PART 3: DESERT ISLAND ECONOMY

The purpose of this section is to take you on a whirlwind tour of some important ideas in economics and the history of economic ideas. We shall introduce these ideas through stories on a set of islands, which we will term the Economic Archipelago (the 'Tea Islands'). In the subsequent chapter we will introduce these same ideas more formally using a different analogy: the cake.

3.1 Growth on Great Island: Adam Smith's Model

In this economic fable we will demonstrate Adam Smith's model of growth through specialisation.

The largest island in the Tea Islands is called 'Great Island'. On Great Island live a few hundred people. Everyone does the same thing, which is a bit of everything. Half the day is spent fishing (including maintenance of the boats and nets), and the other half is spent gathering nuts and berries. This yields 250g of fish and 250g of nuts and berries per person. In total, 0.5kg of food is gathered, which is exactly equal to their dietary needs.

Specialization and Trade

Then a small group of fishermen discover something. They decide firstly, that they are *only* going to fish, and not worry about gathering berries. Whilst they enjoy nuts and berries, they argue that they can catch enough fish and *trade* some of the fish they gather with others for nuts and berries. They also split up tasks between themselves. Some of them make nets, others build bigger boats. They can catch more fish by splitting up tasks in this way. By collaborating and specializing they can double their productivity. Where before they could only make 500g of food per day, now they, collectively, can produce 1kg of food per day.

They now have some choices. The first option is to work all day (8 hours) and sell the surplus, either saving the excess or spending it on some luxuries. The second option is to cut down working hours by working only 4 hours per day. In the shorter working day they can still produce enough food to live on. In both cases the fishermen in the firm have higher hourly wages than before - twice what they were making before. These higher wages reflect the higher productivity.

So the improvement was generated by the fishermen and their initiative, and they are the beneficiaries of the new ways of working. The economy has grown, but at present the new prosperity has gone entirely to the fisherman that initiated the improved ways of working. The price of fish relative to berries is unchanged. One kg of fish still sells for one kg of berries.

Competition

At first, the benefit of improvements are captured by those that made the improvement. They get to live a life of luxury. And everyone else is pretty much as before, except that they notice those fishermen who specialised getting richer and richer.

Soon some other folks notice what the fisherman have done and give it a try. And then some more fishermen pile in. Fortunately the seas are plentiful. Once each has replicated the new improved double-productivity setup, they can each sell fish. But something strange happens. Given the people only want to buy a certain quantity of fish, the fishermen undercut each other in order to win market share. The price of fish in terms of berries starts to fall.

The Labour Theory of Value

To what price should the price of fish fall to? It continues to fall until the point at which, in the new circumstances, it only just makes sense for workers to go fishing in the new fishing-conglomerates. In short, when the wages from fishing in the new improved setup equilibrate to the wages for going gathering. In other

words, the price of fish relative to berries will fall until it makes the same sense for someone to fish as to go collecting berries. This assumes of course that there is some still value in eating some berries, perhaps for a varied diet.

So now, the cost of fishing is expected to fall. In these new, changed circumstances, 1kg of fish (taking one day to collect) buys 0.5kg of berries (also taking one day to collect). This is given the new cheaper price of fish relative to berries.

Widely Shared Prosperity?

If we add some numbers, we can make the improvement clearer.

So at the end, people fish for a day to get 1kg of fish and perhaps go collecting for a day for 0.5 kg of berries. 2/3 of the people fish, and 1/3 of the people collect berries. This is a change from the fifty-fifty split before the improvement in collective capabilities.

The total average food production is 2/3+1/6=5/6 or about 0.82kg. Thus the real wages per day have increased as 0.5kg per 8=hour day to 0.82kg of food per 8 hour day.

This is shall we say the basic model of division of labour and competition. Let's now extend this model to the situation where there is scarce land which is privately owned.

3.2 Rent on Private Property Island

Our fisherman is considering a change of direction. He has heard that there are two new islands, recently discovered, which appear like a paradise. Rabbits run free and are easy to hunt. Fishing is rather laborious whereas hunting rabbits sounds much easier. Our fisherman sets out to visit the first island. The first island is one of private property.

On this island, there is a man, lets call him 'Man Friday' living on it, and is well abreast of the laws of property. He defines himself the owner of this island. He arms himself to make sure that nobody else can take any of the property. He prepares to charge rent to anyone who turns up. Thus we will call this island 'private land island'.

Then a new man turns up, we can call him Robinson Crusoe. This man has been used to living at sea in a fishing boat. Every day he fishes, he catches1kg of fish, which, we can assume are very nutritious.

Crusoe arrives at the island which is full of rabbits which are easy to hunt. If he is to work a whole 8-hour day, he can now catch 8kg of rabbits. Let's say that a rabbit is just as nutritious as a fish, and the work is just as pleasant. In fact, he only needs 1kg of food to live on, so he can work one hour per day and relax the rest of the time, perhaps reading books on the division of labour.

After the second day of fruitful hunting, Man Friday turns up to say hello. Fortunately through a twist of fate, they all speak the same language. Friday is very happy that Crusoe has turned up. He invites Crusoe round to dinner. It's a very beautiful dinner: rabbit-en-croute. Friday has many beautiful items on the wall, won from many years of selling rabbits to passing tradespeople. He even has a beautiful gun and half way through the meal, he gets it out of the gun holster to show Crusoe, places it on the table to show him, and then puts it back in its holster.

Dessert is served. Friday has a family of servants who help him. Friday is saying how he is glad that Crusoe has joined the island. Half way through the desert, Friday gets to the point. "Oh about the rent" he says. "Would seven per day be ok?"

In a moment, the pleasant world of Crusoe disappears. He had not even considered that Friday would charge him rent. There was space enough on the island for all. But Crusoe had few options. The best profession he had found up to now, a fisherman, earned 1 kg of food for a full days work. Living on dry land seemed attractive (at least he was not subject to the storms). He had thought that he could work only one hour

per day. But now he realised that his working hours would not change. The eight hour shift of fishing to get one unit of fish is the same as the eight hours he would have to work to get eight kg of food in the new situation, of which seven would go to his landlord! He would still work the same hours, and get the same pay. Admittedly the new situation was a little better as he was not subject to the storms and salt-corrosion of his boat, but it was not the bliss that he previously envisioned.

It's interesting to note that the net wage after rent of our new arrival depends actually not on the conditions of the island, but rather on the conditions in his next best option, which is to go fishing. Suppose that fishing made 2kg of fish per 8 hour day (0.25 kg per hour). The landlord, observing this, would need to charge only 6kg of rabbit per day in rent, since Robinson Crusoe could always do better fishing otherwise. This is odd and worth repeating: the well being of someone here depends on the options that they have available elsewhere.

Thus we could see perhaps that the abolition of traditional peasant rights in England during the enclosure acts could be the fundamental cause of poverty in big cities thereafter. Without the option to be a peasant, there was no options for workers to earn any sort of wage. Therefore the wages paid by industrial capitalists need be enough to keep them alive, but no more - subsistence wages.

In economic terms, we say that the landlord can extract *rent* constituting the surplus over wages (in this case the net resoirces kept by Robinson once he has paid his rent).

Differential Rent

Imagine the island is split in two, one half is owned, the other is not. On one side of the island, rabbits are plentiful, and 8kg of rabbits per day can be hunted. On the other side, rabbits are less plentiful and only 4kg per day can be hunted. The landlord rents out both plots, but the rent charged on each can differ. Assuming for now that the wage that an unemployed person can make is still 1kg per day when fishing. Thus the landlord can charge 3kg of rabbits for residence on the less productive plot and still 7kg of rabbits per day for residence on the more productive plot.

Absolute Rent

Let's say that for some reason there's a series of storms the people on the islands find it hard to catch fish. The landlords however have some spare resource - stored dried food - that they have accumulated over many years. They sell this food to the fishermen. In exchange the fishermen sell their boats to the landlords and rent them back. Now there is no rent-free way of earning a living. In this situation, land and other ways of earning a living are absolutely scarce. They have been bought up by the wealthy landlords.

We can consider two possibilities: the first is that there is a shortage of workers. In this case, there will be some level of scarcity in labour and therefore wages will be kept up. The split between the revenue going to the landlords for renting a boat and labour will depend on the

In this current scenario, of the original 1kg of fish, only half a kg is retained, the other half is paid as rent for the boats. The residual wages are not now set at what the fishermen can earn in a rent-free existence, but rather the minimum that will keep them alive.

Capital

Let's say that Robinson sets aside some of his wages not to live, but to save for the future. He works for a bit and then creates some rabbit traps. He has to invest his time in the traps but after making the traps, his productivity is doubled from 1 rabbit per hour to two; or from 8 rabbits per day to 16. It takes him one day to build the traps. The traps double his daily productivity to 16 rabbits per day. We can say that it increases his productivity by 8 rabbits. Each trap lasts 10 working days (80 hours) before having to be completely replaced.

Does this investment make sense? Let's work it out. There's an investment of 8 hours of time, and this leads to 8 extra rabbits per day for 10 days. This is a total of 80 extra rabbits. I give up 8 rabbits in the day to construct my trap, and I get back 80 rabbits. Let's say that I borrow the resources to make the traps, so I borrow 8 rabbits to pay the rent and feed myself the day I make the traps.

Thus my profit is 72 rabbits (assuming I continue to work a full day) each 10 day cycle. This is a profit of over 7 rabbits per day, once the cost of my investment is taken into account.

At last Robinson Crusoe is happy! He is a great believer in hard work. He is working full days to pay the rent, and will continue to work full days. He can invest his time and create the traps, and reap the reward. After having paid back the time invested, there will be a surplus too! He can sell the spare rabbits to passing tradespeople or to Man Friday, and can build up assets.

We are assuming that Crusoe has some financial buffer, some wealth to tide him over for the day that he is building his trap and therefore not hunting. If rent is payable daily, he might be able to delay paying rent, he might be able to borrow some rabbits or other resources to pay rent, or he might invest his own stock of wealth until the investment pays back. So everything is going swimmingly well, he invests the time and he makes a surplus and soon enough he's selling the spare rabbits to passing trades people and building up a store of value.

But there's a catch. Friday comes round, observes what is going on. He takes some photos. And soon enough some adverts go up in the Archipelago Gazette, the local newspaper for the islands. It's only with a passing ship that Crusoe sees them. The adverts say the following: make a fortune hunting rabbits! Earn 16 rabbits per day. He also reads the small print: requires 8 rabbits investment to make traps; rent: 14 rabbits per day.

14 Rabbits! He's only paying 7 at the moment! What's coming? Sure enough there are some visitors at the island and they come around, friendly enough. The next day Man Friday invites Crusoe round for dinner again.... "About the rent"... he says. "I know you are enjoying staying here". He continues. " But the market is changing. Market rents are going up. I had an offer the other day for someone to pay double what you are paying. Of course, I prefer to go with you so I won't chuck you out as long as you pay what the market is saying. It's only 16 rabbits per day. You still make a healthy 2 rabbits profit (actually one after paying for your investments but let's skip that).

Note that it seems that *property* is the fundamental problem here. But as we will see, abolishing property causes its own problems....

3.3 Overhunting on Open Access Island

Let's now imagine another island. On this island there is no property rights. Anyone can hunt for rabbits anywhere. And like the island just mentioned, there is no landowner! Everyone comes to the island.

In the beginning, everyone was happy. Wages, 8 rabbits per day, or one per hour, made everyone happy. The problem this time was that too many people came. Since land was not owned by anyone, everyone hunted the rabbits, and in the end too many rabbits were taken from the natural environment. Because everyone cared for themselves and not for other people many more people came to the island. Those people then started to deplete the common pool of rabbits on which everyone relied.

One person hunting for rabbits depletes the stock of rabbits that everyone relies on. There is an ecological collapse. Soon there are many fewer rabbits left. People start to have less food to eat. Those that can, leave. In contrast to the island with private property, people are poor, but there's no mismanagement. People do work too hard however! It seems then that it is the allocation of property rights that is key for protecting teh rights of the ordinary worker.

3.4 Inequality on Special Island

Let's say now that hunters vary significantly in their skill level. There's still a limited quantity of land, and a limited quantity of rabbits. It's just that some people are much better than others. If there had been unlimited rabbits or unlimited land, this wouldn't appear to have been much of a problem. With limitations however, there is more of an issue. The successful hunters increase the price of land, and they also pressure the rabbit population squeezing out more of the rabbits for themselves so there are fewer for others.

The taxes that 'the landlord' imposed helped marginally, facilitating the process by which hunters need to get rich by hunting ability rather than by merely owning land. However, in a limited environment, the good hunters don't just benefit from their own hunting. There is also a significant impact on the others. They raise the marginal price of land, and so make it more difficult for large families. As more individuals hunt the rabbits, the resource becomes more scarce. This justifies what we call progressive taxation. Progressive taxation means taxing people that make more progressively heavily.

3.5 Economic Justice on Dream Island

One of the islands on our archipelago is an island of our dreams. The fruit is bountiful, the water is clean, the people are happy. Everyone has a house or can build one with their own money. Fisheries and forests are managed well. Some people are richer than others, but the difference isn't huge, and the people are rich or high status are those that have contributed the most to society. The community collaborates to ensure that the political system is not corrupt and governs the society well, the citizens trade with other islands and each other. There is work for all, but no-one has to work very long hours. The financial system supports beneficial activities, for example clean power and a recharging system for electric cars. Financially, people are secure with investments in the local factory, which, whilst its mostly robotised, provides everyone with a dividend to spend on the products that it and other factories produce.

What has this fantasy island got to do us? Tax, we claim, is the key tool to achieve towards this heavenly state. Together with reform of the social security system, and some elements of the financial, education and pensions systems. We do not however consider these systems in full: that we must leave to others to consider.

Now what can be said about tax on this perfect island? Well, in simple terms, tax is fair and fairly simple and straightforward for everyone to understand. But the tax system in important ways, supports the rest of the economy, not only in how the revenue can be spent but also in the ways that the tax system creates the incentives for the economy to function correctly. The two main ways that the taxation system can be used are generally *redistributive* and *environmental taxes*. We will get to our dream island again but let's go back to the other islands in our archipelago.

Getting to Dream Island

Let's now work out our solutions to the problems that we have encountered. It's easiest to solve the problems before they get started: to set things up right from the start.

The first solution is a land value tax: a tax on rent. The landlord is taxed according to the surplus of each piece of land. He makes no money. There's no such thing as the landlord any more, really. Land becomes free to buy but the person that occupies it has to pay rent to the central authority. What does the central authority do with the rabbits? There's two options: firstly the government could provide public services. Secondly, they could give the rabbits back to everyone, per person.

What about over-hunting? Well if rabbit hunting is a concern then a limited number of permits could be issued. Hunting rabbits could be constrained. Or put another way, a tax could be levied on hunting rabbits. On the propertied land, If the rabbits don't run freely between then it can be expected that the landowners/renters will themselves look after the rabbits on their own plots. Therefore a land value tax plus property solution with the taxes paying for service. Alternatively, if the rabbits do run freely between plots, there needs to be a solution that constrains hunting.

3.6: Off the Island and into Reality

What do these analogies mean for modern government policy? Especially government policy that influences the lives of 65 million people, on a large island, as compared to this utopia. A multitude of factors influence the functioning of the UK tax and welfare system, and interact to dictate the impacts that these controls have on society.

The next sections outlines the key questions that policy makers have to ask when designing a tax, and implementing these proposals into reality. An exploration of the missing aspects in current policy design, issues in transition, and the reality of taxes as it stands today will all be outlined in more detail. From one island to another.