**W3 V3 Changes in Demand**

0:10  
So, so far what we've done is we've talked about how an individual's choices change when just the price changes, everything else stays fixed, right?

0:18  
So we've been talking about movements along the curve so far because only price is changing.

0:23  
Now we're going to think about other things changing in the world and we're going to have to differentiate between movements along a curve and off a curve, OK.

0:30  
We're going to have to talk about other factors changing and how these could lead to a shift in the demand curve.

0:36  
And that actually gives us useful information in terms of, you know, what's happening with the other goods, Are they substitutes or the complements?

0:44  
Is this good, normal, inferior?

0:46  
So a little bit more jargon when we'll talk about what that jargon means as we go through this.

0:52  
OK, so just a quick one second recap about what we've done with individual demand.

0:56  
We've said people compare willingness to pay for price because that's really easy marginal because it's the extra quantity, extra price.

1:03  
And then we're just changing price.

1:05  
All else have fixed.

1:07  
OK, what is this?

1:08  
All else has fixed this video, we're going to dig deeper into this.

1:11  
All else has fixed.

1:13  
Basically the intuition comes from your willingness to pay, right?

1:16  
Your marginal willingness to pay.

1:17  
All of the factors that determine how willingness, how willing you are to pay for this good, what are your taste, what are your preferences?

1:22  
What are your alternatives?

1:24  
Right.

1:25  
Related goods.

1:25  
What are the goods you need to consume with it.

1:28  
Complement substitutes.

1:29  
What is your income, right.

1:30  
We're not really talked about income when we talk about choices here.

1:33  
We're kind of get a feel for that in here.

1:35  
Future prices, right?

1:37  
You do react to something that's going to happen in the future.

1:39  
And so we're going to think about how that affects your demand and then something that we won't talk about now, but we will have to talk about when we talk about markets because we don't have market demand yet.

1:49  
The number of consumers in our market will affect kind of market demand and also relate to a shift in the curve.

1:56  
OK.

1:56  
So let's kind of talk through some of these with some examples.

2:01  
So let's think about related goods.

2:03  
So when you buy granola bars, for example, there can be other things that you can substitute for this, right?

2:10  
So if I don't buy granola bars for a snack, I could maybe buy myself a banana, right?

2:16  
Or whatever other healthy snack you're thinking of.

2:19  
Pick something that if you don't buy the granola bar, something else is a pretty good substitute.

2:24  
Now why is that important?

2:25  
Because remember, you're always thinking about next best alternatives in here and that affects your willingness to pay.

2:30  
And we've talked about that module.

2:31  
One another thing could be a compliment, right?

2:35  
So if I drink tea, I need to have milk in my tea.

2:38  
So when the price of milk changes, it could potentially have an impact on how many cups of tea I buy or I drink, right?

2:47  
So in that sense, we call it a compliment because we get more value from tea if at the same time I'm drinking milk with it.

2:58  
OK, so that's conceptually what we mean by substitutes and compliments.

3:01  
Now, what happens when the price of a substitute or a compliment change?

3:06  
How does that change people's decisions?

3:08  
So let's think about an example where the price of the related good, right, could be a substitute, could be a compliment.

3:14  
The price of a related good goes up.

3:17  
OK, so for a substitute, I'm going to think about a granola bar where the price of a banana is going up and a banana as a substitute.

3:26  
So before, when the price of a granola bar was $3 a bar, I bought let's say 10 bars a month from the previous module.

3:35  
We know that demand and marginal willingness to pay were kind of interchangeable.

3:40  
So another way of looking at this would be to say my willingness to pay for my 10th granola bar.

3:46  
The last granola bar that I stopped at was $3.

3:50  
Now what happens when the price of this substitute right, The price of the other alternative to a granola bar goes up, which in this case would be a banana.

4:00  
Then the next best alternative gets less attractive, right?

4:03  
And if it gets less attractive, what am I going to do?

4:06  
I'm willing to pay more for the same 10th granola bar than I did before.

4:13  
OK, that would be a change and increase in my marginal willingness to pay for a granola bar.

4:18  
Go back to module one if that doesn't make too much sense, because that's when you can explicitly see with the equations what happens when the price of a next best alternative increases and how that changes your marginal willingness to pay.

4:30  
OK, so notice for the same 10th unit, I am willing to pay more for the same logic.

4:37  
For the 5th unit.

4:38  
For the 25th unit, at every point, my willingness to pay is higher than it was before.

4:45  
This is what we call a shift of the demand curve.

4:49  
So sometimes we phrase it as a shift up of the demand curve.

4:53  
Typically that's when I'm thinking about it in terms of a marginal willingness to pay argument, because I'm saying my willingness to pay is higher as a shift up of my demand curve.

5:01  
It means the same thing as saying when the price of a granola bar was $3, I used to buy only 10 because the 10th one is where my willingness to pay equals my marginal cost was the same, right?

5:13  
Because that's where my willingness to pay was exactly equal to a price of $3.00.

5:19  
But now if my willingness to pay has changed, then at that same $3 more units pass, that marginal willingness to pay versus price threshold.

5:31  
So at the same price, I am willing to buy a larger quantity, right.

5:36  
And you do that for any price at the same price, I'm willing to buy more than I did it before.

5:42  
This is going to look like we're shifting out the demand curve, right, because we're thinking about it As for the same price buying more or less.

5:50  
So when we say demand shifts out out or shifts up, we're effectively meaning the same thing, right?

6:02  
Because visually that's what it's going to look in the graph.

6:04  
Don't get confused or it has to be up, it has to be out.

6:06  
We use those words interchangeably.

6:07  
But conceptually what we mean is with the same price, people are demanding more or for the same good, your willingness to pay is now higher than before.

6:15  
Why?

6:16  
Because the next best alternative in this example is getting worse.

6:20  
Now what happens if we're thinking about coffee?

6:22  
Sorry, tea and milk.

6:24  
OK, this is the market for tea.

6:25  
So I'm thinking about the price of tea and the quantity of tea.

6:30  
OK.

6:31  
And we are saying, this is my willingness to pay for tea if the price of milk goes up.

6:37  
And I must have milk with my tea, right?

6:39  
That's my Chai in the morning in that case.

6:42  
Now for that same 50th cup of tea that I drink in a month, OK, this was my willingness to pay.

6:51  
But not to say this is $1.00 OK for 50th cup of tea, my willingness to pay is $1.00.

6:59  
But now I need to have milk, and milk is getting more expensive.

7:02  
I'm using more resources for that same cup of tea.

7:05  
It's going to decrease my willingness to pay for tea, right?

7:08  
So for the same 50th cup of tea, my willingness to pay is low.

7:12  
This is going to happen at every single a cup of tea I drink, which is going to look like a shift down in the demand curve.

7:23  
OK, Why?

7:24  
Because for that same unit, willingness to pay is lower.

7:28  
You can also think about this as the number of units that pass the marginal willingness to pay versus price threshold.

7:37  
When my willingness to pay decreases for the same $1.00, before, I used to buy 50 cups of tea because 50 cups past the threshold.

7:49  
Now I buy fewer because fewer cups of tea past the margin willingness to pay versus price threshold.

7:56  
So it's going to look like a shift in of the demand.

8:00  
Again, shift in, shift down effectively mean the same on a graph.

8:04  
But we would say that the demand curve shifts, right?

8:08  
It's not a change in quantity demand, It's a shift in or alternatively down.

8:17  
OK, good.

8:17  
So again, focus on the logic.

8:19  
Please don't memorize, You don't need to memorize any of this.

8:21  
Focus on the logic.

8:22  
It's a good revision of module 1.

8:24  
Keeps you up to date.

8:25  
You're revising every week as we go through.

8:28  
OK, so this is a change in the price of the related goods.

8:31  
Another thing you can think about is future you are gonna buy.

8:36  
Let's say you love something that can be stored.

8:40  
OK, pick whatever you want.

8:42  
What's important is that you are able to substitute buying the good today for buying the good tomorrow.

8:49  
OK, if you think that the price of, I don't know, let's say chocolate chips or chocolate bars, right, are gonna be really high tomorrow, you expect it to be really high tomorrow and you're going to buy chocolate chips or chocolate bars every week, right?

9:05  
There's a habit you have, you're going to buy it every week.

9:07  
If you expect the price to be really high tomorrow, then that potentially could change your decision today, right?

9:12  
Because for the same price you, let's say $10, you bought a pack, let's say 25 packs a year.

9:22  
If you expect the price to be higher next year, you're going to say, let me buy it now when it's cheaper, right?

9:29  
So for the same price you're going to buy more.

9:33  
So if you're going to expect the price of chocolate in the future to be higher at the same price of chocolate today, you will buy more, but only if you can substitute today and tomorrow.

9:49  
If you're thinking about fresh kale and you expect the price of fresh kale in a month to be higher, like it's not going to keep, right?

9:54  
Maybe you can't freeze it, really.

9:55  
So it's not going to change much.

9:57  
OK, So this is going to be a shift, but a shift out.

10:01  
Now, a shift up in here.

10:03  
Again, focus on the economic intuition.

10:05  
No memorization required, other things that can change income, right?

10:11  
When your income goes up, you want to buy more, you want to buy less.

10:14  
OK.

10:14  
So if you're thinking about how your pattern changes, the first thing you want to think about is when your income goes up, do you want to buy more of the good or do you want to buy less of the good?

10:29  
And instead of memorizing, you just think about you know why, right?

10:33  
So for example, if you eat a lot of processed ramen.

10:37  
So when I was a grad student in India, there was this processed noodles called Maggi noodles.

10:42  
Super cheap, super tasty.

10:44  
I ate a lot of them, right?

10:46  
Why?

10:46  
Because I didn't have a lot of money.

10:48  
However, when my income went up, I'm not buying Maggie noodles anymore.

10:52  
I still buy them occasionally because they're delicious, but I'm buying healthier food, tastier food, better quality food.

10:59  
S for the when my income goes up, the quantity demanded or the demand for the good goes down.

11:07  
We would call that or we would classify that as an inferior good.

11:15  
OK, same price.

11:17  
Price of Maggie is still $1.00 a pack.

11:20  
I buy fewer than I did before, right?

11:25  
Why?

11:26  
Well, you can just save for the same price.

11:28  
I buy less.

11:28  
But if I push you and say why?

11:30  
Well, now I have better alternatives, right?

11:32  
My alternatives are more.

11:35  
They're better.

11:35  
I can afford them than I couldn't afford them before.

11:37  
Before, buying fresh vegetables was not an option really.

11:41  
For me, there was no next best alternative because I couldn't afford it.

11:44  
Now that becomes an alternative, and that's a better alternative than Maggie.

11:48  
And so I'm going to buy less Maggie.

11:49  
Intuitively, what am I saying?

11:51  
My willingness to pay for Maggie is lower than it was before.

11:54  
So my demand curve is going to shift in if I'm looking at inferior goods.

12:00  
OK, again, no memorization required for more than goods.

12:05  
However, when your income goes up, you're like, oh, I can buy more T-shirts, clothes, right?

12:09  
Income goes up, I can buy more of them.

12:12  
And so my demand in that case would increase.

12:14  
Why?

12:14  
For the same price of a T-shirt, I can afford more T-shirts and want to buy more T-shirts than I could before Or for the same T-shirt.

12:26  
My willingness to pay is higher because I'm now able to afford it.

12:30  
OK.

12:30  
Demand in that case would move.

12:35  
No memorization required, just thinking.

12:36  
These are decisions you make all the time.

12:38  
Think about the type of the good and why your willingness to pay changes.

12:43  
OK.

12:43  
So when we're thinking about demand and what happens when something changes in the environment, you first want to make sure what is changing.

12:50  
If it's a change in price and everything else is health fixed, then you're just moving along the demand curve.

12:55  
Your willingness to pay is not changing for everything.

12:58  
Just the quantity that you're buying changes.

13:00  
When we have something in the all else help part changes.

13:03  
Your willingness to pay is changing.

13:04  
Your whole willingness to pay curve is shifting.

13:07  
And because willingness to pay is related to demand, your entire demand curve is going to shift in or out.

13:12  
To understand the economic intuition, please make sure to relate it to Marshall willingness to pay.

13:17  
It's a good way to not make errors and also become a better economist.

13:21  
And how demand shifts also has very useful information for us.

13:25  
So if we notice people's behavior and we notice that demand is changing in a particular way, we can then back out.

13:30  
Oh, these are normal or inferior goods for these consumers.

13:33  
These are substitutes or complements, right?

13:35  
So we can both predict what's happening with demand shifts, and we can also use information on demand shifts to back out information on the goods in these people's preferences.