

ton University Press, 1990), Chapter 16; Andreu Mas Colell, Michael D. Whinston, and Jerry R. Green, *Microeconomic Theory* (New York: Oxford University Press, 1995), Chapter 14. These are all textbook treatments of the subject, which give additional suggestions for further reading.

2. We are assuming that you know about expected utility and related topics such as risk aversion; if not, some of our discussion may not make a lot of sense. But you may still be able to follow the simpler specification begun in the next subsection.
3. Simply subtracting the effort level is typical in this model, but more generally we might suppose that he evaluates contract y and effort level e according to the expectation of $U(y(x), e)$, where U is a function that is increasing in its first argument (he prefers more money to less) and decreasing in its second argument (he prefers less effort to more).
4. See Bengt Holmstrom and Paul Milgrom, "Aggregation and Linearity in the Provision of Intertemporal Incentives," *Econometrica* 55 (March 1987): 303–28. Good luck; this takes a lot of math.
5. A concave $m(e)$ function means diminishing marginal returns to effort, which might reflect physical and mental fatigue or the "low-lying fruit" phenomenon—on a tree it is easiest to pick the fruit located closest to the ground, and thus increasing effort will be required to pick fruit as the tree becomes depleted. This phenomenon applies to a broad range of activities—think of a saturated sales territory, fundraising, scientific discoveries, and process innovations. But this is not a law of nature; for example, there might in some cases be *increasing* returns to effort in pursuing process innovations, at least at the start, as the fixed costs of understanding the process must be paid for during the first few innovations but can be amortized increasingly well as further innovations are made.
6. It is generally true that if risk is being shared between two parties, one of whom is risk-neutral and the other risk-averse, it is efficient on risk-sharing grounds alone for the risk-neutral party to bear all the risk. See Kreps, *op. cit.*, Chapter 3.
7. This may strike you as unrealistic. But, recall the real-world example from Chapter 2 of RE/MAX, a large, international real estate agency, which uses precisely this compensation structure: Realtors get 100% of the commissions they earn, and they pay RE/MAX for the privilege (and for some clerical services). But there is more going on in RE/MAX than risk-neutral realtors; we discuss this example further in Chapter 14.
8. To detail the sorts of market imperfections that give rise to incentive problems is outside the scope of this appendix, but we will mention two. First, there may be an informational imperfection; the principal controls the accounting system and can't credibly provide the agent with an accurate accounting of how much he earned. (This is another form of moral hazard problem, with the hazard on the side of the principal.) Second, the agent may be unable to raise enough funds to buy the business up front, or limited liability considerations may make this impractical.
9. See Holmstrom and Milgrom, *op. cit.*

APPENDIX D

ADVERSE SELECTION AND MARKET SIGNALING

The general theory of adverse selection and market signaling is briefly recounted below, using the used car market as a motivating example.¹

THE PROBLEM OF LEMONS

There are many cases in which the seller of a good or service knows more about the quality of the item being sold than the buyer does. The standard example is that of used cars; the owner of the used car knows whether the car is a *lemon* (a poorly performing vehicle) or a *cream-puff* (a superior vehicle), whereas buyers cannot tell for sure which it is. Other examples abound. For instance, a manufacturer may be better informed about the quality or reliability of some product being sold than are customers. An individual shopping for insurance may be better informed about his state of health than is the company considering whether to issue health or life insurance to him.² More germane to the subject matter of this book, a job applicant may be better informed about her abilities or her likelihood of resigning in the future than is a prospective employer. In all these cases, the uninformed party faces a potential problem of adverse selection: When deciding what price to pay (or charge) for the good or service, the uninformed party offers a price appropriate for the average good offered for sale. If the price appropriate for the average good in the population as a whole is unappealing for those who own higher-quality goods, owners of higher-quality goods will withdraw from the market; the goods or services that are offered for sale (or the people who queue up to buy insurance) are the relatively less reliable, lower-quality ones. But then the buyer must offer a still lower price, because the average good for sale is worse than the average of the entire population. This lower price potentially drives even more high-quality goods out of the market; the feedback loop in this process enhances the adverse selection problem.

To take a very simple illustrative caricature, imagine that every used car is of one of three types: a lemon, okay, or a cream-puff. Of all the used cars in the world, suppose one-third are lemons, one-third are okay, and one-third are cream-

puffs. Imagine that there is only one model of car, so that this is the only way in which used cars differ.

Now suppose that there is some fixed number of used cars in the world, say 30,000. Imagine that to their owners, contemplating the sale of their vehicles, a lemon is worth \$3,000, an okay used car is worth \$4,000, and a cream-puff is worth \$5,000. (In other words, owning a vehicle produces utility to the owner equivalent to these respective dollar amounts.) If the market price of a used car is less than \$3,000, no car is supplied for sale. If the price is at or above \$3,000 but below \$4,000, all the lemons are offered for sale. At prices between \$4,000 and \$5,000, all the lemons and all the okay cars are offered for sale. And at prices at or above \$5,000, all the cars are offered for sale. Hence we get a supply curve as in Figure D-1.

As for the demand side of the market, imagine that many people are interested in buying used cars. A car's value to a potential buyer depends on its quality: A lemon is worth \$3,300 to potential buyers; if the car is okay, it is worth \$4,300 to potential buyers; and a cream-puff is worth \$5,300 to potential buyers. We'll suppose that buyers are risk neutral; a car that they assess as being a lemon with probability .4, okay with probability .4, and a cream-puff with probability .2, is worth to them the amount $(.4)(3300) + (.4)(4300) + (.2)(5300) = \$4,100$. Note that in this example, every used car ought to be exchanged if we are going to have a market that works as well as conceivably possible, because by assumption every car is worth more to a buyer than to its current owner.

In Figure D-1 we have supply. What about demand? The demand at any price depends on expectations concerning the quality of the car being supplied. Suppose that buyers have *naive* expectations, which means that at any price, they believe that a car they buy is chosen at random from the population of all used cars—that is, it is equally likely to be a cream-puff, okay, or a lemon. Thus, the price they would pay for any car is: $(\frac{1}{3} \times \$3,300) + (\frac{1}{3} \times \$4,300) + (\frac{1}{3} \times \$5,300) = \$4,300$.

We get the naive demand curve shown in Figure D-2: no demand at prices above \$4,300, and unlimited demand at any price below \$4,300. If this is the demand curve, 20,000 cars change hands at a price of \$4,300.

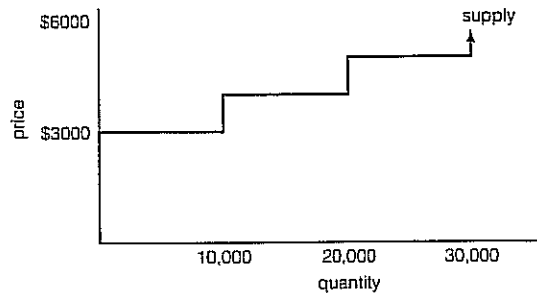


Figure D-1 The supply of cars.

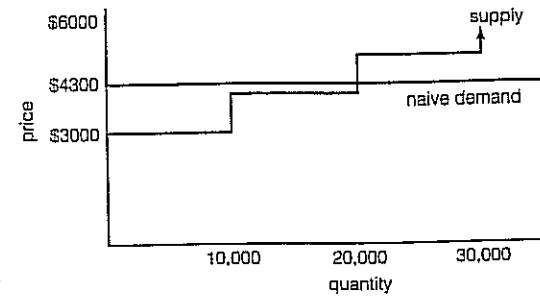


Figure D-2 Naive demand and equilibrium.

But in this equilibrium, the 20,000 cars that are supplied are equal numbers of okay cars and lemons. No cream-puffs are coming on the market, because they are all worth more to their owners than the market price of \$4,300. This being so, car buyers will come to learn over time that cream-puffs never come on the market; cars that are sold are equally likely to be okay or lemons. Thus, the most consumers will pay for the cars that are coming to market is: $(\frac{1}{2} \times \$3,300) + (\frac{1}{2} \times \$4,300) = \$3,800$, and demand at \$4,300 falls to zero. Moreover, demand at \$3,800 falls to zero as soon as buyers begin to understand the new market reality: At a price of \$3,800, owners of okay cars will hold on to those cars, and the only used cars supplied will be lemons. A lemon is worth only \$3,300. So, taking all this into account, the *sophisticated demand curve* is as shown in Figure D-3: zero demand at prices above \$3,300, unlimited demand at prices below \$3,300, and an equilibrium in which the lemons change hands at a price of \$3,300.

To reiterate: The price that buyers will pay for a used car depends on the *average quality* of the cars that are brought to the market. This discourages owners

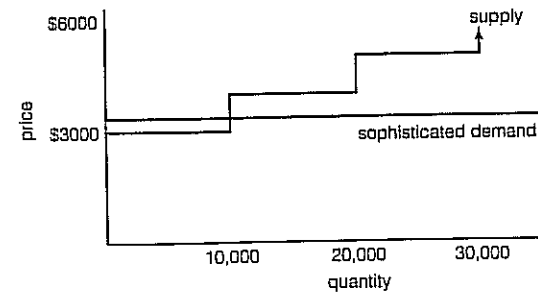


Figure D-3 Sophisticated demand and equilibrium.

of good used cars from selling their cars, and it means that the average of the cars that are brought to the market is lowered. In this case, the presence of lemons drives (ouch!) higher-quality cars entirely out of the market.

MARKET SIGNALS

So if you own a cream-puff, what are you going to do? You know that if you can somehow have your cream-puff certified as being a cream-puff, then you can get \$5,300 for it, which is \$300 more than it is worth to you. If you can get it certified as a cream-puff for less than \$300, you will do so; this might be done by having it inspected in a garage. But suppose that direct certification is not possible. There still might be actions you can take to distinguish your car as a cream-puff. For example, suppose that you offered a limited warranty on your car. You offer to pay for any repairs necessary for the first four months after you sell the car. Of course, this is costly for you, but it may be less costly for you than it would be for someone who owns a car that is just okay or for someone who owns a lemon. Suppose, for example, that the cost to a seller of a warranty depends on the length of the warranty and also the type of car being sold. Specifically, suppose that to a lemon owner, every month of warranty costs an expected \$1000. To the owner of an okay car, the first month of warranty costs \$100; the second, \$300; the third, \$600; and all subsequent months cost \$1,000 apiece. If you own a cream-puff, the first four months of warranty costs you \$100 apiece; the fifth costs you \$200; and any additional months cost you \$300 each. Suppose as well that a warranty has value to a buyer. Specifically, each month of warranty is worth \$75 to the buyer. Now suppose that, somehow, markets reach the following equilibrium:

- If you offer a four-month warranty, you can sell your car for \$5,600.
- If you offer a two-month warranty, you can sell your car for \$4,450.
- If you offer no warranty, you can sell your car for \$3,300.

Suppose you own a lemon. If you offer no warranty on your car, you can sell it outright for \$3,300. If you offer a two-month warranty, you can sell it for \$4,450, but the warranty will cost you an expected \$2,000, so you will realize only \$2,450. If you offer a four-month warranty, you can sell the car for \$5,600. But the four-month warranty will cost you an expected \$4,000, so you will net only \$1,600. If you hold on to your car, it is worth \$3,000 to you. So it is best to offer no warranty and sell your car for \$3,300.

Suppose you own an okay car. If you offer no warranty, you can get \$3,300. If you offer a two-month warranty, you get \$4,450, from which \$400 in expected costs must be subtracted, for a net of \$4,050. If you offer a four-month warranty, you get \$5,600, less expected costs of \$2,000, for a net of \$3,600. If you hold on to your car, it is worth \$4,000 to you. So you do best by offering a two-month warranty and selling for \$4,450.

Suppose you own a cream-puff. If you offer no warranty, you get \$3,300. If you offer a two-month warranty, you get \$4,450, from which warranty costs of \$200 are subtracted, leaving you netting \$4,250. If you offer a four-month warranty, you net \$5,600, from which warranty costs of \$400 must be subtracted, leaving you at a net \$5,200. And if you hold on to your car, you have netted the equivalent of \$5,000. It is best to sell your car with a four-month warranty, for \$5,600.

Do the prices being offered make sense? If a car is being offered for sale without a warranty, it is sure to be a lemon, and so it is worth \$3,300 to the buyer. If a car is being offered for sale with a two-month warranty, it is sure to be okay, and so it is worth \$4,300 plus \$150 or \$4,450 to buyers—the \$4,300 is the basic value of the car, and the \$150 is the value of two months' worth of warranty. If a car is being offered for sale with a four-month warranty, it is sure to be a cream-puff, and so it is worth \$5,300 (for the car) plus \$300 (for the warranty), or \$5,600. All the prices do indeed make sense. This is an example of *market signaling*. Sellers of a good or service who have private information about its quality communicate their private information by "signals" they send. Sellers of higher-quality goods send signals too expensive for sellers of lower-quality goods to send, thereby distinguishing themselves from those selling lower-quality goods. Warranties are an excellent example of market signals, though there are many others; in the labor market context, education is another good example of market signaling, which we discuss in detail in Chapter 14.

This may be a good place to remind you that economists use models as illustrative parables and not as faithful depictions of reality. In the used car market, cars aren't graded so neatly into types along a single-dimensional scale. Moreover, the scale is continuous and not discrete, and not every owner of a cream-puff has the same reservation price as every other owner for his car. In a more realistic model of the used car market (or the labor market), different signals involve partial pooling (see below) of characteristics in which the buyer is interested: That is, a four-month warranty, if that is a market-place standard, will lead to the inference that the car is probably a cream-puff, but may be okay and may even be a lemon, whereas a two-month warranty leads to a different (and more adverse) selection from the population. In a more realistic model, different levels of signals are associated with different distributions or selections from the market, based on experiences and knowledge that market participants have about what the signals mean.

The real world is complex in another way: Not every buyer agrees about what every signal means. In the context of HRM, for example, firms can and do disagree on what the "distribution of talents" is among those students who have signaled with an MBA from, say, Harvard versus the University of Chicago. It isn't simply that different firms have different tastes over these attributes; they disagree over the very meaning of the signal itself.

The complexities of the real world obviously imply that the stark and precise equilibrium of our caricature model will at best be approximated in real life. You should maintain a healthy skepticism about this sort of thing. But notwithstanding

healthy skepticism, the economic model of market signaling gives substantial insight into real-world phenomena:

- Signals sent by informed parties can be used by those with less information to infer something about the parties sending the signals.
- Those inferences, though far from precisely correct, are usually relatively valid.
- A key to an effective signal is the relative cost versus quality trade-off: A signal that is *relatively* more costly for the lower-quality types in the market is more apt to be effective, because it is more expensive for the lower-quality types to mimic. Thus, finishing high school may be a good signal of acceptance of authority. But for someone who wishes to send this particular signal, enlisting in the Marine Corps is probably better still.
- A second key to how well a seller's signal works, in terms of indicating the qualities of interest to the buyer, is whether sellers understand that the signals will be "read." For example, if high-school students are incapable of understanding that it may be valuable to get their diploma, then the diploma may be a strong signal of, say, acceptance of authority (i.e., willingness to heed the wishes of authority figures like parents or teachers, even when the student sees no clear value in it). But suppose high-school students understand that this inference will be drawn by employers. If high school diplomas aren't too costly to obtain for some students who reject authority, then some of the more rebellious students will choose to remain in high school, seeking to "fool" employers into thinking that they (the students) aren't rebellious. Having these rebels included in the population of high school graduates weakens the quality of the "authority acceptance" signal provided by a high-school diploma. To signal acceptance of authority, a stronger signal may now be required, such as a diploma from a parochial school or a stint in the military.

OUT-OF-EQUILIBRIUM SIGNALS AND THE PROBLEM OF INFERENCE³

The market equilibrium described for our caricature model of used cars is:

- If you offer a four-month warranty on your car, you can sell it for \$5,600.
- If you offer a two-month warranty on your car, you can sell it for \$4,450.
- If you offer no warranty on your car, you can sell it for \$3,300.

This is an equilibrium: Each of the three warranties on offer, coupled with the price that warranty obtains, leads to a particular class of cars being offered with that warranty, which justifies the corresponding price. But the argument that this is an equilibrium is circular: The price at each warranty level leads to the set of cars offered with that warranty, which leads (back) to the price.

A second equilibrium is:

- If you offer no warranty on your car, you can sell it for \$3,300.
- If you offer a two-month warranty, you can sell it for \$4,450.
- If you offer a five-month warranty, you can sell it for \$5,675.

The difference between this equilibrium and the previous one is that, if you have a cream-puff, you have to offer a five-month warranty. To verify that this is an equilibrium, we have to check that cream-puff owners would rather offer a five-month warranty than keep their car, offer no warranty and sell for \$3,300, or offer a two-month warranty. But it works out: The five-month warranty costs the previous owner \$600, so he gets \$5,075 net from selling with a five-month warranty, versus utility equivalent to \$5,000 if he keeps the car, and something less than \$4,450 if he sells it with a two-month warranty or none at all.

The buyers don't care which of the two equilibria is in force, and the sellers strictly prefer the first equilibrium.⁴ So why does the second equilibrium hold together? In particular, why doesn't the buyer of a cream-puff offer his car with a four-month warranty?

This is a specific example of a more general question. What in, say, the first equilibrium is the market supposed to make of someone offering a car with a three-month warranty? Three-month warranties aren't part of the market equilibrium, so it would seem that the person offering a car with a three-month warranty is making a "mistake." Still, it makes sense for buyers to try to figure out how likely this car is to be a lemon, or okay, or a cream-puff, and then to bid on it, based on their beliefs. But, to rephrase the question, what is a buyer supposed to believe, when a car is offered with a three-month warranty?

The basic theory of market signaling is silent on this question. It allows buyers to be so shocked by a mistaken (or so-called *out-of-equilibrium*) offer that they can draw any inferences they wish—for instance, that the car is sure to be a lemon. In fact, the basic theory allows buyers to be so shocked by such a mistaken offer that they refuse to bid on it at all. This means that in the basic theory, there are lots of possible market-signaling equilibria; we have given two above, but there are lots more. For example, another equilibrium is that used cars sell for \$3,300, no matter how long a warranty is offered. The trades that take place in this equilibrium are: Only lemons are offered for sale, with no warranty. Owners of cream-puffs and okay cars think to themselves, "I wonder how the market will react if I offer a warranty?" But in the basic theory, they are allowed to conclude, "No one will pay me anything for a warranty and all buyers will therefore conclude that my car must be a lemon, because all used cars that ever go on the market are lemons."

More refined theories of market signaling try to hone in on a particular market-signaling equilibrium (or, at least, to rule some out) by coming to grips with the out-of-equilibrium inferences that a buyer might reasonably make given a "mistaken" offer. For example, in the second equilibrium above, a four-month-warranty offer would cost the owner of an okay car \$2000 in expected expenses, so even

if the car is perceived to be a cream-puff and can (therefore) be sold for \$5,600, the owner of an okay car would net \$3,600, versus \$4,050 if the owner of this car sticks to the equilibrium offer of a two-month warranty. Hence this four-month warranty offer can only (sensibly) come from a cream-puff owner, and hence it must be met with buyers willing to pay \$5,600. If cream-puff owners can figure all this out, this in turn leads owners of cream-puffs to offer four-month instead of five-month warranties, upsetting the second equilibrium.⁵

This is tough and fairly subtle stuff. And it is the subject of a lot of controversy among economists who study market signaling. So don't feel bad if it doesn't quite make sense, and don't take it too seriously if it does. The point we wish to make here, which we will use in the text, is simple: There can be lots of market signaling equilibria in a given context because the question *What inferences are drawn from a signal that isn't part of the equilibrium?* can have many answers, all of them consistent with a signaling equilibrium. When signals are sent outside of an equilibrium, there is no way for the parties receiving them to figure out (statistically) what those signals mean, and if they could mean *virtually anything*, it is easy to see why no one would venture to send them, which is why they could mean virtually anything. Once again, you see the revolution of an economic vicious circle.

EFFICIENCY

Most models of market signaling tend to conclude that, relative to the case in which there was no private information, market signals are economically wasteful. This isn't to say that people don't send signals, and willingly so. But recall our example of the warranties: Each month of warranty was worth only \$75 to the buyer; but each month cost the seller at least \$100 and sometimes more. Every four-month warranty by a cream-puff owner is a "waste" of \$100, and every two-month warranty by an okay-car owner wastes \$250. It is clear that what this market needs is a good garage and an honest, objective mechanic, who can cheaply examine a car and reliably infer its quality.

The economic waste or inefficiency here compounds two effects. First, information has to be produced. Presumably, we'd have to pay the mechanic something, so comparing against a situation in which the buyer can costlessly assess a car's quality is a bit of a red herring. But more than that, what is needed is not simply to produce the information, but to produce so much at the top end of the quality distribution that the next lower level of quality has no incentive to misrepresent. Warranties for cream-puffs have to be long enough so that okay-car owners aren't attracted into offering them. This can be the cause of a lot of inefficiency.

SCREENING

For our used-car caricature, we described equilibria in which each quality level sends a different signal. (In the third equilibrium, where only lemons change hands, this isn't quite so; the owners of okay cars and cream-puffs are sending the same

signal—namely, no signal at all.) Don't be misled by this. In other examples, we can find equilibria with *pooling*, where more than one type of car is sold for the same price, under the same terms. The example we've created doesn't give simple examples of this. But pooling in real life is a very general and common phenomenon; what is unrealistic is complete signaling separation, where each level of quality is associated with a distinct market signal, so buyers know (from the signals) precisely what they are getting.

SCREENING

In the story of selling used cars, we told the story as if the party with the superior information takes the active role and *signals* to trading partners that he or she has a good car. In other contexts, the uninformed party offers to a population of informed parties a menu of options, from which the informed parties select, and the selection of a particular option from the menu screens the informed parties according to their qualities, or abilities, or whatever.

The story doesn't change much. Instead of having the seller of the used car offer a warranty, we have the buyer saying something like: "If you will give me a four-month warranty, I'll pay you \$5,600. For a two-month warranty, I'll pay \$4,450. And for a car without a warranty, I'm willing to pay \$3,300 only." The seller chooses accordingly: If he owns a cream-puff, he takes the first offer. If he has an okay car, the second. And if he has a lemon, he takes the money and runs.

Actually, there are some differences in what can be an equilibrium, depending on who makes the offer. But you'll have to consult the more advanced literature for that.⁶ For our purposes, what is useful is to recognize that signaling means that the informed party takes the lead, and screening means that the uninformed party offers the informed party a menu of choices or contracts. (Or, in some cases, uninformed parties make different offers, so that the informed party faces a menu in the market as a whole.)

Real-life examples of screening abound. When an insurance company offers different premium rates, depending on the size of the deductible chosen, it is screening insurees: More risk-prone insurees are apt to choose the lower deductible, and thus should be charged a higher premium rate. When choosing a mortgage, the prospective homeowner can choose along many different dimensions: different interest rate schemes (fixed versus variable, how much the interest rate can change per year and over the life of the loan, etc.); different times to full liquidation; different (or no) prepayment penalties; and different up-front fees. The lender in such cases understands that the choice of terms by the borrower indicates (statistically) the borrower's likelihood of prepaying or even defaulting on the loan, and interest rates for different packages of features are set accordingly.

Numerous examples of screening exist in the domain of HRM. For instance, several chapters in this book mention RE/MAX, the real estate network that offers a distinctive compensation package, which enables agents to retain 100% of the commissions they earn, in contrast to the standard compensation packages offered by other, more traditional firms in the industry. The effect of this is to screen for

more aggressive and talented agents. (This information is then useful to customers seeking such an agent, and thus for those agents who want to be so identified by those customers.) Or recall our discussion in Chapter 11 of how piece-rate pay (e.g., at Safelite Glass) allows workers with different tastes for income versus effort to self-screen; those willing to work harder for more income have that option. Similarly, firms may screen by permitting employees to select from a menu of benefit options (e.g., some of which involve deferred compensation) or a cafeteria plan; or by letting new employees choose between an initial specialized job assignment versus participating in an extended internship or training program that offers the potential for broader job assignments in the future. In each of these cases, workers' selections will reveal private information that potentially is quite useful to the employer (and possibly to clients or customers as well).

NOTES

1. For a more complete and formal version of the theory, see David M. Kreps, *A Course in Microeconomic Theory* (Princeton, NJ: Princeton University Press, 1990), Chapter 17. The seminal references for these ideas are: George Akerlof, "The Market for Lemons: Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics* 84 (August 1970): 488-500; A. Michael Spence, *Market Signaling: Informational Transfer in Hiring and Related Screening Processes* (Cambridge, MA: Harvard University Press, 1974); and Michael Rothschild and Joseph E. Stiglitz, "Equilibrium in Competitive Insurance Markets: An Essay in the Economics of Imperfect Information," *Quarterly Journal of Economics* 90 (November 1976): 630-49.
2. Because the good being purchased here is an insurance policy, you can think of this as a case where the buyer is better informed than the seller, and the seller cares about the information possessed by the buyer.
3. This section delves into the finer details of market signaling. Only the brave should venture in alone.
4. Recall that each month of warranty was worth \$75 to buyers, who are therefore indifferent between a cream-puff with a four-month warranty costing \$5,600 and one with a five-month warranty for \$5,675. On the seller side, in the first equilibrium, sellers take in \$5,600 for a cream-puff and incur the costs of a four-month warranty (which are \$400), netting \$5,200. In the second equilibrium, a cream-puff sells for \$5,675 but the seller must provide a five-month warranty (which costs \$600), for net proceeds of \$5,075.
5. If you make your way through Chapter 17 of Kreps' *A Course in Microeconomic Theory* (and live to tell about it), you will recognize this as an example of equilibrium domination.
6. See Kreps, *op. cit.*, Chapter 17.

AUTHOR INDEX

A

Abegglen, James C., 208
 Abelson, Robert P., 419
 Acemoglu, Daron, 401
 Adler, Paul S., 501
 Akerlof, George A., 367, 586
 Amabile, Teresa M., 443
 Ames, Lynda J., 309
 Aoki, Masahiko, 186-7, 208
 Arvey, Richard D., 368
 Aspinwall, Lisa G., 116
 Auletta, Ken, 36
 Auman, Jane, 443

B

Bacharach, Samuel B., 117
 Bagley, Constance E., 15
 Baily, Martin N., 443
 Bamberger, Peter, 117
 Barnes, Louis B., 13, 94
 Baron, James N., 14, 114, 116, 187, 336, 368, 498-502
 Bartelsman, Eric J., 443
 Bazerman, Max, 37
 Becker, Brian, 14, 207, 419
 Becker, Gary, 380-2
 Beer, Michael, 534
 Belous, Richard S., 468
 Berg, Norman A., 61
 Bhambri, Arvind, 37
 Bielby, William T., 368
 Bishop, Bill, 403
 Bjork, Robert A., 368
 Blau, Peter, 241
 Blinder, Alan S., 5, 14, 186
 Bohlander, George W., 148
 Borys, Bryan, 501
 Brenner, M. Harvey, 444
 Brewer, Marilyn B., 116

Bridges, William P., 116, 309
 Brockner, Joel M., 116, 444
 Burlingham, Bo, 208
 Burtis, Andrew, 401
 Burton, M. Diane, 14, 43, 241, 498-502, 535
 Buunk, Bram P., 116

C

Caldwell, Bruce, 470
 Campbell, Marshall H., 148
 Campbell III, Carl M., 93
 Campion, James E., 368
 Capelli, Peter, 208
 Carroll, Michael, 535
 Cascio, Wayne F., 425, 443-4
 Case, John, 208
 Cassidy, John, 444
 Catalano, Ralph, 443-4
 Cohen, Yimon, 367
 Cohn, Jeffrey M., 37
 Collins, James, 180, 188
 Conk, Margo A., 60
 Connell, Regina, 470
 Conti, Regina, 443
 Cowherd, Douglas M., 5, 14, 310
 Cowman, Jordan W., 165
 Coyle, Marcia, 165
 Crystal, Graef S., 420
 Cummings, L.L., 116, 365
 Curme, Michael, 310

D

David, Steven J., 498
 Davidson III, Wallace N., 443
 Dean Jr., James W., 208
 Deci, Edward, 98, 115
 Dessler, Gary, 366
 Deutsch, Claudia H., 442

Deutsch, Morton, 115
 Dick, Donna, 209
 Dobbin, Frank R., 187
 Donohue III, John J., 165
 Dooley, David, 444
 Dore, Ronald, 99, 115, 186, 208
 Downs, Alan, 443
 Drago, Robert, 14
 Draheim, Brian, 443
 Druckman, Daniel, 368

E

Edvinsson, Leif, 535
 Ehrenberg, Ronald G., 14, 186
 Eisen, Rebecca D., 445
 England, Paula, 309
 Etzioni, Amitai, 99, 115

F

Fast, Norman D., 61
 Fernandez, Roberto M., 366
 Fischer, Stanley, 14
 Flanner, Thomas P., 534
 Frank, Robert, 114
 Freeman, John H., 444
 Freeman, Richard, 148

G

Gabarro, John J., 401
 Gellerman, Saul W., 240
 Gerhart, Barry, 14, 207, 310
 Gibbons, Robert, 187, 444
 Gilder, George, 444
 Gilliland, Stephen W., 117
 Goff, John, 368
 Gould, William B., 15
 Gouldner, Alvin, 117
 Graetz, Brian, 444
 Green, Jerry R., 576