THREE

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.

Life without markets

Because Western society relies heavily on free markets, we find it difficult to imagine what it would be like if we didn't, or to take a step back and see quite how profound the effect of the market is. Yet any modern democracy provides goods outside the market system, and looking at the way such goods are provided gives us a hint of the strengths and weaknesses of markets. Think of your friendly local police force, which is paid for by a nonmarket system of taxation. The nonmarket system has some advantages—for one thing, when you dial 911 nobody asks for your credit card details. The government is supposed to afford the same level of protection to the rich and poor, although it does not always seem that way.

But the nonmarket system also has some disadvantages. For instance, if a police officer is rude or incompetent, you don't have

the option to shop for a different police force. If you think that the level of police protection you receive is excessive, it's not up to you to cut back a bit. Neither can you spend more if you decide that you'd like extra service. No, you have to lobby your local politicians and hope they consider your demands.

Government-provided schooling is another example of a nonmarket service that many of us use. In both Britain and the United States, most people send their children to government-funded schools. But those schools are different from each other—different atmospheres, different academic emphases. Most importantly, some are good schools, and some are not. The market solution for schools is similar to the market solution for food: the best food goes to the people who are willing—which also implies able—to pay most for it. But within the government sector there are no prices. What happens instead? Parents line up, haggle, and protest. They move to districts with better schools. In Britain, government-run religious schools often have the best academic records, so atheists take their children to church every Sunday in order to get good references from priests and get their children into these schools.

As with the police, the nonmarket system has the cozy advantage of concealing the fact that the poor don't get the same quality of education that the rich do. But again, the nonmarket system suffers from a serious problem: the truth about values, costs, and benefits has disappeared. It is impossible to tell which parents enroll their children in church schools for religious reasons and which parents are just looking for better results. It is also impossible to know how much parents would be willing to pay for more teachers and better materials. In a market system the truth would emerge about how much it costs to provide good schools, and who would be willing to pay for them. The nonmarket system struggles with these basic questions.

It seems that there is a willingness to pay for good schools, and we see it emerge because house prices are higher in the areas of schools with the best reputation. The nonmarket system, which gives preference to local children, channels the

money that parents are willing to pay for a good school into the hands of property owners near existing good schools. This hardly seems sensible. A market system would simply direct the money to pay for more good schools.

The signaling function of prices

Prices perform two functions, not just one. In a market system, prices provide a way of deciding who gets to enjoy a limited supply of schools: whoever pays most gets to send their children to the best schools, an uncomfortable state of affairs, which the government-school system is designed to prevent. But prices also give the signal to build more schools, hire more teachers or raise their wages if they're in short supply, and buy better materials. In the longer term, a price system will transform a high willingness to pay for good schools into a lot of good schools, just as surely as it will transform a high demand for coffee into a lot of cappuccino.

Don't politicians know that we value good schools already? Should they be making government money available? The difficulty is that politicians hear that we want good schools, but they also hear that we want more police on the streets, a better health service, lots of big roads, excellent welfare benefits, low taxes, and a double-shot caramel Venti latte. It's easy for us to demand all of these things, but prices, by forcing us to put money where our mouths are, uncover the truth. Taxes have their advantages, but many don't contribute to truth because we cannot choose whether or not to pay them, depending on whether each penny is spent according to our wishes. Because prices are optional, they reveal information.

None of this amounts to a knockdown argument against providing a police service or a school system with a nonmarket process. Nonmarket systems have their advantages, but they also lose something important: information, information about wants, needs, and desires, and about inconveniences and costs. Sometimes the loss of information is worthwhile because it is offset by gains in equality or stability. But sometimes the loss of informa-

tion can leave an economy, and a society, floundering in waste and confusion. We think that the value we get from schools and police are more than what they cost us in taxes, but we don't know for sure. Not so with the cappuccino.

Efficiency versus fairness: Can we handle the truth?

A perfectly competitive market is like a giant supercomputer network. With amazing processing power and sensors in every part of the economy—reaching even inside our brains to read our desires—the market is constantly reoptimizing production and allocating the results perfectly. Remember that when economists say the economy is inefficient, they mean that there's a way to make somebody better off without harming anybody else. While the perfectly competitive market is perfectly efficient, efficiency is not enough to ensure a fair society, or even a society in which we would want to live. After all, it is efficient if Bill Gates has all the money and everybody else starves to death . . . because there is no way to make anybody better off without making Bill Gates worse off. We need something more than efficiency.

So it's hardly surprising we sometimes prefer the cozy white lies: it is expensive, for example, to heat the house of an elderly lady in Minnesota, but we may prefer to subsidize the fuel, not wanting her to face the truth of that expense.

Even more than subsidies, taxes are a common cause of inefficiency: the government taxes market transactions and spends the money on, we hope, good things like police forces and schools. Why are taxes inefficient? Because they destroy the information carried by prices in perfectly competitive, efficient markets: price no longer equals cost, so cost no longer equals value. For example, a sales tax of 10 percent creates a "lie" in the following circumstances:

Cost of cappuccino: ninety cents

- Price of cappuccino in perfectly competitive market: ninety cents

- Price of cappuccino after tax: ninety-nine cents
- Willingness to pay for cappuccino: ninety-five cents
- Cappuccino sold: **none**
- Tax raised: **zero**

There was a sale that could have created five cents of efficiency gains (cappuccino cost ninety cents but was valued at ninety-five cents) but which never happened because of the tax. What's worse, the tax wasn't even paid. If the government were able to waive the tax in such circumstances, they would be no worse off, but the coffee buyer would be better off: a clear efficiency gain.

It's hard for tax officials to know when to charge the tax (situations where taxes will not change buyers' behavior) and when to waive the tax (because potential buyers would have avoided it anyway, by not buying coffee). But they try to do so using the kind of price-targeting strategies outlined in chapter 2. Taxes are often higher when price-sensitivity is low. For example, the government charges high taxes on gasoline and cigarettes, not for environmental and health reasons but because people who buy these products need to drive and are addicted to smoking; they won't change their behavior much even in the face of large taxes.

We are faced with a dilemma. We want to avoid inefficiency, because that would leave us passing up an opportunity to make somebody better off at no cost to anyone else. But taxes cause inefficiency, and most of us think we need taxes to redistribute income (to a greater or lesser extent) from the rich to the poor. We seem to be facing two contradictory imperatives: avoid the needless waste that is "inefficiency," but make sure that wealth is at least somewhat evenly spread. What we need is a way to make our economies both efficient and fair.

Can we enlist markets to help with fairness?

Is it true that we have to choose between the efficiency of perfect markets and the fairness of benevolent government intervention? This seemed to be the conclusion of governments throughout

the free world after the experience of the Great Depression and World War II. President Roosevelt's "New Deal" programs of the 1930s expanded the role of the United States government, in response to the Great Depression. In Britain, Clement Atlee's postwar government took control of much of the health, steel, air travel, petroleum, rail travel, and telephone industries. Government-owned businesses took over partly because in the deprived, exhausted yet hopeful years after the war, economists had some confidence in the experts who had masterminded the war effort and thought they might not do a bad job of organizing the economy efficiently. Few people foresaw the later collapse of government-run economies, whether vast like the Soviet Union and China, or small like Tanzania or North Korea. But even if they had believed that private markets were more efficient, this was neither here nor there in the 1940s: the postwar Labour government in Britain would have been content to live with some inefficiency if it meant a fairer society.

But the old dilemma between efficiency and fairness was about to be shattered by a young New Yorker called Kenneth Arrow, who knew all about unfairness after watching helplessly as a teenager while his father lost his successful business and all his savings in the Great Depression. The desire for social justice stayed with Arrow, but intellectually he couldn't just ignore the question of efficiency. The young economist set his logical mind to wrestling with the tension between the unerring efficiency of the free market and the imperative that some kind of fairness should prevail. His solution was brilliant, twisting the traditional thinking about competitive markets and efficiency on its head. He proved that not only are all perfect markets efficient, *all efficient outcomes can be achieved using a competitive market, by adjusting the starting position*. Arrow went on to win every plaudit available to an economist, and he remains the youngest man ever to win the Nobel Prize for Economics. But why was his insight so important?

I call it the "head start theorem." Instead of focusing on the enormous complexity of a real economy, think of a very simple one-dimensional human challenge: the 100-meter sprint. The fastest

sprinter will win the race. If you wanted all the sprinters to cross the line together, you could just change the rules of the race, ordering the fast runners to slow down and everyone to hold hands as they crossed the line. A waste of talent. Or you could move some starting blocks forward and some starting blocks back, so that although each sprinter was running as fast as he could, obeying the usual rules and objectives of sprinting, the fastest had to cover enough extra ground that he would end up breaking the tape neck-and-neck with the slowest.

Arrow demonstrated that the same approach could work when trying to balance the excesses of competitive markets: instead of interfering with the markets themselves, the trick is to adjust the starting blocks by making lump-sum payments and levying one-time taxes.

An example of a lump-sum tax would be the government taxing everybody eight hundred dollars; or alternatively, taxing everyone over the age of sixty-five eight hundred dollars; or alternatively, taxing everybody whose surname on the birth certificate starts with *H* eight hundred dollars. The point is that unlike an income tax or a sales tax on coffee, a lump-sum tax doesn't affect anybody's behavior, because there is nothing you can do to avoid it. So unlike sales tax, it doesn't lead to an efficiency loss. Similarly, an example of lump-sum redistribution would be to *give* eight hundred dollars to everybody whose name starts with *H*, a policy for which I would be happy to vote.

In the 100-meter sprint, lump-sum taxation is like moving the starting blocks back a few paces. Income tax and sales tax are like asking the best runners to run backwards. Both would have the effect of ensuring a more equal finish, but moving the starting blocks around doesn't slow anybody down.

In the context of a sprint, it's fairly obvious that one of the ways to get a close result is to give the slower runners a head start. In the context of an economy, with literally billions of different goods, desires, raw materials, and talents, the head start theorem is a much bolder claim. But it's true: you can allow the competitive economy to use every skill and every raw material,

take advantage of every opportunity to trade, cooperate, educate, or invest . . . but still get a fair outcome by moving around the starting blocks and letting perfect markets do the rest.

The implication is that in a world of perfect markets, the only thing needed to ensure both fairness and efficiency is a "head start" strategy: a program of appropriate lump-sum taxes and subsidies that puts everyone on equal footing. The perfect markets then find every possible opportunity to make everybody better off from their revised starting points. The question is, can this be done in practice?

Impractical examples

Let's take an example. American political philosopher Robert Nozick deployed a famous argument against taking a view of "justice as fairness." In other words, he disputed the notion that one particular allocation of wealth could be deemed the "best" or "fair" allocation. Nozick's argument invokes Wilt Chamberlain, a basketball star famous in the 1960s and '70s, when Nozick was writing. Chamberlain's talents made him wealthy; Nozick felt this was "just" because Chamberlain's wealth was the outcome of legitimate decisions by fans happy to pay to see him play. The situation may have been "just" in Nozick's sense of the word, but can any situation that leads to a highly unequal distribution of cash be considered "fair"?

Perhaps taxing Chamberlain's income heavily would make the situation fairer, but Nozick warns that if Chamberlain did not really enjoy playing basketball *and* he was loaded down with heavy taxes, he might stop playing altogether. So although this situation might seem more "fair," there would be neither the tax revenue, nor the basketball game: the problem of the cappuccino sales tax all over again. So how is it reasonable to call a distribution of income "fair" when everybody concerned, both fans and player, would prefer the "unfair" outcome?

Thanks to Kenneth Arrow, we now know that, when faced with a modern-day sports star like Tiger Woods, the solution is

to levy a one-time lump-sum tax of several million dollars on him. He would still have the incentive to earn money by playing golf, since he could not avoid the tax by playing less, as he would have to do in order to avoid a heavy income tax. He would no doubt earn enough to pay off the tax bill and still retain enough to buy a family car and a nice house somewhere unassuming. In this scenario, there is no waste or inefficiency, but the result is "fair" in that it produces a much more even allocation of wealth.

The only trouble with this plan is that it's wildly impractical. The problem is not that it's impossible to have taxes that only apply to one individual: President Franklin Roosevelt introduced an income tax rate of 79 percent, but the threshold was so high that the tax was paid by only John D. Rockefeller. Rather, the problem is more that a true lump-sum tax isn't supposed to change behavior at all. Ideally it would have been decided before Tiger Woods was born, because if he could have predicted that he would be liable for a tax as a result of his success he might have chosen a different profession.

This is, of course, quite impossible. But we shouldn't abandon the head start theorem quite yet. While we can't always use lump-sum taxation and redistribution, we can sometimes: and when we can, it's worth considering because it preserves the efficiency and the truth of the competitive market while adding a welcome dose of fairness.

A practical example

A more practical application of the head start theorem could be used to prevent elderly people from getting cold in winter, without damaging the environment. In a typical winter in Britain twenty-five thousand seniors die as a result of inadequate heating. To address this concern, domestic fuel is subject to lower taxes than many other things. But that's a slightly odd way to deal with the problem—an equivalent to the "running backwards" solution. If governments need to raise tax revenue—and all of

them do, it seems—then a first approximation of an efficient strategy would be to have the same sales tax on everything, because that wouldn't distort people's buying decisions too much. A more refined view would recall the "price-targeting" of chapter 2. Because customers cannot easily cut down on fuel consumption, they are not very sensitive to the price of domestic fuel, hence the government should levy a bit more tax on fuel and a bit less on other goods: customers would not change their behavior much and so the inefficiency would be small. An even more sophisticated view (perhaps acquired from a peek ahead at chapter 4) would note that domestic fuel is a nonrenewable resource and using it causes pollution, so the case for higher tax on domestic fuel becomes even stronger.

The case for lower taxes on domestic fuel and higher taxes on other goods is hard to understand, until we start to worry about the elderly shivering in front of a lifeless gas or oil furnace that they cannot afford to switch on. Is this just one of those hard choices that governments sometimes have to make? Not necessarily. Instead of levying the wrong rate of tax on everyone else, better to choose a more sensible rate but give the elderly a head start—because of their poverty and because, being frail, they have an additional need for heating. The simple policy remedy is to raise fuel tax but give extra money to the elderly, money that they could use to switch that furnace on and stay warm.

We know from the head start theorem that given the money, pensioners will find their way to the efficient outcome—which, incidentally, may not involve more fuel being burned. Not every pensioner feels cold, and those who do may find better solutions to the problem. Some may use the money to move to Florida. Some may insulate their homes. Those who did not feel the cold in the first place can spend the money on other things. Nobody will burn extra fuel unless they need to, and if they need to they'll have the money to meet that need.

The lesson of the head start theorem is that when a problem arises, it's worth asking whether the problem can be addressed

by rearranging the starting blocks rather than interfering with the race. This strategy isn't always practical, but because free markets are efficient, it's worth trying to harness that efficiency to meet other goals.

Throughout this chapter, we've been on a flight of fantasy no more plausible than the story of Fletcher Reed. The "world of truth" is a world where markets are complete, free, and competitive. In reality we're about as likely to achieve a world with complete, free, and competitive markets as hotshot lawyers are to start telling the truth to everyone.

You might therefore be asking yourself why you've read a chapter, even a brief one, about some bizarre economists' fantasy. The answer is that the fantasy helps us understand why economic problems arise and also helps us to move in the right direction. We know that a world of perfect markets combined with the head start approach is as good as we're going to get. When real world economies malfunction, we know to look for the market failures—and to do our best to patch them up.

We've already explored one of those failures: some companies have scarcity power and can set prices that are far above their true cost, which is where they would be in a competitive market. This is why economists believe there's an important difference between being in favor of markets and being in favor of business, especially particular businesses. A politician who is in favor of markets believes in the importance of competition and wants to prevent businesses from getting too much scarcity power. A politician who's too influenced by corporate lobbyists will do exactly the reverse.

Whether abetted by politicians or otherwise, companies with scarcity power are one market failure. There are two others. In the next two chapters, we'll encounter them, leaving the curious world of truth behind us and facing up to the real world once again.