory website [Creditcards.com](http://Creditcards.com) reads as follows: “Prepaid debit cards and prepaid credit cards can help you control your spending. A reloadable debit card allows you to only spend up to the amount you have pre-deposited into the account. If you tend to overspend or would like to control your spending then a pre-paid debit card

or prepaid credit card could be a good card for you” ([www.creditcards.com/prepaid.php](http://www.creditcards.com/prepaid.php)).

4. The moral tax is a symptom of a more general psychological tendency to experience opportunity costs as real pain. This holds true not just for money but for any resource with a nonzero shadow price. For example, not having enough time for two activities (work and family) can create a situation in which you are unable to enjoy either, because of the moral tax on the time.

5. There is recent evidence favoring the notion that a zero price is special, that is., that there is hedonic discontinuity between a very small price and no price at all. Kristina Shampanier, Nina Mazar, and Dan Ariely, “Zero as a Special Price: The True Value of Free Products,” *Marketing Science* 26, no. 6 (2007): 742–57.

6. The moral tax perspective is complementary but distinct from transaction utility perspective, which has dominated consumer behavior research on price. Richard H. Thaler, “Toward a Positive Theory of Consumer Choice,” *Journal of Economic Behavior & Organization* 1, no. 1 (1980): 39–60; “Mental Accounting and Consumer Choice,” *Marketing Science* 4 (1985): 199–214; “Mental Accounting Matters,” in *Choices, Values, and Frames*, edited by Daniel Kahneman and Amos Tversky (Cambridge University Press, 1999), pp. 241–68. Transaction utility refers to the pleasures of a good deal—a price lower than the standard or reference amount. Research on transaction utility typically explores the impact of framing, discounts, reference prices, and selling format variables.

7. See, for example, Drazen Prelec and George F. Loewenstein, “The Red and the Black: Mental Accounting of Savings and Debt,” *Marketing Science* 17, no. 1 (1998): 4–28.

8. Ibid.

9. Eldar Shafir and Richard Thaler, “Invest Now, Drink Later, Spend Never: On the Mental Accounting of Delayed Consumption,” *Journal of Economic Psychology* 27, no. 5 (2006): 694–712.

10. Dennis W. Rook, “The Buying Impulse,” *Journal of Consumer Research* 14 (September 1987): 189–99; Dennis W. Rook and R. J. Fisher, “Normative Influence on Impulsive Buying Behavior,” *Journal of Consumer Research* 22 (December 1995): 305–13.

11. A testimonial to the appeal of prepaid cards reads as follow: “We researched several motivation strategies and confirmed that prepaid cards are our single, most effective method to motivate behavior and ultimately drive sales.” Ms. Karen Abene, Starz Entertainment, [www.springbokservices.com/pdf/casestudies/Starz\\_Sales\\_Incentive\\_Program\\_Case\\_Study.pdf](http://www.springbokservices.com/pdf/casestudies/Starz_Sales_Incentive_Program_Case_Study.pdf), p. 2.

12. Ran Kivetz and Itamar Simonson, “Self-Control for the Righteous: Toward a Theory of Precommitment to Indulgence,” *Journal of Consumer Research* 29, no. 2 (September 2002): 199–217.

13. Prelec and Loewenstein, "The Red and the Black;" Soman and Gourville, "Transaction Decoupling: How Price Bundling Affects the Decision to Consume," *Journal of Marketing Research* 38, no. 1 (2001): 30–45.
14. Donald J. Kridel, Dale E. Lehman, and Dennis L. Weisman, "Option Value, Telecommunications Demand, and Policy," *Information Economics and Policy* 5, no. 2 (1993): 125–44; Kenneth E. Train, *Optimal Regulation: The Theory of Natural Monopoly* (MIT Press, 1991).
15. Prelec and Loewenstein, "The Red and the Black." Credit card bills share this unpleasant characteristic with other bills for things that are incidental to primary consumption, such as electricity, gas, insurance, or taxes.
16. See, for example, Nicole Jonker, "Payment Instruments as Perceived by Consumers: A Public Survey," DNB Working Paper 053 (De Nederlandsche Bank, 2005).
17. Elizabeth C. Hirschman, "Differences in Consumer Purchase Behavior by Credit Card Payment System," *Journal of Consumer Research* 6 (June 1979): 58–66.
18. Richard A. Feinberg, "Credit Cards as Spending Facilitating Stimuli: A Conditioning Explanation," *Journal of Consumer Research* 13, no. 3 (1986): 344–56; Drazen Prelec and Duncan Simester, "Always Leave Home Without It: A Further Investigation of the Credit-Card Effect on Willingness to Pay," *Marketing Letters* 12, no. 1 (2001): 5–12.
19. Prelec and Simester, "Always Leave Home Without It."
20. Ibid.
21. Dan Ariely, George F. Loewenstein, and Drazen Prelec, "'Coherent arbitrariness': Stable Demand Curves without Stable Preferences," *Quarterly Journal of Economics* 118, no. 1 (2003): 73–105.
22. Jonathan Zinman, "Why Use Debit Instead of Credit? Consumer Choice in a Trillion Dollar Market," Mimeo (Federal Reserve Bank of New York 2005); "Debit or Credit," Working Paper.
23. Feinberg, "Credit Cards as Spending Facilitating Stimuli."
24. The considerations that make strong coupling unattractive to the buyer also make it attractive to the seller of services. This is nicely illustrated by a fake ad for a bogus product, "The Pocket-Penpoint" featured in the *California Lawyer* magazine. Targeting lawyers, consultants, and other time-rate professionals, the ad described a device that accommodated the client's credit card and charged the client's account in real time. Although it was obvious from the fine print that such a device did not exist, the ad still managed to elicit many purchase requests. "I thought the idea of having a client's money go instantly into your account was almost too good to be true," one potential customer remarked. The same characteristics that make the card attractive to the lawyer presumably make it painful to the client, which is why the device was described as being "topped with a handkerchief so it can be

worn discretely in a breast pocket.” Prelec and Loewenstein, “The Red and the Black.”

25. Samuel M. McClure, Jian Li, Damon Tomlin, Kim S. Cypert, Latané M. Montague, and P. Read Montague, “Neural Correlates of Behavioral Preference for Culturally Familiar Drinks,” *Neuron* 44, no. 2 (2004): 379–87; Colin Camerer, George F. Loewenstein, and Drazen Prelec, “Neuroeconomics: How Neuroscience Can Inform Economics,” *Journal of Economic Literature* 43 (March 2005): 9–64.

26. Brian Knutson, Scott Rick, G. Elliott Wimmer, Drazen Prelec, and George F. Loewenstein, “Neural Predictors of Purchases,” *Neuron* 53 (January 2007): 147–56.

27. Ronit Bodner and Drazen Prelec, “Self-Signaling in a Neo-Calvinist Model of Everyday Decision Making,” In *Psychology of Economic Decisions*, vol. 1, edited by Isabelle Brocas and Juan Carillo (Oxford University Press, 2003).

28. June P. Tangney, Roy F. Baumeister, and Angie Luzio Boone, “High Self-Control Predicts Good Adjustment, Less Pathology, Better Grades, and Interpersonal Success,” *Journal of Personality* 72, no. 2 (2004): 271–324. Among the many psychological studies on self-control, the work generated by Walter Mischel’s delay-of-gratification paradigm has been especially provocative in its implications. Mischel and his collaborators showed that the ability to delay gratification at age four or five assessed by how long a child could refrain from eating a small immediately available candy in expectation of getting a larger one later predicted performance and well-being in high school and beyond, on a variety of measures. Apparently, the skills that allow a child to avoid temptation in a relatively inconsequential laboratory choice task may also be those critical to success and adaptation in future life. Walter Mischel, Yuichi Shoda, and Monica L. Rodriguez, “Delay of Gratification in Children,” *Science* 244, no. 4907 (May 1989): 933–38.

29. Baba Shiv and Alexander Fedorikhin, “Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making,” *Journal of Consumer Research* 26, no. 3 (December 1999): 278–92; Mark Muraven and Roy F. Baumeister, “Self-Regulation and Depletion of Limited Resources: Does Self-Control Resemble a Muscle?” *Psychological Bulletin* 126, no. 2 (2000): 247–59.

30. George Ainslie, “Specious Reward–Behavioral Theory of Impulsiveness and Impulse Control,” *Psychological Bulletin* 82, no. 4 (1975): 463–96.

31. Kathleen D. Vohs and Ronald J. Faber, “Spent Resources? Self-Regulatory Resource Availability Affects Impulse Buying,” *Journal of Consumer Research* 33 (March 2007): 537–47.

32. Shane Frederick, Nathan Novemsky, Jing Wang, Ravi Dhar, and Stephen Nowlis, “Neglect of Opportunity Costs in Consumer Choice,” Working Paper (Cambridge, Mass.: Massachusetts Institute of Technology, 2006).

33. George F. Loewenstein and Ted O'Donoghue, "We Can Do This the Easy Way or the Hard Way': Negative Emotions, Self-Regulation and the Law," *University of Chicago Law Review* 73 (Winter 2006): 183–206.
34. Scott Rick, Cynthia Cryder, and George F. Loewenstein, "Tightwads and Spendthrifts," *Journal of Consumer Research* 34 (June 2007): 767–82.
35. Prelec and Loewenstein, "The Red and the Black."
36. Echoes of this vision can be detected in the new freeeconomics movement. See "Freeeconomics," Economist.com, web-only premium content, November 15, 2007 ([www.economist.com/theWorldIn/business/displayStory.cfm?story\\_id=10094757&and=2008](http://www.economist.com/theWorldIn/business/displayStory.cfm?story_id=10094757&and=2008)). A key advocate is Chris Anderson, editor-in-chief at *Wired Magazine*; his book *The Long Tale: The Rise of Freeeconomics*, is scheduled for publication in 2009.
37. James J. Choi, David Laibson, Brigitte C. Madrian, and Andrew Metrick, "Optimal Defaults," *American Economic Review Papers and Proceedings* 93 (2003): 180–85; Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions About Health, Wealth, and Happiness* (Yale University Press 2008).
38. Richard H. Thaler and Shlomo Benartzi, "Save More Tomorrow: Using Behavioral Economics to Increase Employee Savings," *Journal of Political Economy* 112 (2004): 164–87.
39. Self-reported data on attitudes to payment and consumption supports the existence of such a smug segment. George Loewenstein, Drazen Prelec, and Roberto Weber, "What Me Worry? A Psychological Perspective on Economic Aspects of Retirement," In *Psychological Perspectives on Retirement*, edited by Henry J. Aaron (Brookings Institution and Russell Sage Foundation, 2000).