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Who Pays for Your Coffee?

The long commute on public transport is a commonplace experience of life in major cities around the world, whether you live in New York, Tokyo, Antwerp or Prague. Commuting dispiritingly combines the universal and the particular. The particular, because each commuter is a rat in his own unique maze: timing the run from the shower to the station turnstiles; learning the timetables and the correct end of the platform to speed up the transfer between different trains; trading off the disadvantages of standing room only on the first train home against a seat on the last one. Yet commutes also produce common patterns – bottlenecks and rush hours – that are exploited by entrepreneurs the world over.

Like all London stations at rush hour, Waterloo is packed full of sleep-deprived, tetchy travellers. There are seventy-four million of them a year, half of them with their heads in the air trying to find a departure board, the other thirty-seven million staring fixedly straight ahead as they push their way out.

This second group – which includes me – is made up of people who are not easily turned aside from their paths. They want to get out of the noise and bustle, around the gormless,

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shuffling tourists, and to their desks just slightly before their bosses. They do not welcome detours. But there is a place of peace and bounty which can tempt them to tarry for a couple of minutes. In this oasis, rare delights are served with smiles by attractive and exotic men and women – today, a charming barista whose name badge reads ‘Jacinta’. I am thinking, of course, of the AMT coffee kiosk. Even if you’ve never heard of AMT coffee, you’ll know exactly what I am talking about. You find the same kind of thing all over the planet – and catering to the same desperate commuters. The coffee shop within ten yards of the exit from Washington’s Dupont Circle metro station is called *Cosi*. New York’s Penn Station boasts Seattle Coffee Roasters just by the exit on to Eighth Avenue. Commuters through Shinjuku Station, Tokyo, can enjoy a Starbucks without leaving the station concourse.

At £1.55, an AMT double-shot cappuccino is cheaper than a coffee from some of these bigger names on the market, yet it’s hardly cheap. But of course, I can afford it. Like many of the people stopping at that coffee shack, I earn the price of that coffee every few minutes. None of us care to waste our time trying to save a few pennies by searching out a cheaper coffee at 8.30 in the morning. We want coffee, we want it now – and there are seventy-four million of us. This is why the location of the coffee bar is important.

The position of the AMT coffee bar in Waterloo Station is advantageous, not just because it’s located on the most efficient route from the platforms to the main station exit, but because there are no other coffee bars on that route. It’s hardly a surprise that they do a roaring trade.

If you buy as much coffee as I do you may have come to the conclusion that somebody is getting filthy rich out of all this. If the occasional gripes in the newspapers are correct, the coffee in that cappuccino costs pennies. Of course, the newspapers don’t tell us the whole story: there’s milk, electricity, cost of the

paper cups – and the cost of paying Jacinta to smile at grouchy customers all day long. But after you add all that up you still get something a lot less than the price of a cup of coffee. According to economics professor Brian McManus, mark-ups on coffee are around 150 per cent – it costs forty cents to make a one dollar cup of drip coffee and costs less than a dollar for a small latte, which sells for \$2.55. So somebody is making a lot of money. Who?

You might think that the obvious candidates are Alistair, Allan and Angus McCallum-Toppin, the founders of AMT. But the answer can't be as simple as that. The main reason that AMT can charge £1.55 for a cappuccino is that nobody else has a kiosk next door charging £1.45. So why is nobody next door undercutting the AMT kiosk? Without wishing to dismiss the achievements of the entrepreneurial McCallum-Toppins, cappuccinos are not in fact complicated products. There is no shortage of drinkable cappuccinos (sadly, there is no shortage of undrinkable cappuccinos either). It wouldn't take much to buy some coffee machines and a counter, build up a brand with a spot of advertising and some free samples, and hire decent staff. Even Jacinta is replaceable.

The truth is that the AMT bar's most significant advantage is its location on the desire line of seventy-four million commuters. It is in the very best spot that a coffee bar could possibly be located. And it is safe to assume that AMT has an agreement with its landlord that direct competitors will not be allowed right next door. To set up a rival coffee bar you will either have to go somewhere else, or wait until the current contract has expired. The nice margin that AMT makes on its cappuccinos is mostly due neither to the quality of the coffee nor to the staff: it's location, location, location.

But who controls the location? Look ahead to the negotiations for the new rental agreement. The landlord is the owner of Waterloo Station concourse, Network Rail. Network Rail is talking to the AMT brothers but also to the representatives of

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Costa Coffee, Ritazza, Aroma, Pret a Manger, Café Nero, Starbucks and half a dozen other wannabe ‘coffeepreneurs’. The Network Rail manager can sign an agreement with each one of them, or can sign an exclusive agreement with only one. She’ll quickly find that nobody is very keen to pay much for a space next to twelve other coffee bars, and so she will get the most advantage out of the exclusive agreement.

In trying to work out who is going to make all the money, simply remember that there are thirteen coffee bar entrepreneurs on one side of the negotiating table and on the other side is a manager who owns a single, perfect coffee-bar site. Thirteen against one is likely to be bad odds for the thirteen. By playing them off against each other, the Network Rail manager should be able to dictate the terms, and force one of them to pay pretty much all their expected profits. Everything they would otherwise have expected to earn should go on the rent bill.

There’s a pattern here. The power of scarcity has come up twice in two pages. First, AMT has the power to charge high prices because of the scarce location of the coffee kiosk. Second, Network Rail has the power to charge high rents because there is only one location and lots of companies are eager to use it to sell coffee.

This is pure armchair reasoning. It’s reasonable to ask if it’s actually true. After I once explained all of the principles involved to a long-suffering friend (over coffee), she asked me whether I could prove it. I admitted that it was just a theory. A couple of weeks later she sent me an article from the *Financial Times* which relied on industry experts who had access to the accounts of coffee companies. The article began, ‘Few companies are making any money in the UK coffee bar market’ and concluded that one of the main problems was ‘the high costs of running retail outlets in prime locations with significant passing trade’. It seems that armchair reasoning is the easy way to get to the same conclusion.

The economists' way of thinking about the world isn't guaranteed to produce the right answer. But it gives insights about the world which apply far more generally than any industry analyst's accounting: if there's a profitable deal to be done between somebody who has something unique and someone who has something which can be replaced, then the profits will go to the owner of the unique resource.

Strength from scarcity

Browsing through the old economics books on the shelf at home, I dug out the first analysis of twenty-first-century coffee bars. Published in 1817, it explains not just the modern coffee bar but much of the modern world itself. Its author, David Ricardo, had already made himself a multimillionaire (in today's money) as a stockbroker, and was later to become an MP. But Ricardo was also an enthusiastic economist, who longed to understand what had happened to Britain's economy during the recent Napoleonic wars: the price of wheat had rocketed, and so had rents on agricultural land. Ricardo wanted to know why.

The easiest way to understand Ricardo's analysis is to use one of his own examples. Imagine a wild terrain with few settlers but plenty of fertile meadow available for growing crops. One day an aspiring young farmer, Axel, walks into town and offers to pay rent for the right to grow crops on an acre of good meadow. Everyone agrees how much grain an acre of meadow will produce, but they cannot decide how much rent Axel should pay. Because there is no shortage of land lying fallow, competing landlords will not be able to charge a high rent . . . or any significant rent at all. Each landlord would rather collect a small rent than no rent at all, and so each will undercut his rivals until Axel is able to start farming for very little rent – just enough to compensate for the landlord's trouble.

The first lesson here is that the person in possession of the

desired resource – the landlord in this case – does not always have as much power as one would assume. And the story doesn't specify whether Axel is very poor or has a roll of cash in the false heel of his boot, because it doesn't make any difference to the rent. Bargaining strength comes through scarcity: settlers are scarce and meadows are not, so landlords have no bargaining power.

That means that if relative scarcity shifts from one person to another, bargaining shifts as well. If over the years many immigrants follow in Axel's footsteps, the amount of spare meadowland will shrink until there is none left. As long as there is any, competition between landlords who have not attracted any tenants will keep rents very low. One day, however, an aspiring farmer will walk into town – let's call him Bob – and will find that there is no spare fertile land. The alternative, farming on inferior but abundant scrubland, is not attractive. So Bob will offer to pay good money to any landlord who will evict Axel, or any of the other farmers currently farming virtually rent-free, and let him farm there instead. But just as Bob is willing to pay to rent meadowland rather than scrubland, all of the meadow farmers will also be willing to pay not to move. Everything has changed, and quickly: suddenly the landlords have acquired real bargaining power, because suddenly farmers are relatively common and meadows are relatively scarce.

That means the landowners will be able to raise their rents. By how much? It will have to be enough that farmers earn the same farming on meadows and paying rent, or farming on inferior scrubland rent-free. If the difference in productiveness of the two types of land is five bushels of grain a year, then the rent will also be five bushels a year. If a landlord tries to charge more, his tenant will leave to farm scrubland. If the rent is any less, the scrub farmer would be willing to offer more.

It may seem odd that the rents changed so rapidly simply because one more man arrived to farm the area. This story doesn't seem to explain how the world really works. But there is more

truth to it than you might think, even if it is oversimplified. Of course, in the real world, there are other elements to consider: laws about evicting people, long-term contracts and even cultural norms, such as the fact that kicking one person out and installing a new tenant the next day is just ‘not done’. In the real world there are more than two types of farmland, and Bob may have different options to being a farmer – he may be able to get a job as an accountant or driving a cab. All these facts complicate what happens in reality; they slow down the shift in bargaining power, alter the absolute numbers involved and put a brake on sudden movements in rents.

Yet the complications of everyday life often hide the larger trends behind the scenes, as scarcity power shifts from one group to another. The economist’s job is to shine a spotlight on the underlying process. We should not be surprised if, suddenly, the land market shifts against farmers; or if house prices go up dramatically; or if the world is covered by coffee bars over a period of just a few months. The simplicity of the story emphasises one part of the underlying reality – but the emphasis is helpful in revealing something important. Sometimes relative scarcity and bargaining strength really do change quickly, and with profound effects on people’s lives. We often complain about symptoms – the high cost of buying a cup of coffee, or even a house. The symptoms cannot be treated successfully without understanding the patterns of scarcity which underlie them.

‘Marginal’ land is of central importance

The shifts in bargaining power don’t have to stop there. While the farming story can be elaborated indefinitely, the basic principles remain the same. For example, if new farmers keep arriving, they will eventually cultivate not only the meadowland but also all of the scrubland. When a new settler, Cornelius, walks into town, the only land available will be the grassland,

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which is even less productive than scrubland. We can expect the same dance of negotiations: Cornelius will offer money to landlords to try to get onto scrubland, rents will quickly rise on scrubland, and the differential between scrubland and meadow will have to stay the same (or farmers would want to move), so the rent will rise on meadow too.

The rent on meadowland, therefore, will always be equal to the difference in grain yield between meadowland and whatever land is available rent-free to new farmers. Economists call this other land ‘marginal’ land because it is at the margin between being cultivated and not being cultivated. (You will soon see that economists think about decisions at the margin quite a lot.) In the beginning, when meadowland was more plentiful than settlers, it was not only the best land, it was also the ‘marginal’ land because new farmers could use it. Because the best land was the same as the marginal land, there was no rent, beyond the trivial sum needed to compensate the landlord for his trouble. Later, when there were so many farmers that there was no longer enough prime land to go around, scrubland became the marginal land, and rents on meadows rose to five bushels a year – the difference in productivity between the meadowland and the marginal land (in this case, the scrubland). When Cornelius arrived, the grassland became the marginal land, meadows became yet more attractive relative to the marginal land, and so the landlords were able to raise the rent on meadows again. It’s important to note here that there is no absolute value: everything is relative to that marginal land.

Back to coffee bars

A nice story, but those of us who like Westerns may prefer the gritty cinematography of *Unforgiven* or the psychological isolation of *High Noon*. So, David Ricardo and I get no prizes for our screenwriting, but we might be excused, as long as our little fable actually tells us something useful about the modern world.

We can start with coffee bars. Why is coffee expensive in London, New York, Washington or Tokyo? The common-sense view is that coffee is expensive because the coffee bars have to pay high rent. David Ricardo's model can show us that this is the wrong way to think about the issue, because 'high rent' is not an arbitrary fact of life. It has a cause.

Ricardo's story illustrates that two things determine the rent on prime locations like meadowland: the difference in agricultural productivity between meadows and marginal land, and the importance of agricultural productivity itself. At £1 a bushel, five bushels of grain is a £5 rent. At £200,000 a bushel, five bushels of grain is a £1-million rent. Meadows command high rents only if the grain they help produce is also valuable.

Now apply Ricardo's theory to coffee bars. Just as meadowland will command high rents if the grain it produces is valuable, prime coffee-bar locations will command high rents only if customers will pay high prices for coffee. Rush-hour customers are so desperate for caffeine and in such a hurry that they are practically price-blind. The willingness to pay top whack for convenient coffee sets the high rent, and not the other way around.

Spaces suitable for coffee kiosks are like meadows – they are the best-quality property for the purpose, and they fill up quickly. The ground-floor corner units of Manhattan's Midtown are the preserve of Starbucks, Cusi and their competitors. Near Washington DC's Dupont Circle, Cusi has the prime spot at the southern exit, and Starbucks has the northern one, not to mention staking out territory opposite the adjacent stations up and down the Metro line. In London, AMT has Waterloo, King's Cross, Marylebone and Charing Cross stations, and indeed every London station hosts one of the big-name coffee chains. These spots could be used to sell second-hand cars or Chinese food, but they never are. This isn't because a train station is a bad place to sell a Chinese meal or a second-hand car, but because there is no shortage of other places with lower rents from which noodles or cars can be

sold – customers are in less of a hurry, more willing to walk or order a delivery. For coffee bars and similar establishments selling snacks or newspapers, cheaper rent is no compensation for the loss of a flood of price-blind customers.

Portable models

David Ricardo managed to write an analysis of cappuccino bars in train stations before either cappuccino bars or train stations existed. This is the kind of trick that makes people either hate or love economics. Those who hate it argue that if we want to understand how the modern coffee business works, we should not be reading an analysis of farming published in 1817.

But many of us love the fact that Ricardo was able, nearly two hundred years ago, to produce insights that illuminate our understanding today. It's easy to see the difference between nineteenth-century farming and twenty-first-century frothing, but not so easy to see the similarity before it is pointed out to us. Economics is partly about modelling, about articulating basic principles and patterns that operate behind seemingly complex subjects like the rent on farms or coffee bars.

There are other models of the coffee business, useful for different things. A model of the design and architecture of coffee bars could be useful as a case study for interior designers. A physics model could outline the salient features of the machine that generates the ten atmospheres of pressure required to brew espresso; the same model might be useful for talking about suction pumps or the internal combustion engine. Today we have models of the ecological impacts of different disposal methods for coffee grounds. Each model is useful for different things, but a 'model' that tried to describe the design, the engineering, the ecology and the economics would be no simpler than reality itself and so would add nothing to our understanding.

Ricardo's model is useful for discussing the relationship

between scarcity and bargaining strength, which goes far beyond coffee or farming and ultimately explains much of the world around us. When economists see the world, they see hidden social patterns, patterns that become evident only when one focuses on the essential underlying processes. This focus leads critics to say that economics doesn't consider the whole story, the whole 'system'. How else, though, could a nineteenth-century analysis of farming proclaim the truth about twenty-first-century coffee bars, except through grossly failing to notice all kinds of important differences? The truth is that it's simply not possible to understand anything complicated without focusing on certain elements to reduce that complexity. Economists have certain things they like to focus on, and scarcity is one of them. This focus means that we do not notice the mechanics of the espresso machine, nor the colour schemes of the coffee bars, nor other interesting, important facts. But we gain from that focus, too, and one of the things we gain is an understanding of the 'system' – the economic system, which is far more all-encompassing than many people realise.

A word of caution is appropriate, though. The simplifications of economic models have been known to lead economists astray. Ricardo himself was an early casualty. He tried to extend his brilliantly successful model of individual farmers and landlords to explain the division of income in the whole economy: how much went to workers, how much to landlords and how much to capitalists. It didn't quite work, because Ricardo treated the whole agricultural sector as if it were one vast farm with a single landlord. A unified agricultural sector had nothing to gain from improving the land's productivity with roads or irrigation, because those improvements would also reduce the scarcity of good land. But an individual landlord in competition with the others would have plenty of incentive to make improvements. Tied up in the technical details, Ricardo failed to realise that thousands of landlords competing with each other would make different decisions than a single one.

So Ricardo's model can't explain everything. But we are about to discover that it goes further than Ricardo himself could ever have imagined. It doesn't just explain the principles behind coffee bars and farming. If applied correctly, it shows that environmental legislation can dramatically affect income distribution. It explains why some industries naturally have high profits, while in other industries high profits are a sure sign of collusion. It even manages to explain why educated people object to immigration by other educated people, while the working classes complain about immigration by other unskilled workers.

Different reasons for high rent

Do you care if you get ripped off?

I do. A lot of things in this life are expensive. Of course, sometimes that expense is a natural outcome of the power of scarcity. For instance, there are not many apartments overlooking Central Park in New York or Hyde Park in London. Because so many people want them, those apartments are expensive, and a lot of people end up being disappointed. There is nothing sinister about that. But it's not nearly so obvious why popcorn is so expensive at the cinema – there was no popcorn shortage last time I checked. So the first thing we might want to do is to distinguish between different reasons for things being expensive.

In Ricardo's terms, we would like to know the different causes of high rents. Knowing this about meadows is only mildly interesting (unless you are a farmer) but takes on a sudden significance when applied to the question of why your flat's rent seems so extortionate, or whether banks are ripping us off. But we can start with meadows and apply what we learn more widely.

We know that rents on the best land are determined by the difference in fertility between the best land and the marginal land. So the obvious reason that rents might be high is that the best land produces very valuable crops relative to the marginal

land. As mentioned a couple of pages ago, five bushels of grain is a £5 rent at £1 a bushel, but at £200,000 a bushel, five bushels of grain is a £1-million rent. If grain is expensive, it's only natural that the scarce meadows that produce it will also be expensive.

But there's another way to drive rent on meadows up, and it is not nearly so natural. Let's say landlords get together and manage to persuade the local sheriff that there should be what in the UK is called a 'green belt', a broad area of land around the city on which property development is very strongly discouraged by tough planning regulations. The landlords claim that it would be a shame to cover beautiful wild land with farms, and so farming on the land should be made illegal.

The landlords stand to benefit hugely from such a ban, because it would drive up the rents on all legal land. Remember that rents on meadowland are set by the difference between the productivity of such land and the productivity of the marginal land. Ban farming on that marginal land, and the rent on meadows will jump; where once the alternative to paying rent and farming on meadows was to farm on grassland rent-free, now there is no alternative. Farmers are much more eager to farm on meadows now that farming on the grassland is illegal, and the rent they're willing to pay is much higher too.

So we've found two reasons why rents might be high. The first is that it's worth paying a lot for good land, because the grain that good land produces is so valuable. The second is that it's worth paying a lot for good land because the alternatives that should be available are not.

Those readers currently renting property in London may have furrowed brows at this point. London is surrounded by the original Green Belt, created in the 1930s. Is that why property in London is so expensive to rent or buy – not because it's so much better than the alternative, but because the alternative has been made illegal?