

## Perfect Markets and the “World of Truth”

You might not expect Jim Carrey films and economics to have much in common, but in fact there is much we can learn from the rubber-faced comedian. Consider the film, *Liar, Liar*, which tells the story of Fletcher Reede. As a result of his son’s birthday wish, Fletcher Reede finds that he is compelled to tell the truth for twenty-four hours. This is problematic for Fletcher because he is a lawyer—or a *liar*, as his son understands it—and hilarity predictably ensues as a horrified Fletcher incriminates himself by helplessly blurting out truthful answers to every question he is asked. They don’t make as much of a feel-good movie, but free markets are just like Fletcher Reede’s son—they force you to tell the truth. Yet while the results were humiliating for Jim Carrey’s character, we will discover that a world of truth leads to a perfectly efficient economy, one in which it is impossible to make someone better off without making someone else worse off.

In this chapter we’ll see what truth means in economic terms, how it leads to efficiency, and why efficiency is good. We’ll also explore efficiency’s shortcomings: how efficiency isn’t always fair, and why we have taxes. As we’ll see, taxes are like lies: they interfere with the world of truth. But I’ll reveal one way in which taxes can be implemented, which is both fair *and* efficient. This could be good news for seniors struggling to pay their winter heating bills, but bad news for Tiger Woods.

Imagine if you will that Fletcher's son gets his birthday wish, not just for his smooth-talking dad but for the whole world. So, let's buy a cappuccino in the world of truth. Before frothing up the half-and-half for you, the barista looks you up and down and asks:

"What's the most you're willing to pay for this coffee?"

You'd like to lie and pretend that you don't really want it, but the truth just slips out:

"I'm in caffeine withdrawal. Fifteen bucks."

With a smirk, the barista prepares to ring up the extortionate sum, but you have a few questions of your own:

"How much did those coffee beans cost?"

"How much did you pay for the plastic lid and the cup?"

"How much does it cost to raise a cow, and how much milk can you get from one?"

"How much did the electricity cost for the refrigeration, heating, and light in here?"

Now it is the barista's turn to have a Fletcher Reede moment. No matter how she tries to evade the questions or froth up the cost of the cappuccino, she cannot tell a lie. It turns out that the cappuccino costs not fifteen dollars, but less than one. The barista tries to haggle, but you have one more killer question:

"Are any other places within thirty yards selling coffee like this?"

"Yes . . ." she moans, her head thudding to the counter in a gesture of abject defeat.

You walk out of the shop with the coffee safely in your possession for the bargain price of ninety-two cents.

## Prices are optional, which means they reveal information

There's a basic truth incorporated into any system of prices. That truth comes from the fact that stores and consumers do not have to buy or sell at a given price—they can always opt out. If you'd been willing to pay only fifty cents for the coffee, nobody could have forced you to raise your offer or forced the barista to drop the price. The sale simply would not have occurred.

Of course, you sometimes hear people complaining that if they want something—say, an apartment on Central Park West—then they have to pay the exorbitant asking price. That's true, but although prices sometimes seem unfairly high, you hardly ever *have* to pay them. You could always use your money to buy an apartment in Harlem or a house in Newark or a million cups of coffee instead.

In a free market, people don't buy things that are worth less to them than the asking price. And people don't sell things that are worth more to them than the asking price (or if they do, it's never for long; firms that routinely sell cups of coffee for half of what they cost to produce will go out of business pretty quickly). The reason is simple: nobody is forcing them to, which means that most transactions that happen in a free market improve efficiency, because they make both parties better off—or at least not worse off—and don't harm anyone else.

Now you can begin to see why I say that prices “tell the truth” and reveal information. In a free market, all the buyers of coffee would prefer to have coffee than the money the coffee cost, which is shorthand for saying they prefer coffee to whatever else they might have spent ninety-two cents on. That is, the value of the product to the customer is equal to or higher than the price; and the cost to the producer equal to or lower than the price. Painfully obvious, perhaps, but the implications turn out to be dramatic.

It may seem trivial to say that in a free market we know customers value coffee more than the money they pay for it. Yet it's

not quite as trivial as it looks. For a start, this “trivial” piece of information is already more than we can say about anything that is paid for outside the market—for example, Washington DC’s hugely controversial new baseball stadium. The Montreal Expos baseball team agreed to move to DC on the condition that the DC government subsidize the cost of a new stadium. Some say the subsidy will be \$70 million, others that it will be far higher. Maybe this is a good idea, and maybe not. It’s not clear how we decide whether this is a good way of spending taxpayers’ money.

When decisions are made inside a market system there’s no such controversy. If I decide to pay \$70 for a ticket to see a baseball game, nobody questions whether it’s worth it; I made my choice, so obviously I thought so. This free choice produces information about my priorities and preferences, and when millions of us make choices, market prices aggregate the priorities and preferences of us all.

### **Perfect markets: *The truth, the whole truth, and nothing but the truth***

So the trivial piece of information that in a free market customers value cappuccinos more than the money they pay for them is not so trivial after all. But we needn’t stop there.

Imagine now that the coffee market is not only free but extremely competitive, that entrepreneurs are always starting new firms with fresh ideas and entering the market in an attempt to undercut the incumbent companies. (Profits in a competitive industry are high enough only to pay workers and persuade entrepreneurs that their money isn’t better off in a savings account—no higher.) The competition will force the price of coffee down to the “marginal cost”—the cost the coffee bar incurs when making one more cappuccino, which we may remember is just under a dollar. In a perfectly competitive market, the price of coffee would equal the marginal cost of coffee. If the price were lower, firms would go out of business until it rose. If the price were higher, new firms would enter or old firms would expand their output

until it fell. Suddenly, the price is not conveying a vague fact (“this coffee is worth ninety-two cents, or more, to the buyer, and it cost the coffee bar ninety-two cents, or less”) but a precise truth (“this coffee cost the coffee bar exactly ninety-two cents”).

What if other industries were also perfectly competitive? That would mean that for every product, the price equaled the marginal cost. Every product would be linked to every other product through an ultracomplex network of prices, so when something changes somewhere in the economy (there’s a frost in Brazil, or a craze for iPods in the US) everything else would change—maybe imperceptibly, maybe a lot—to adjust. A frost in Brazil, for example, would damage the coffee crop and reduce the worldwide supply of coffee; this would increase the price coffee roasters have to pay to a level that discourages enough coffee drinking to offset the shortfall. Demand for alternative products, like tea, would rise a little, encouraging higher tea prices and extra supply of tea. Demand for complementary products like coffee creamer would fall a little. In Kenya, coffee farmers would enjoy bumper profits and would invest the money in improvements like aluminum roofing for their houses; the price of aluminum would rise and so some farmers would decide to wait before buying. That means demand for bank accounts and safety deposit boxes would rise, although for unfortunate farmers in Brazil with their failed crops, the opposite may be happening. The free-market supercomputer processes the truth about demands and about costs, and gives people the incentive to respond in astonishingly intricate ways.

That may seem like a ridiculous hypothetical scenario. But economists can measure and have measured some of these effects: when frosts hit Brazil, world coffee prices do indeed rise, Kenyan farmers do buy aluminum roofing, the price of roofing does rise, and the farmers do, in fact, time their investment so that they don’t pay too much. Even if markets are not perfect, they can convey tremendously complex information.

Governments—or any organizations—find it hard to respond to such complex information. In Tanzania, coffee is not produced in a free market, and the government, rather than the farmers,

receives any windfalls from high coffee prices. Historically, the government has failed to spend the money sensibly, blowing too much on unsustainable salary rises for civil servants, and failing to realize that the price spike was temporary.

To appreciate why markets do such a good job of processing complex information, first think about the customer. We know that he won't buy a cappuccino unless he values it more than anything else he could buy with the same money. But what else could he buy with the same money? In our world of truth, he could buy *anything* that costs the same as, or less than, a cappuccino. If he chooses the coffee he's saying that of all the things in the world that cost the same as coffee, he would like coffee to be made.

Elsewhere, of course, there are other people spending their money not on coffee but on movie tickets, bus fares, or underwear; and there are others choosing not to spend their money at all and to put it in the bank instead. All of these competing demands pull producers to respond. If people want computers, then manufacturers will build factories, hire workers, and buy plastics and metals, which will be diverted from other uses to go into computers. If people want coffee instead of underwear, then more land will be devoted to coffee and less to other uses, like parks or housing or tobacco farming. Lingerie shops will be replaced by coffee shops. Of course, start-up companies will borrow money from banks, and interest rates will rise or fall, depending on the balance between the number of people wanting to save and the number of people wanting to borrow. Interest rates are just another price: the price of spending today instead of next year. (You might have thought that interest rates were set by central bankers like Alan Greenspan at the Federal Reserve or Mervyn King at the Bank of England. Actually, Greenspan and King chair committees that set "nominal" interest rates. True interest rates are interest rates after inflation—set by the market in response to the central bankers.)

The changes don't stop there. The ripples in the price system continue outward. They whip through some parts of the economy

at tremendous speed and cause slow but powerful seismic shifts in others, like education or technology. For example, if there aren't enough trained workers to produce computers, manufacturers like Dell and Compaq will have to train them, or raise wages to poach them from other manufacturers like Apple and Gateway. As the wages for skilled workers rise, people will see that it's worth taking time off and paying to go to college. Manufacturers' interest in producing cheaper or better computers will give a boost to research labs and engineering schools. Higher demand for plastics will raise the price of the raw material—crude oil—which will in turn encourage those who use oil for energy to switch to cheaper substitute fuels or to invest in energy-saving technology. And so it continues. Some of these effects will be tiny. Others will be enormous. Some will have an instant effect. Others will not be realized for decades. But in the world of truth—the world of perfect markets—all of them will have an impact.

What is the result of a set of perfectly competitive markets interconnected like this?

**Companies are making things the right way.** Any company that wastes resources, over-produces, or uses the wrong technology, will go out of business. Every product is produced in the most efficient way.

**Companies are making the right things.** The price of a product equals the cost to make it. The price also reflects the terms at which customers can trade off one priority against another. (Two cups of coffee cost the same as one Danish; which would you prefer?) The price is a direct line of communication from what products cost to what customers prefer, and back again.

**Things are being made in the right proportions.** If too much coffee were being produced, manufacturers would cut prices; and if too little, prices would rise. Either way, the situation would correct itself. In the competitive market, price equals cost; there is no incentive for anyone to produce less (giving up profitable

sales) or to produce more (creating products that cost more than anyone is willing to pay). The competitive rule—price equals cost equals value to the consumer—keeps things efficient.

**Things are going to the “right” people.** The only people who buy products are the people who are willing to pay the appropriate price. Let’s say I confiscate a cappuccino from Axel and give it to Bob. In the world of truth, this is wasteful. Axel was willing to pay for coffee, and Bob was not, which means Axel values coffee more than Bob, and my confiscation is inefficient. Notice that here I am equating “right” with “efficient,” an assumption we’ll examine and challenge shortly.

So: if the right things are being made right in the right quantities and going to the people who value them most, there is no room for any gains in efficiency. To put it another way, *you can’t get more efficient than a perfectly competitive market*. And it all follows perfectly naturally from the truth contained in the price system: prices are true representations of cost to firms, and also true representations of value to customers.