

CHAPTER 9

**WHY IS CASH THE ULTIMATE GIFT?**

**Optimal Consumption, Deadweight Loss,  
and the Virtues of Flexible Spending**

**The** U.S. Census Bureau reports that the average citizen spends \$26,650 in a typical year. This includes average expenditures of \$177 on shoes, \$159 on computers and software, \$360 on higher education, \$184 on jewelry and watches, and \$252 on furniture. If money grew on trees, then people would all purchase more of most of these goodies, but in reality money is scarce and they must make difficult choices guided by personal preferences. Buying gifts to suit other people's preferences becomes even trickier. According to the Coinstar National Currency Poll, the typical individual spends almost \$900 a year on gifts. As an example of the potential difficulties, one woman attacked her husband on Valentine's Day after he bought her a dozen roses because she thought the family would have been better served if the \$50 the roses cost had been spent on food and clothing. This chapter explains how individuals should make decisions about personal consumption and why so many people leave the purchasing decisions to others at holiday time by giving gift certificates or cash.

**LIVING WITHIN LIMITS**

Cyndi Lauper sings that "girls just want to have fun." Economists see the same goal in a broader light: All consumers just want to be as happy as possible given the cards they've been dealt and the money they've acquired. At the same time, even the most

comparable consumers have widely divergent preferences and make correspondingly dissimilar purchases in the pursuit of happiness. As singer Alanis Morissette invested in guitars and stage equipment to launch her musical career, her twin brother, Wade, bought a yoga studio and traveled to India to practice the art of chanting. The Olsen twins of *Full House* fame seem to live and work in unison and face similar budget constraints, but Ashley chose to major in psychology in college, whereas Mary-Kate majored in cuisine.<sup>1</sup> Despite similarities in the way people use preferences to make utility-maximizing choices, the fact that people's preferences differ makes flexibility in spending a virtue and has implications for gift giving and policymaking, which are discussed later in the chapter.

Author Samantha James divides the earnings from her best-selling books among savings and millions of available goods and services in an effort to maximize her happiness. The owners of Sam's Burger Joint in San Antonio, Texas, make decisions about investments and inputs in order to maximize profits. And Uncle Sam, also known as the U.S. government, works with an annual budget of about \$2.5 trillion to improve the welfare of society. Although loans and the sale of stocks and bonds offer some flexibility in the amounts available for Samantha, Sam, and Uncle Sam to spend, individuals, firms, and governments all face insurmountable limits that necessitate strategic spending.

Financial constraints force an opportunity cost on every purchase. For Samantha, a dollar spent on books can't be spent on clothes. For Sam, a dollar spent on buns can't be spent on ketchup. For Uncle Sam, a dollar spent on bombs can't be spent on classrooms. Budget managers at every level labor to adjust allocations to better suit their goals, be they utility, profit, or social well-being. In 2005, President George W. Bush proposed cuts in funding for 150 programs,<sup>2</sup> including Amtrak, veterans' benefits, and community development grants, while suggesting increased expenditures on other programs, such as Pell education grants, the military, and homeland security. Likewise, in recent years the typical consumer has chosen to spend more on bus rides and physicians' services and less (after adjusting for inflation) on taxi fares and funerals. In this chapter, the method behind the madness of consumer choices and a bit of the madness behind our method of gift giving is explained.

## THE OPTIMAL CONSUMPTION RULE

With the goal of gaining as much utility as possible, optimal consumption comes from spending each dollar on the item that brings the greatest "bang per buck," meaning that the largest possible marginal (additional) utility is obtained from each dollar spent. Consider the popular digital music player called the iPod. On average, a consumer could afford to buy about 100 iPods a year if he or she bought nothing else. Avid music listeners can get a lot of utility out of their first iPod, as 22.5 million of them did in 2005, but few purchased a second iPod, let alone 99 more. As suggested by the law of diminishing marginal utility, a first iPod satisfies more critical needs and is, therefore, more valuable to a particular consumer than is a second unit, which

<sup>1</sup> See [www.answers.com/topic/the-olsen-twins](http://www.answers.com/topic/the-olsen-twins).

<sup>2</sup> See [www.abc.net.au/am/content/2005/s1298145.htm](http://www.abc.net.au/am/content/2005/s1298145.htm).

might be fun to have but serves fewer unmet needs. It's likely that the marginal utility from the purchase of a second music player would be lower than that from an initial expenditure of the same amount on, say, cashmere sweaters.

Formally, the *optimal consumption rule* states that money allocated among several goods should be divided so that the marginal utility per dollar is the same for each of the goods. If the marginal utility per dollar spent on the last unit of good A is higher than that for good B, more utility could be gained by increasing expenditures on good A and spending less on good B. As more is spent on good A, the law of diminishing marginal utility holds that the marginal utility of good A will fall. As less is spent on good B, the marginal utility of that good will rise. This reallocation of money to the good that provides the most marginal utility per dollar should continue until the marginal utility per dollar is the same for all goods.<sup>3</sup> (Note that it may be impossible to fine-tune allocations to equate the marginal utility per dollar for goods such as automobiles that come in large increments; in that case, the goal is to come as close to equality as possible.)

Let's examine the workings of the optimal consumption rule using a realistic example. Remembering that utils are a convenient measure of happiness, suppose that your first 2 iPods would give you 900 and 300 utils, respectively, and your first 4 cashmere sweaters would give you 600, 450, 350, and 300 utils, respectively. Let's say that an iPod costs \$300, a cashmere sweater costs \$150, and you have \$600 to spend on these options. If you spent your budget on 2 iPods, your total utility would be 1,200 and the utility from the last (marginal) iPod would be 300, or  $300/300 = 1$  util per dollar. By giving up the last iPod, you could purchase a first and second sweater that provide  $600/150 = 4$  and  $450/150 = 3$  utils per dollar, respectively—an improvement in marginal utility per dollar, or bang per buck. The result is an increase in total utility to  $900 + 600 + 450 = 1,950$ .

At the other extreme, if you spent your \$600 on 4 sweaters, your total utility would be 1,700 and the marginal sweater would provide 300 utils, or 2 utils per dollar. By giving up the last 2 sweaters, you could purchase the first iPod and receive 3 utils per dollar. This reallocation would increase your total utility to 1,950, as calculated previously. With 1 iPod and 2 sweaters, the marginal utility per dollar is  $900/300 = 3$  for iPods and  $450/150 = 3$  for sweaters. As the example shows and as the optimal consumption rule suggests, working toward equality maximizes utility in marginal utility per dollar.

## THE VIRTUES AND VICIES OF VARIETY IN CONSUMPTION

The optimal consumption rule guides us toward balance in our consumption. A wardrobe consisting only of shirts is bettered with fewer shirts and more pants because the marginal utility per dollar from the first few pairs of pants exceeds that from the last few of many shirts. It's the same story when allocating funds between food and shelter, electronics and linens, and most other common goods. Naturally, people don't want balance in all things. When allocating a travel budget between trips to Europe

<sup>3</sup> In formal notation, the optimal consumption rule is

$$MU_A/P_A = MU_B/P_B$$

and trips to the South Pole, most of us would allocate all our money toward the former. Seldom does the appropriate balance mean equal numbers of two items. People don't purchase equal numbers of shoes and bicycles, although they have a strong preference for equality between left and right shoes and front and back bicycle tires.

Variety is a virtue when it comes to exciting the mind with a mix of purchases; eating a balanced diet; and juggling our attention among home, family, work, and recreation. In other contexts, preferences for balance among varied possibilities can lead to trouble. During finals week a student's unsatisfied desire for balance between work and play can be a lure out of the library. In marriage the temptation to seek a variety of romantic partners can be a lure out of fidelity—and, ultimately, out of marriage. And the quest for variety in our daily lives can lead us out of financial solvency and into debt if one seeks expensive foreign travel, new cars, home renovations, and extensive wardrobes.

### THE PURPOSE OF PURCHASES

Previous chapters have explained that efficiency is about maximizing net gains. The net gains from sales can be divided into what are called consumer surplus and producer surplus. *Consumer surplus* is the difference between the values consumers place on a good and the amount they must pay for it. People buy things for the consumer surplus they receive, not for the portion of value that is offset by price. If you would be willing to pay \$60 for a new jacket and the price is \$50, you enjoy \$10 worth of consumer surplus from that jacket. If the jacket were priced at \$60, you would be indifferent between buying it and not buying it because you would gain no consumer surplus from the purchase—payment of the price would eat up all the value you would receive from the jacket.

Sellers are similarly motivated by the prospect of net gains. *Producer surplus* is the difference between the price of a good and the marginal cost of making it. If it costs \$35 to make another jacket and that jacket sells for \$50, the producer surplus from that exchange is \$15.

*Deadweight loss* is a loss of benefit that does not become anyone else's gain. In 1878, Black Bart (also known as Charles E. Boles) robbed California's La Porte to Oroville stagecoach to obtain a Wells Fargo express box containing \$500 in gold and a silver watch. This transfer of gold and silver did not represent a deadweight loss because Wells Fargo's loss was Black Bart's gain. Crimes such as this do create deadweight loss as the result of time and money spent carrying out and defending against the offenses. When the *Titanic* hit an iceberg and sank in 1912, it was a loss to the victims who perished and to the Oceanic Steam Navigation Company, which owned the ship. Because no one received benefits in exchange for this vessel and its victims, those losses represent deadweight loss.

In the context of buying and selling, deadweight loss is the loss of consumer or producer surplus from sales that could have provided surplus but do not occur. If a tax on jackets increased the price to \$61, the jacket you would otherwise have purchased might not be sold. This reduction in the quantity of jackets sold leads to a loss of both the \$10 in consumer surplus and the \$15 in producer surplus. Without that jacket, the producer can avoid the cost of making it and the consumer can save the price of buying it, but the surpluses that would have gone to the buyer and seller dis-

appear as if lost at sea. That amounts to \$25 in deadweight loss. Note that the taxes collected on jackets that are sold do not constitute a deadweight loss; rather, tax revenues represent a *transfer* from consumers or producers to the government. Like taxes, monopolies and cartels create deadweight loss by increasing prices and decreasing the quantity sold, thereby eliminating sales that would have provided surplus.

## GIFTS AND DISAPPOINTMENTS

In a 1993 article in the *American Economic Review* titled "The Deadweight Loss of Christmas," Joel Waldfogel explained the downside of noncash gift giving. Gifts create deadweight loss when the recipient could have taken the amount spent on the gift and received more utility spending it on something else. Waldfogel estimated that between a tenth and a third of the money spent on gifts is wasted because it exceeds the value that recipients place on the goods. As a whole, he estimated that the deadweight loss from gift giving in the United States is between \$5 billion and \$18 billion each year.<sup>4</sup>

The deadweight loss is greater from less-informed givers. In Waldfogel's study, friends, significant others, siblings, and parents had a relatively good idea of what the recipients wanted and gave gifts that on average were worth 98.8, 91.7, 86.5, and 86.2 percent as much to the recipient as their price, respectively. Aunts and uncles and grandparents were not as well informed and gave gifts that were worth between 62.9 and 64.4 percent of their price, respectively.

There are a few drawbacks to giving cash as a gift. One is that the sentimental value of an item purchased with a cash gift will often fall below that of a gift given directly. Another is that there is no difference between the perceived price of the good and the true cost of providing it. Some gift givers strive to find an item that looks like it cost \$50 but really cost only \$25.

Like everything else, cash gifts involve trade-offs. As a compromise between the inflexibility of a bundt cake gift and the impersonal feel of a cash gift, gift certificates have grown in popularity in recent years. A gift certificate from Tiffany's shows that the gift giver put some thought into the purchase while providing the flexibility that also makes gift recipients happy.

The importance of budget flexibility is relevant in other settings as well. Government programs and community food banks sometimes provide packaged food, housing, clothes, and other in-kind assistance to the poor. Although these items are generally useful to the recipients, they are unlikely to match their needs as closely as would the items they could obtain with the more flexible provision of food stamps or cash. Another drawback of cash, unlike food stamps, is that recipients can spend it on tobacco and alcohol. Most donor organizations choose not to satisfy recipients' preferences for those particular goods.

Duke University recently extended the use of student meal plans to include local restaurants so that students could come closer to their optimal food consumption than

<sup>4</sup> Although his general point is well taken, Waldfogel's specific estimates have been questioned as a result of his reliance on a survey of Yale undergraduates. See, for example, Sara J. Solnick and David Hemenway (1996), "The Deadweight Loss of Christmas: Comment," *American Economic Review*, 86:5, 1299-1305.

on-campus eateries would allow. In a similar innovation, a growing number of travel-abroad programs are allowing students to control the food-cost component of their trips. Whereas the dinner buffet at the hotel used to be part of the package, for example, students can now allocate the \$25 buffet cost to a \$10 take-out meal and an extra \$15 museum visit, to a \$3 bowl of cereal and a \$22 souvenir sombrero, or to whatever else makes them happiest.

## CONCLUSION

Individuals, firms, and governments can make the most of limited budgets by spending money to equate the bang per buck across purchases. The logic behind this principle, which is called the *optimal consumption rule*, is that if one good provides more benefit per dollar than another, more should be spent on the good with the relatively high return and less should be spent on low-return goods until the discrepancy in relative benefits no longer exists. People generally prefer variety and balance in their consumption, although the combination of purchases that one person prefers is unlikely to match someone else's ideal mix. Cash provides complete spending flexibility. Gifts, in-kind government support, and packaged meal plans, in contrast, can impose unfortunate rigidities and force recipients away from their preferred levels of consumption.

The benefit from buying goods comes in the form of consumer surplus—the difference between the value of a product to the consumer and the product's price. Producers seek producer surplus—the difference between price and marginal cost. When goods that would have provided consumer or producer surplus are not bought and sold, the result is deadweight loss: The surplus is received by no one and completely disappears. Deadweight loss can result from taxation, monopolization, and even a holiday gift that gives you less joy than you would have received if you had picked your own gift. If your grandmother sends you \$20 for your birthday, it isn't necessarily because she doesn't want to shop for you. If you're excited to see that her gift is cash and not another pair of slippers, you're enjoying a release from the deadweight loss of gift giving.

## DISCUSSION STARTERS

1. How do you make budgetary decisions about the allocation of your funds? Does your decision making resemble the optimal consumption rule? Is there any way in which you could revise your spending habits to receive more bang per buck? What does that imply about your consumption decisions?
2. Suppose you consumed apples and oranges; each cost \$1, and you received 30 utils from your last apple and 10 utils from your last orange. What should you do in order to maximize your utility? What will happen to the marginal utility you receive per orange as you make this change? Why? What will happen to the marginal utility you receive per apple as this change occurs? Why?

3. Cash provides flexibility, but sometimes complete flexibility is a concern because it permits spending on addictive substances. What compromises did the chapter suggest in the context of gift giving and aid for the poor? How might a properly conceived voucher system solve similar problems in the context of education? What drawbacks might a voucher system involve?
4. What would you receive on an ideal birthday? Would you prefer cash to spend as you desire, goods and services selected by your friends and family, or some balance between the two? Why?
5. For sentimental reasons, might you prefer a shirt selected by a loved one, even though you wouldn't pick it for yourself? Can you think of ways (other than by using gift certificates as discussed in the chapter) to benefit from both flexibility in gift choices and sentimental value when it comes time to give gifts?