

1 Introduction

One of the primary goals in any Intermediate Microeconomic Theory course is to explain prices. The primary workhorse for explaining prices is supply and demand. Of course, such an explanation does not go deep enough. We must, after all, then explain demand and supply. This article will layout a theory of consumer choice based in the Austrian tradition, deriving demand from the reality of human action.

2 The Action Axiom, Preference, and Choice in General

Austrian economics focuses on founding economics upon solid premises that are either undeniably true or that are highly likely to be true from casual observation. So, for example, it is highly likely that capital goods are heterogeneous. All one needs to do is make some casual observations to realize that, in fact, a deep fryer is not the same as tractor, and this difference very well could have important economic implications. It is also obvious that, even if we collect the right ratio of deep fryers and tractors so that both have the same market value, it does not follow that the two are “economically equivalent” - after all, a world where all the tractors were changed into deep fryers of equal value would be a very different economic world than one in which all the deep fryers were changed into tractors. Once one has premises that are true, one can apply the rules of deductive logic to arrive at conclusions that are, in fact, guaranteed to be true.¹

The central undeniable premise that underlies Austrian economics is the “action axiom” - in short, “humans act”. By this it is meant that “humans make choice purposefully”. That is, people have purposes in mind and make choices based on these purposes. This is an axiom that is undeniably true. In fact, as soon as one makes the attempt to show it to be false, one demonstrates its truth - as the attempt to disprove is something that must be undertaken purposefully. It is undeniable that humans act.

To get a further handle on the action axiom, it will be beneficial to expand the concept of human action so that it is open for analysis. Upon some consideration, it becomes clear when we speak of “choice” or “action”, that we mean that humans apply means to the attainment of ends according to an idea. That is, people have things that they want to accomplish - ends. Then, they have ideas about how to accomplish these ends. These ideas necessarily involve means that must be used.

¹The classic case of deductive logic: All men are mortal. Socrates is a man. Therefore, Socrates is mortal. As long as the premises are true, the conclusion must, in fact, be true, since the rules of deductive logic were properly applied.

The reality of action implies the reality of scarcity. If, in fact, nothing were scarce, then there would be no need to make choices. Every desire (or end) must in fact be instantaneously fulfilled. If people act - and we know that they do - it must be the case that some ends are not yet attained. If some ends are not yet attained, then it must be the case that means are scarce.

The reality of action and choice implies preference. Since means are scarce, it must be the case that not every end can be attained. So, we are forced to choose to attain some ends, and - as a consequence - choose not to attain others. This choice shows that one end must be preferred to another. One point that must be emphasized: preferences is bound up in the reality of action. Austrians do not consider preferences to have some abstract existence in some psychological world. Rather, preferences exist - and come into existence - when a human mind makes a comparison between two choices and places one over the other and chooses it. So, for example, if I choose to buy a cheeseburger rather than chicken nuggets, the moment that I make my choice is when my preferences come into existence. Now, it may be true that I have some underlying preferences (for example, we can't rule out the possibility that I always prefer a cheeseburger). However, the existence of underlying preferences is not something that can be implied from action. In fact, underlying preferences seems counter to our own experience. For example, when I am presented with a choice, I generally find myself actually comparing the two - often even if I have made similar choices in the past. So, for example, just because the "hot sign" is on at Krispy Kreme does not mean that I will necessarily buy a dozen original glazed donuts from them. I very well might pass them by some days and might stop in other days. This indicates two possibilities about any possible "underlying preferences": (1) my underlying preferences are not stable. In that case, it makes little sense to assume that they "exist" in any meaningful sense. If preferences are not stable, then the assumption that they are stable will first be wrong, and second have little predictive power. (2) my underlying preferences are quite complex. After all, it may be that I do have stable underlying preferences, but that the complexity of these preferences might be such that conditions which appear similar are not in fact similar enough. For example, maybe my decision to buy donuts depends not just on whether the "hot sign" is on, but also on what the price of gasoline at the nearby station is. In that case, if, as economists, we ignore the price of gasoline when we try to predict my choice of whether I get donuts, we are likely to do a very bad job since we are leaving out a very significant predictive variable.

One can actually divide mainstream neoclassical economics from Austrian and behavioral approaches using this framework. Neoclassicals tend to believe that there are stable, simple, underlying preferences. While stability may be false in the strict sense, preferences are "stable enough" for the assumption to be useful in making predictions. Austrians tend to deny the stability of preferences and, effectively, deny the existence of "underlying" preferences at all - though they do acknowledge that it is not uncommon for

people to make the same decision under the similar circumstances. However, since there is no guarantee that preferences will remain stable, a theory based on the assumption that they are is not a good one. In the Austrian mind, economic science involves taking premises that are true and using deduction to get true conclusions. If “preferences are stable” is only true some of the time (or even most of the time), then any conclusions that arise from those preferences are also only true some or most of the time - at best. While such conclusions may be useful at times, they are not nearly as important as conclusions that are known to be universally true. Behavioral economists generally take the view that there are underlying preferences that are a bit complex. We will talk more about these schools later. For our purposes right now, we will focus on the Austrian view.

The main points from this section: Humans act, action implies scarcity, and action also implies preferences. Preferences will be very useful as we move into the next section.

3 The Marginal Use and Diminishing Marginal Utility

As we start taking steps toward applying the concept of preferences to consumer choices, we need to actually think about the choices that consumers are actually making on a fundamental level. Superficially, it seems that consumers are simply making choices either “to buy or not to buy”, or perhaps “how much to buy” (though the second can actually be thought of as a series of “to buy or not” decisions). To get a more fundamental look, however, we need to think about consumers are “consumers” rather than as “purchasers”.²

As a consumer (rather than purchaser) what a person does is use consumer goods to attain ends. For example, I use flour to bake bread, or a cake. I use my computer to play The Sims 3. I use CS Lewis’s “That Hideous Strength” to provide recreation and edification. You use my lectures³ to increase your knowledge and understanding of economics. So, if we want to understand why people might acquire a good, we need to consider what they are acquiring the good for. That is: what use is it going to be put toward?

Suppose that I am planning to use a particular package of oreos for eating them. The reason that I want the oreos, then, is not because I just want oreos. It is because I want to eat cookies. That is, I have a particular use in mind for those oreos, and, because oreos are useful toward that end, I value the oreos - and may be willing to give something up to obtain them. This is a proper understanding of “utility”. After all, “utility” really means “usefulness”. So, a good can be said to have a “utility” assigned to it, and that utility is the end that the good is expected to help obtain.

Now, we can consider what happens when there are multiple possible uses for a unit of a good. Say that

²This is a distinction that is almost never made in the mainstream of economics - which I believe is part of why “diminishing marginal utility” is an assumption - and an assumption with little objective meaning - for the mainstream. For Austrians, diminishing marginal utility flows naturally from preferences.

³If you don’t, you should!

I have a single cup of flour, but that there are a number of things that I can do with that cup of flour. Say that my options are:

1. Use to bake a cake
2. Use to bake cookies
3. Use to powder hair
4. Give to neighbor

This list is written in order of preference. That is to say, given the choice between all four of these, I will choose the first one. If the first one were impossible, then given the choice between the remaining three, I would choose the highest possible - the second. And so on.

So, the utility of the first cup of flour can be described as “used to bake a cake” as that is the use that would be assigned to it. One can then consider what use the second unit of flour would be put to, if the first use was already fulfilled. It should be rather obvious that the second unit will be used to satisfy the second highest rated end. So, the first cup of flour was used to bake a cake. The second will be used to bake cookies. A third will be used to powder my hair.

An important point should be noted: each additional unit is used to satisfy a less desired end. That is, the utility of each additional unit falls as the quantity possessed increases. One might even go so far as to say that the utility of the marginal unit - that is, the last unit acquired - diminishes. If we wanted to squeeze the idea into three words they would be: diminishing marginal utility!

One point to emphasize here: diminishing marginal utility is a law that cannot be denied. Assuming that the units of a good are “equally serviceable” (that is, that they have the same list of uses), then the utility of the marginal unit must decline as the number of units possessed increases. Why? Because preference is defined by action - so it is nonsense to say that someone chose to put the first unit of a good toward a “less preferred” use. By the definition of “preference”, the action that is chosen is the more preferred action.

4 Marginal Utility and Derivation of Demand

Now that we have established diminishing marginal utility, we are actually only a few steps from establishing a demand curve at the individual level - and by composition a market demand curve.

So far, we’ve shown that if we were to make a preference ranking for a good, the preference ranking would have the form

1. 1st unit

2. 2nd unit
3. 3rd unit
4. etc.

Another conclusion can be drawn: more of a good is preferred to less.⁴ So, two units are preferred to one. Why? Because it is obvious that it is better to fulfill both the first and second uses is better than to fulfill only the first use. Therefore, if given the choice between having just one versus two units of a good (keeping everything else equal), a person will choose two. This will also be true for money. So, three dollars is preferred to two, and two are preferred to one. Therefore, it is possible for us to make another list of preferences.

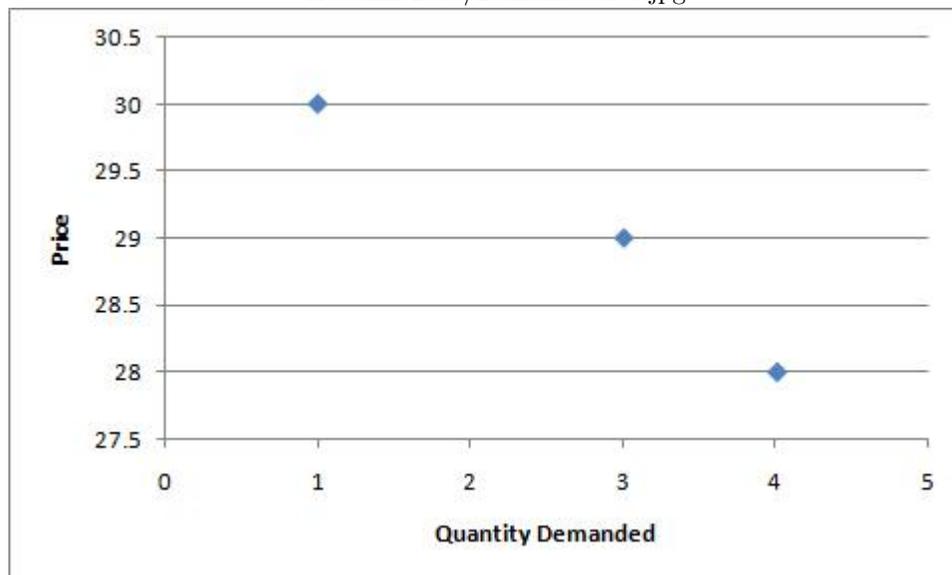
1. \$30
2. \$29
3. \$28
4. etc.

One can then integrate the two lists by thinking about the choices that would be made. For example, say that given the choice between a first unit of a good and \$30, the person would choose the first unit. In that case, we can place the first unit about \$30. Now, say that the person would prefer \$30 to the second unit, but would prefer the second unit to \$29. Suppose that they'd also prefer the third unit over \$29. Finally, suppose that they prefer \$28 to the fourth unit. In that case, we can put the list into this order:

1. 1st unit
2. \$30
3. 2nd unit
4. 3rd unit
5. \$29
6. 4th unit
7. \$28

⁴Here, we define a "good" as something which helps one to fulfill ends. This is opposed to a "bad" which makes it harder to fulfill ends.

Autumn 2009/DemandCurve.jpg



Now we are ready to derive a demand curve. To do so, we will consider different prices, and how many units this person will be willing to buy at that price. So, suppose that the price were \$30, and that the person didn't own any of the good to start with. In that case, given the choice between \$30 and the first unit, they will take the first unit - and that's exactly the choice they have if the price is \$30. Given the choice between \$30 and the second unit, they choose to have \$30. Since they are faced with a choice where they can give up \$30 to obtain a second unit, they choose to keep the \$30. The same will be true for the third and fourth unit. So, we can fairly say that, given a price of \$30, this person will buy 1 unit of the good.

We can consider how many would be purchased if the price were \$29. In this case, the first unit is a "no brainer". Since the person was willing to pay \$30 for the first unit of the good, they will obviously be willing to give up \$29 for it. Looking at their value scale, it is clear that they are also willing to give up \$29 for the second unit, and for the third unit. So, when the price is \$29, the person will buy 3 units of the good. Using a similar method, it's easy to show that at a price of \$28, the person will buy 4 units of a good. So, now we have a demand curve (or at least a section of the demand curve). If the price is \$30, then the person buys 1. If it is \$29, they buy 3. If it is \$28, they buy 4. This is a demand curve! It's also obvious that the demand curve is downward sloping. This comes from two facts: more money is preferred to less, and diminishing marginal utility.

It is possible to consider multiple people's value scales separately and find a demand curve for the market. Here, I think it is obvious what the procedure will be. Find how many each individual will purchase at a given price, and then add up the total purchased from the individual decisions. So, the market demand

curve should have a shape like that of the individual demand curves: it should be downward sloping.

5 Conclusion, Complications, and further Implications

This paper has described how Austrians approach consumer choice theory - which underlies the demand curve. Austrian economists suggest that diminishing marginal utility arises because of diminishing marginal uses. Because more money is preferred to less money, this means that a consumer is willing to pay more for the first unit of a good than for the second unit of a good - which means that demand must slope downward, as a consumer will buy more at a lower price.

There is, however, an unspoken assumption in Austrian theory. This is what Hu McCulloch calls “unrelatedness”. We assume that the units of a good (and the units of money) have no relationship to one another. Suppose, for example, that there is a list of things that can be done with 2 units of a good. Austrians implicitly assume that every item on this list is really a composite of two uses of single units of the good. This creates significant complications, as it is then possible for the second unit of a good to be (in some sense) “more valuable” than the first. Say that I’m thinking about uses for sticks that are about one foot long. My most preferred use of a stick is to swat at dragonflies. My second most preferred use is to pry open a ketchup bottle. So, naturally, I will pay less for the second stick than the first. However, this ignores the fact that, if I have two sticks, I can play the drums - this is something that absolutely requires two sticks. So, I might have a preference ordering for uses like this:

1. Play drums
2. Swat at dragonflies
3. Pry open ketchup

Now, the second stick actually opens up a higher possibility than the first stick did. Therefore, it’s possible that I’d pay more for the second stick than the first. So, how do we deal with this discrepancy?

Murray Rothbard suggests that this type of reasoning is misleading. If two sticks have totally different uses than two uses for individual sticks, then we should consider a “set of two sticks” to be a different good than a single stick. Then, it is still fair to say that demand is downward sloping for “sets of two sticks”. However, it is not clear that this solves the problem when we think about demand for single sticks. So, let me offer a possible solution. Let’s start from a point where the person has zero sticks, and put in some monetary units for comparison...

1. Play drums

2. \$30
3. \$11
4. Swat at dragonflies
5. \$10
6. Pry open ketchup
7. \$9

Now, let's say that sticks are selling for \$15 a piece. How many does the person buy? Well, given the choice between \$30 and playing the drums, the person will play the drums - so they will buy 2 sticks for that purpose. Every other use is worth less than \$30. So, they only buy 2 sticks. Now, suppose that the price is \$10. In that case, they'd be spending \$20 to play drums - and will buy 2 sticks for that purpose. They'll also buy a stick to swat at dragonflies - 3 sticks. So, there really is no difficulty in this case. All we need do is double the price, and compare that quantity of money with the drums. Now, there's a fair question: is there any price where the person will buy exactly one stick? In this case, the answer is "no". If the price is over \$15, then they refuse to buy any sticks. If it is less than \$15, then they will buy at least two. However, we can consider another possibility.

1. \$13
2. Play drums
3. \$12
4. \$11
5. Swat at dragonflies
6. \$10
7. Pry open ketchup
8. \$9

This is the case that gets weird. It is clear that if the price is \$10, they will only buy one stick. They are only willing to pay \$12 to play drums. So, they will not pay the \$20 for two sticks so they can play drums. Things get tricky when we are faced with a price of \$9. At this point, it is clear that the consumer will buy

two sticks - one for swatting dragon flies, and one for prying open the ketchup. But, it is not immediately clear that they will use the sticks for these uses. However, with a little work, we can see that they will.

Suppose that the person faces this choice: two sticks which must be used for swatting and prying, or \$19. It is clear from what we have above that the person is willing to give \$10 for swatting, and \$9 for prying. So, they will buy two sticks for those two purposes for \$19. However, are they willing to pay \$19 for two sticks to play drums? The answer is clearly no. If we add in the assumption that preferences are transitive⁵, then it is clear that if the person buys only two sticks, they will use them for swatting and prying. So, it is true that things get more complicated when we consider the possibility of the necessity of multiple units of a good, it is still a reality that our framework here can deal with, and without too much problem. So, while this is a real complication in the theory, it is not one that breaks the theory at all. In fact, the concepts we have used here are sufficiently general that they can still be applied.

Just a few implications that will be important to remember before we move on to the neoclassical view.

(1) In the Austrian view “utility” and “satisfaction” should not be equated. The two are different concepts that may only be loosely related. (For example, it’s certainly possible that my most preferred ends provides more “satisfaction” than lower ends, but that is not necessary. I may choose something despite the fact that I find it “unsatisfying” in some sense.) (2) Indifference is a logical impossibility. Because preference is defined by choice, it is impossible for two things to be “equally preferred”. That would imply that, given the choice between them, the person could not choose. (The classic case of this is Buridan’s ass, who cannot choose between two equally desirable piles of hay.) If the person does not choose either, then they have shown that they would prefer “none” to either choice. This does not mean that the two are “equally preferred” it simply means that “nothing” is preferred to each of them! Now, it very well may be that “indifference” does exist psychologically. That is, I may be just as “happy” with one as with another. However, the Austrian view of preference is not psychological. It is bound up in action.

⁵that is “a is preferred to b and b is preferred to c” does imply that “a is preferred to c”