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## CHAPTER 2

### WHY DID THE CASHIER LET BIFF HENDERSON EAT ALL THE FREE MINTS?

An Introduction to the Power of Incentives

In a recent segment on the *Late Show with David Letterman*, stage manager Biff Henderson meandered around Manhattan timing things. How long would it take a shop owner to stop Biff from drawing faces on watermelons? When would someone say "Bless you" as Biff sneezed in Central Park? How long would a restaurant cashier let him graze on the bowl of mints at the counter? In most of these experiments, the answer was "Not long," but the cashier never stopped the mint bowl raid. Biff eventually poured the remaining mints into his pocket and left the restaurant scot-free. In this chapter we'll solve the mystery of the cashier's indifference and learn some secrets to success based on the underappreciated importance of incentives.

#### INCENTIVES MATTER

Economists provide a critical clue to the cashier's complacency: Incentives matter. As economist Steven Landsburg writes in *The Armchair Economist* (1991, p. 3), "Most of economics can be summarized in four words: 'People respond to incentives.' The rest is commentary." Biff's defacing (or should I say facing?) of the melons was soon halted because the shop owner was standing guard. Every melon Biff blemished represented a direct financial loss to the man who would pocket the profits from the fruit stand. If the cashier had a stake in the restaurant, perhaps she would have said something

to Biff about going easy on the mints. The cashier's duty was to maximize her employer's profits, but her incentive was to avoid hassles and collect a fixed wage. She lost nothing from Biff's pilferage of the candy, and her best interests differed from those of her employer. So she failed to fulfill her duty, responding to incentives instead. For similar reasons, U.S. businesses lose an estimated \$40 billion annually as a result of internal theft. Toyota, Microsoft, and Wal-Mart are among companies that use performance-based bonuses to bring the interests of employees and stockholders into closer alignment. Anyone who shares in the profits has a reason to watch out for the company's interests.

According to skeptics, people care about their employers anyway and don't need work incentives. Indeed, many workers do care about their workplaces; the issue is that even the most loyal workers also care about other things, such as their families, hobbies, gardens, and churches. We act with our hearts, but our hearts are divided among many competing objects of affection. Those pro athletes who love their teams and talk about giving "110 percent" also love their spouses, their favorite charities, and their vacation homes; consequently, even though they are truly dedicated to their sports, it takes monumental performance incentives to get a mere 100 percent out of them. A professional football player might stand to earn an extra \$100,000 for rushing more than 1,000 yards in a season, \$10,000 for catching 6 touchdown passes, or \$300,000 for being on the roster for at least 14 games. As an example, Tampa Bay Buccaneers wide receiver Michael Clayton was eligible for a roster bonus (for showing up for enough games) of \$460,000 in 2005.

Incentives matter for coaches, too. University of Maryland football coach Ralph Friedgen receives an extra \$50,000 each year if his program avoids legal and NCAA infractions, \$75,000 if at least 75 percent of his senior players graduate, and \$225,000 if the team goes to a bowl game. University of Hawaii football coach June Jones's performance incentives include \$17,500 for every victory more than 6 in a season and up to \$10,000 annually if first-year scholarship players receive at least a 2.7 grade point average (GPA).

Those who pay the bills for sports teams apparently believe that incentives make a difference, and evidence supports them. Joseph Boyer and Jeffrey DeSimone,<sup>1</sup> among other researchers, find that performance incentives have a meaningful influence on game outcomes. There are bonuses for good grades, too, but coaches seldom shorten practices to extend study time. That's because, when confronted by conflicting incentives, it is rational to respond to the largest one. Noting that university coaches' incentives to win games far exceed their incentives to promote academic achievement, economist Andrew Zimbalist writes, "You look at the proportional size of each bonus, and it's not very hard to see where, over the long term, the priority and focus are going to be."<sup>2</sup> In other words, if college athletes aren't meeting expectations in the classroom, rather than criticizing coaches for holding practices long into the evening, it might be more effective to rewrite their contracts.

<sup>1</sup> This article is available for download at <http://ideas.repec.org/p/wop/eacaec/9908.html>.

<sup>2</sup> See [www.washingtontimes.com/national/20040428-120939-8135r.htm](http://www.washingtontimes.com/national/20040428-120939-8135r.htm).

## INCENTIVES DRIVE MARKETS

In the marketplace, prices provide incentives for the allocation of scarce resources among competing interests. When oil prices set record highs, as they did in 2006, more resources are devoted to oil prospecting, more acres of land and ocean floor are set aside for drilling, and more money is spent to research and develop alternative sources of energy. What we now call “oil” was called “rock oil” in the nineteenth century, and whale oil was the lamp fuel of choice. With high prices for whale oil came strong incentives to replace it with petroleum products.<sup>3</sup> Similarly, if oil prices rise high enough, it will become financially viable to obtain oil from oil shale and tar sand, and the new price incentives will spawn industries that mine and refine oil from new sources.

What incentives drive your choice of a vehicle? Desires for status and sex appeal are important motivators for car buyers, and oil prices also have an influence. A General Motors (GM) Hummer gets about 11 miles per gallon of gasoline, whereas a Toyota Prius gets about 50 miles per gallon.<sup>4</sup> In 2003, 35,259 Hummers and 20,387 Priuses were sold. As oil prices soared to record highs in 2004, Hummer sales slumped, prompting GM to cut its Hummer sales forecast from 40,000 to 30,000 cars. Meanwhile, Toyota, with many customers willing to pay more than the suggested retail price for a Prius, increased 2004 sales to 54,000 cars. Fueled by continued oil-price incentives, which only increased after Hurricane Katrina crippled 10 U.S. refineries,<sup>5</sup> Toyota sold 108,000 Priuses in 2005 and projected further sales growth in 2006.<sup>6</sup> Consumers responded to the incentive to buy fuel-efficient cars in order to save money at the gas pump and to help protect the environment, and Toyota responded to the incentive to produce more Priuses in order to profit from the car’s growing popularity and premium prices.

Because prices and the incentives they create are so important, you can look forward to more discussions of market prices later in this book. In Chapter 3, we discuss the determinants of prices, Chapter 5 explains how a special type of price might play into the selection of a spouse, and Chapter 6 considers how market prices can lead us to efficient outcomes.

## INCENTIVES UNDERPIN EFFECTIVE POLICY

Appropriate incentive structures can be used to address many policy dilemmas. How could we get more people to clean up and recycle bottles and cans? Place a dime deposit on them.<sup>7</sup> How do we try to curtail potentially deadly habits, such as smoking and drinking? We increase so-called sin taxes on the associated products. How do we motivate employers to create safer workplaces? We base the cost of workers’ compen-

<sup>3</sup> See [www.energyquest.ca.gov/story/chapter08.html](http://www.energyquest.ca.gov/story/chapter08.html).

<sup>4</sup> See <http://hybridcars.about.com/od/toyotaprius/fr/2005toyotaprius.htm>.

<sup>5</sup> See [www.chron.com/disp/story.mpl/special/05/katrina/3332630.html](http://www.chron.com/disp/story.mpl/special/05/katrina/3332630.html).

<sup>6</sup> See [www.nctd.com/review-intro.cfm?Vehicle=2006\\_Toyota\\_Prius&ReviewID=1890](http://www.nctd.com/review-intro.cfm?Vehicle=2006_Toyota_Prius&ReviewID=1890).

<sup>7</sup> For information on existing bottle deposit legislation, see [www.toolkit.container-recycling.org/GetTheFacts/other/nickel.htm](http://www.toolkit.container-recycling.org/GetTheFacts/other/nickel.htm). Michigan’s 10-cent deposit on bottles helps it top other states to achieve a bottle return rate that is consistently about 95 percent.

sation insurance on each firm's history of injuries. More generally, how can we get ourselves to study more, procrastinate less, tidy up, or slim down? We can dangle a proverbial carrot by promising ourselves rewards.

Many states have passed legislation similar to the Kentucky Education Reform Act instituting performance incentives for public school teachers. One controversial result is higher standardized-test scores among students in public schools. Some parents and observers say the incentives are so effective that they motivate educators to make the school year too long. Grassroots groups, such as SummerMatters!, are now organizing to create incentives against extensions of the school calendar. There is also concern that incentives for high student test scores steer schools away from subjects such as music and art, in which individual achievement is hard to measure using standardized tests, and encourage states to set low standards so that more of their students "succeed."<sup>8</sup>

When you purchase tickets for an airplane flight or a movie, you are subjected to a common incentive scheme called *peak-load pricing*. The idea of peak-load pricing is to create incentives for customers to demand goods and services when supply is ample and not when supply is short. Taking this approach, restaurants often provide lower prices before 6 P.M. and tropical resorts offer discounts in the summer to spread their patronage out—a cheaper solution than expanding to accommodate more customers during the peak season. The cost of building and maintaining a power plant depends on the amount of energy output required during peak hours of production, and higher daytime rates encourage customers to delay as much usage as they can until evening. There are cyber cafés in Amsterdam whose hourly rates at any given time depend on the number of workstations currently being used. And happy hour drink prices in bars would more aptly be called quiet hour prices because they create incentives for patrons to visit during what otherwise would be slow periods.

Governments at every level use the incentive of tax breaks to encourage business growth. When the board of governors of the U.S. Federal Reserve System (the "Fed," for short) wants to spur the economy, it provides incentives for growth by lowering the interest rate that firms pay on their loans. When the Fed wants to cool the economy down and stem inflation, it engineers the opposite incentive, discouraging investment by imposing higher interest rates.

Despite their promise, adequate incentive structures are often absent from policy measures. Too many pay scales are driven by seniority alone, and too many service providers have insufficient incentives for quality or frugality. The sales clerk who won't get off the phone to help a customer, the instructor who won't give students the time of day, and the politician who doesn't vote to balance the budget are all symptomatic of misplaced incentives.

## PERVERSE INCENTIVES MATTER, TOO

Incentives can have both intended effects and unintended effects, which is all the more reason to study them. For example, subsidies encourage production and consumption of the subsidized products, which is good if too few are being made but bad if

<sup>8</sup> See, for example, [www.washingtonmonthly.com/features/2005/0510.toch.html](http://www.washingtonmonthly.com/features/2005/0510.toch.html).



the starting point is an adequate or excessive supply. Biff's melons, along with oil, education, and automobiles, are subject to various subsidies. The pollution-reduction benefits from Priuses might justify the roughly \$3,700 in tax-based subsidies available to businesses (private individuals receive about \$2,000), but the potential \$10,500 tax savings for purchasers of Hummers may be a bad idea because of their relatively large environmental impact.

*Perverse incentives* are those that create unintended consequences. Hummers come with such a large tax break because vehicles weighing at least 3 tons receive favorable tax treatment not afforded to "luxury autos."<sup>9</sup> The weight limit, which was established to provide special tax status for construction, farming, and hauling vehicles, provides incentives for the production and purchase of oversized sport utility vehicles (SUVs) and pickup trucks. Today dozens of vehicle models used for light-duty transportation get this exemption because of their tremendous weight. Here are a few more examples of perverse incentives:

- Executive salaries that increase with a corporation's size may encourage excessive mergers. More than 60,000 mergers took place between 1980 and 2000.
- Plaintiffs' attorneys' fees that grow in proportion to the amount received at trial or settlement may encourage litigation. Between 1960 and 2003 the number of U.S. civil court cases filed increased more than fourfold, from 59,284 to 252,962.
- The relatively large donations received by crippled beggars in India have led some beggars to injure themselves or their children deliberately in order to gain the sympathy of passersby and thus increase their incomes.
- The Endangered Species Act of 1973 has led some landowners to destroy wildlife habitats so that no discovery of endangered species can be made that would trigger a loss of development rights.<sup>10</sup>
- Owners of stock in companies that sell antivirus software have an incentive to propagate viruses in order to motivate purchases of the software.
- Paying for tasks on an hourly basis may encourage workers to work too slowly, whereas paying by the job can encourage workers to work too quickly.
- "Three-strikes" laws mandating that three-time felons be given the maximum sentence may provide incentives for criminals to kill witnesses to their third offenses because the murders might prevent their convictions and, in any case, won't increase their punishments.
- Price ceilings (limits on how high prices can go), intended to make goods and services more available to underprivileged customers, cause shortages. For example, rent controls on apartments increase the quantity of apartments demanded and reduce the incentives to maintain existing apartment buildings or build new ones.

<sup>9</sup> Specifically, the heaviest vehicles are not subject to the \$7,660 limit on first-year depreciation that applies to some other classes of vehicles. See [www.bankrate.com/brm/news/auto/car-guide-2004/tax-SUVs1.asp](http://www.bankrate.com/brm/news/auto/car-guide-2004/tax-SUVs1.asp).

<sup>10</sup> See [www.journals.uchicago.edu/JLE/journal/issues/v46n1/460103/460103.html](http://www.journals.uchicago.edu/JLE/journal/issues/v46n1/460103/460103.html).

- Price floors (limits on how low prices can go), intended to help sellers of goods and services earn more money, create surpluses. For example, minimum wage laws, which create a floor (minimum) for the price of labor, decrease the number of workers hired and increase the number seeking work. The result is an increase in the unemployment rate.
- Restrictions on the legal supply of products such as marijuana and alcohol create illegal markets in which suppliers earn high profits and have strong incentives to get potential customers hooked on the products.

## INCENTIVES ARE MORE THAN MONEY

In Chapter 1, I explained that economics isn't all about money; neither are incentives. Money is a means toward ends such as power, respect, security, and acquisition—but it isn't the only means of achieving these objectives. Managers of businesses and institutions often entice outstanding employees with the power of lofty titles, such as vice president or distinguished professor. Volunteers gain respect in their communities. Many workers in Japan accept relatively low wages in exchange for lifelong job security. Trips, presents, and services from government lobbyists and pharmaceutical company sales representatives are strictly regulated because of the dangerous incentives of biased advocates bearing gifts.<sup>11</sup> And in Leadville, Colorado, every year, people run 100 miles at high altitude in less than one day to earn a belt buckle.<sup>12</sup>

## CONCLUSION

Biff discovered the kind of void in proper incentives that permeates policymaking at many levels. An understanding of the degree to which incentives matter is a secret to success in policymaking, politics, motivation, management, and virtually every other walk of life. Take it from former economics majors, such as Presidents Ronald Reagan and George H. W. Bush, Governor Arnold Schwarzenegger of California, retired Supreme Court justice Sandra Day O'Connor, rocker Mick Jagger, and former Harvard University president Lawrence Summers, to name only a few. These people have used their knowledge of incentives, among other talents, to achieve great things.

Economists routinely confirm what great sleuths have known all along: Actions and motives are seldom separated. When detectives can't solve a crime by screening suspects according to motive, alibi,<sup>13</sup> and ability to commit the crime, they frequently turn to another type of incentive—the reward. In the Old West, “Wanted Dead or Alive” posters offered bounties of \$100 and up for the capture of criminals.<sup>14</sup> In the new West, the Los Angeles City Council offers rewards of \$25,000 and up for tips leading to convictions for rapes, murders, and hate crimes.<sup>15</sup> For bounty hunters, like bottle deposit hunters and almost everyone else, incentives have proven to be a powerful tool. Whether you intend to influence the writing of legislation, legal decisions,

<sup>11</sup> See, for example, [www.ama-assn.org/ama/pub/category/4263.html](http://www.ama-assn.org/ama/pub/category/4263.html).

<sup>12</sup> See [www.skyrunner.com/story/2004lt100.htm](http://www.skyrunner.com/story/2004lt100.htm).

<sup>13</sup> An *alibi* is a defense that the suspect was not at the scene of the crime when it was committed.

<sup>14</sup> See [www.larned.net/rogmyers/NWBH.htm](http://www.larned.net/rogmyers/NWBH.htm).

<sup>15</sup> See [www.physsci.uci.edu/psnews/?id=16](http://www.physsci.uci.edu/psnews/?id=16).

rock lyrics, or university policies, remember that the pen may be mightier than the sword, but incentives set both of those instruments into motion.

### DISCUSSION STARTERS

1. How do incentives influence your study habits? Why do students so often ask, "Is this topic going to be on the test?" Why would it be unwise for an education-maximizing instructor to reply, "No, it isn't"?
2. Can you tell when a sales clerk works on a commission basis? Do people who work for tips behave differently from those who do not? Can you tell from an instructor's behavior whether he or she has tenure?
3. What are some examples of perverse incentives that are not discussed in the chapter?
4. How might incentives be used to encourage volunteer work and community service?
5. What incentives might help to explain why consumers support abusive "sweatshop" manufacturing operations? Can you think of other examples of outwardly inappropriate behavior that is well explained by underlying incentives?