**W6 V1 Price Controls**

0:09  
In this video, we're going to talk about price controls as one intervention in a perfectly competitive market.

0:15  
But we'll start by motivating why a government would intervene at all.

0:18  
We're going to have to describe the equilibrium, calculate a whole bunch of stuff, but also identifies sources of inefficiencies and especially additional sources of inefficiencies that may not be directly observable on our diagram.

0:32  
Why would a government intervene in an otherwise efficient market, given that we're working within perfectly competitive markets?

0:41  
Here are some reasons.

0:42  
Sometimes in the world, as we saw in the coronavirus epidemic, prices skyrocket and then there are calls from the consumers to protect them by having a cap on prices to prevent what they think is price gouging, right?

0:58  
Sometimes producers call for a lower bound on prices because the price of their goods suddenly falls.

1:06  
Sometimes something that is bad for the economy from the perspective of society is being produced.

1:13  
For example, during the opioid epidemic, there were calls for production on fentanyl to be curbed, right?

1:20  
So with every intervention, your first thing that I want you to think about is what is the motivation for introducing this intervention?

1:28  
Some typical reasons would be to change the allocation of surplus, right?

1:33  
And those reasons are typically for fairness reasons that happen sometimes.

1:37  
The government wants to do this because they want to encourage consumption of certain goods or discourage consumption of certain goods.

1:43  
But we want to be clear before we advocate for any intervention, before we even analyze any intervention, why this intervention is being considered at all.

1:55  
Later on, as we have more structure, we'll talk about other reasons for intervening in the market.

2:00  
For example, sometimes when the assumptions of perfect competition don't hold and we can have market failure as a result for that.

2:06  
But for now, we'll hold off on those other reasons.

2:08  
The examples that we're going to cover this module will be things like price ceilings, price floors, quarters and taxes.

2:17  
And now we're going to focus on price ceilings and price floors.

2:20  
So each one of them, again, you when you're thinking about it, should always start by why this is being implemented.

2:29  
We can ask two types of questions here.

2:31  
Going back to Module 1, we have positive questions to understand.

2:36  
You know, what's the loss in surplus, Who's benefiting, Who's losing?

2:39  
And given that we've identified a goal before starting, is this intervention actually achieving the goal?

2:45  
We can also then ask more normative questions, right?

2:48  
Is this a good idea?

2:49  
Should this be implemented or should we just leave it and let the markets function as they are?

2:55  
When we talk about price controls, we are basically comparing an intervention to the scenario where there's no intervention.

3:02  
So let's think about a perfectly competitive world.

3:04  
It's the exact same world we're working in.

3:06  
We're not changing any of the assumptions.

3:08  
The only thing we're doing is we're putting in a maximum or a minimum price.

3:15  
Now we only care about this maximum or minimum price if it is what we call binding, right?

3:22  
Binding just means that without any intervention, we'd have the perfectly competitive price.

3:26  
But now we're stopped from achieving this price because of the implementation of this price control.

3:33  
So when you're looking at a price control, your first step should be is this binding or not?

3:37  
And then you proceed with the rest of your analysis.

3:41  
So let's consider a price ceiling.

3:44  
So use the word ceiling to help you remember this because it's pretty descriptive, right?

3:48  
A ceiling is at the top, and a binding price ceiling is something that prevents the economy from moving towards equilibrium.

3:55  
So the price equilibrium price is up here, and then you're bumping up against the ceiling.

4:00  
That's preventing you from reaching that equilibrium price without the ceiling.

4:06  
OK.

4:07  
Some examples here would be things like rent control, anti gouging laws and things like that.

4:13  
Another thing is a price floor.

4:15  
And here again the visual can be really helpful.

4:17  
You want to move towards equilibrium, you want to go below because that's where the equilibrium price is.

4:21  
But here's this price flow that's stopping you from getting in there, right?

4:25  
That's what makes it binding.

4:27  
First step, always to think about that the agricultural price controls and we're going to talk about the example of minimum wages is probably the most well known price floor.

4:39  
OK.

4:39  
So let's start off with price ceilings.

4:41  
And the example I want you to think about here is rent control.

4:44  
I don't need to convince you that rental prices in Toronto are really high and there are groups calling for the government to impose rent control.

4:52  
What that means is without any intervention for the government from the government, this is where the price of housing is in Toronto, really high, right?

5:02  
If the government comes in here and puts in a a price control above that, nobody cares because the price anywhere in the market is going to be below it.

5:11  
So if we want a binding price ceiling, right.

5:15  
And that's what we're looking at up here, The government is imposing a maximum price on housing that is below equilibrium.

5:22  
So it wants to move up.

5:24  
The economy wants to go up, but here's this price ceiling that's preventing it from doing that here.

5:28  
I'm going to call that price ceiling PC.

5:31  
OK, now, when we have this price ceiling, what's the problem in here?

5:35  
The problem in here, and the reason it was not equilibrium before the intervention, is at this price.

5:43  
This is the quantity supplied.

5:45  
At this price, very few people want to supply any housing, but there's a lot of demand.

5:52  
If housing is cheap, lots of people want to live there.

5:56  
So this is what the problem is.

5:57  
When we have binding price controls, we have either excess demand or excess supply.

6:02  
In this example here, at this price there is what we call excess demand.

6:08  
Too many people want housing and they can't get it because there's not enough housing available.

6:13  
So when we have two quantities demanded at the same price without any intervention, prices would rise and we'd end up here.

6:21  
And then quantity demanded would be equal to quantity supply.

6:24  
But that's not possible anymore, cuz we have the ceiling.

6:27  
So what do we have for market quantity, right?

6:29  
What's the market quantity?

6:31  
Well, when you have two sides of the market and trade needs the goods to flow from one side to the other, a trade can only happen if two sides are willing to make the deal.

6:42  
Now, if you've got lots of people on one side and very few people on the other side, the minimum is what's going to determine the number of goods traded.

6:49  
So the minimum in this case is going to be determined by the quantity supplied, because that's not enough.

6:56  
And only the units available will be the units traded.

7:00  
And so the quantity supplied, the market quantity will be determined by the quantity supplied at the market price, which will be the price ceiling, because we want to go higher, but it cannot go higher because of the price ceiling.

7:16  
OK.

7:16  
So it's the minimum quantity that determines the number of trades.

7:19  
And in this case, it's going to be determined by supply.

7:23  
OK.

7:23  
So our market quantity is going to be this.

7:26  
And so let's make sure I'm going to clean up my diagram so I can put more stuff in here.

7:31  
OK.

7:32  
So we've got a market quantity, which in the diagram here is Q1 and is determined by supply.

7:39  
OK.

7:39  
So we've got price, we've got quantity.

7:43  
We can now calculate surpluses, right, to describe our full outcome.

7:49  
OK.

7:49  
So what do I need for consumer surplus?

7:52  
What I need for consumer surplus is the price that people are paying for each house that they get and the quantity that people are buying and willingness to pay.

8:06  
So again, we're going to be flexible enough to remember demand and willingness to pay are interchangeable.

8:12  
And so for every unit that is rented, this is the consumer surplus that we have, OK.

8:24  
So notice relative to before, consumers are very happy.

8:27  
Why are they happy?

8:28  
Because they were paying P star before, now they're paying a lower price.

8:31  
And So what they get is this extra surplus on those homes that were already being rented.

8:39  
But that's not the only thing here, right?

8:41  
Relative to before, there was also more housing and now when we implement this price control, this price ceilings, rent control, some people are losing their homes because there's not enough rental homes available in the market.

8:53  
So there's kind of costs and benefits in here from the consumer side, but at this outcome, the consumer surplus is going to be A + B + C, right, willingness to pay minus price actually paid for the units that are actually traded.

9:13  
Same thing for producers.

9:14  
Now producers relative to before, they're not happy because they used to be getting this high rental price.

9:19  
Now they're getting a low price.

9:20  
So they're losing some surplus.

9:22  
But their actual producer surplus will be the difference between what they get in the market and their marginal cost, which we get from the supply curve being flexible enough to switch.

9:34  
And this is going to be produce a surplus for every unit that's actually traded.

9:40  
OK, so now if I have to figure out what total surplus is in the market or market surplus, I need to go ahead and look at societal surplus.

9:52  
So I'm looking for marginal social benefit, marginal social cost and I want to figure out what the difference is for all of these units actually traded since we're still in a perfectly competitive market, right.

10:06  
One of the assumptions that we have is no externalities.

10:09  
I shouldn't have to say assume perfectly competitive market with no externalities because no externalities is a perfect competition assumption.

10:17  
But I'm saying it here mostly as a reminder for you that that's the important one.

10:21  
So when we have that assumption, this is true.

10:28  
So total surplus in this case will just be consumer surplus plus producer surplus, which is A + B + C + D Good.

10:40  
Now, is this efficient?

10:41  
Is this not efficient for all of that?

10:43  
Well, first I need to know what efficient surplus is, and I already know what efficient surplus is in the case of no externalities.

10:50  
It's just what would have resulted if we had a market outcome without any interventions.

10:56  
My efficient surplus is all the way up here.

11:00  
OK?

11:01  
What is deadweight loss?

11:02  
Deadweight loss is the loss in surplus because we are not reaching the efficient outcome.

11:09  
If we had been at the efficient outcome, we would have traded all of these additional rental units and somebody would have gotten the surplus.

11:18  
How they're distributed, I don't care, but somebody would have gotten the surplus.

11:22  
So relative to efficient, I've got A + B + C + d that's already here.

11:29  
But what is missing, what I don't capture relative to efficient is my deadweight loss which is east plus F Again, I don't care whether you put a positive or a negative sign.

11:39  
I prefer you think about it as an absolute value because you're really focusing on the fact that this is lost surplus in there, right.

11:48  
So now we kind of have described our whole economy, we've explained why we don't reach the efficient outcome.

11:53  
We've found market price for which we which we use to get consumer surplus, producer surplus.

11:59  
And then because we have no externalities, we can just add up the two to get total surplus.

12:05  
Comparing total surplus to efficient surplus, I get deadweight loss.

12:09  
But remember, for efficiency, sometimes there is a loss that may not be visible on the diagram.

12:17  
So you should always take those few extra seconds to think about the potential for misallocation.

12:22  
Can it be possible that someone in this world gets surplus or gets the good that should not get the good?

12:30  
So let's take a look at that.

12:32  
OK.

12:33  
So we have Q1 goods being traded and I have kind of implicitly assumed that all of these guys here are the ones producing it.

12:44  
Is that a good assumption?

12:45  
Well, let's see who wants to produce it when the price is P?

12:49  
The only producers who are willing to produce it will be the ones for whom the marginal cost is at least as high as the price.

12:56  
And these will be these guys on the green segment, right?

12:59  
People outside on the other side, too high, they're not producing.

13:03  
So nobody who's producing is the person who should not be producing.

13:08  
OK, we're good on that side.

13:10  
But if we're thinking about from the consumer side, at this market price, the reason we have access to demand is because we have all of these people wanting a rental unit and not enough rental units.

13:26  
So when all of these people want rental units, on what basis can we say, oh, you know what, only these people get the rental units because consumers and producers can't tell each other apart.

13:36  
They're all identical, right.

13:38  
So it could be, it's quite possible that someone here can get the good instead of someone here.

13:45  
Then we have a problem of misallocation, right?

13:48  
So there's a rental unit.

13:50  
Producers can't tell who's whom, so they just pick somebody.

13:53  
And it turns out that this person gets a house when somebody up here on the top doesn't get it.

14:00  
So we have the potential for misallocation because if I just move that house from this person to this person, total surplus would increase, right?

14:09  
So do we have misallocation, the potential for misallocation when we have a price ceiling?

14:16  
The answer is yes, right from the consumer side it is potential, which means that the dead we lost E + F that we see on the diagram.

14:30  
This is the minimum debt weight loss.

14:33  
It could be even higher because we've got, in addition to not enough units being traded, we've got misallocation.

14:42  
OK, so this is the information we get with the price ceiling.

14:47  
Now, this is something to think about, right?

14:49  
Because when there are calls for rental control, there are clear people who benefit from this, right?

14:55  
So when you take a step back, we're like, why should you do it?

14:57  
Because the people who get apartments, people who are lucky enough to get apartments, they pay a lower price, right.

15:09  
So there consumer surplus clearly goes up and they're clearly happy.

15:12  
So who are benefits from that?

15:14  
They're benefiting from that.

15:15  
But who loses, right?

15:17  
And this is where not just kind of memorizing what this diagram looks like, thinking about what's happening in this diagram will really help you.

15:25  
So who loses when we introduce rent control?

15:27  
One, it's the people who no longer get apartments, right?

15:30  
Remember, the quantity of apartments falls.

15:33  
So there are people who used to get apartments.

15:35  
So consumers or renters who used to get apartments but no longer can because there's not enough apartments available.

15:49  
They've been pulled off the rental market.

15:51  
Those people lose, right?

15:54  
Other people who lose, our landlords, right?

15:58  
Maybe we don't care about them, but they do lose.

16:00  
And we're measuring surplus.

16:01  
We need to measure that.

16:02  
And they lose for two reasons.

16:03  
One is fewer units are rented, so they're losing surplus on those units that were rented.

16:11  
But we're also losing surplus because they're getting a lower price for the units that are being rented.

16:22  
So when governments introduce an intervention like that, there's gonna be some people who are happy about it, who are gonna be pushing for it.

16:28  
There are some people who are gonna be unhappy about it, cuz they lose surplus.

16:32  
And then a government has to kind of take a stand and decide what they really want to do.

16:37  
OK.

16:38  
So to summarize a price ceiling, you always want to make sure whether it's binding because only if it is binding will we have a quantity that's less than efficient.

16:47  
And now it's going to be a problem for us.

16:49  
We are going to reduce total surplus because we're not reaching the efficient quantity.

16:55  
We also have the potential for misallocation in that some people among the buyer side get apartments at the expense of someone with a higher marginal willingness to pay.

17:05  
And if you think about it, when there's not too many apartments available for rent, you're going to spend a lot of time searching for apartments, right?

17:11  
So those are additional resources that are being expended.

17:14  
If you're looking at landlords, they're getting a really low price for their apartments.

17:18  
Are they going to invest in the upkeep of their apartments?

17:21  
Probably not.

17:22  
Right.

17:22  
So you're probably going to get a lot of really bad quality apartments that are not maintained, and that is a loss in itself, right?

17:29  
And then we're also going to have potential illegal activity, right?

17:34  
There are some units that are not being traded because the price is too low.

17:38  
And then you can have kind of individual, I won't sign a lease, but we agree that I'll pay you a higher price and then you rent me your apartment illegal.

17:47  
And who's protecting renters in that case, right?

17:50  
So there's a lot of additional costs for price ceilings and price controls that we don't always necessarily see on a diagram.

17:57  
And we want to be aware of that when we're doing this analysis.

18:01  
OK, Now let's think about the other form of price control, which is a price floor We're going to work with.

18:08  
The example of minimum wages.

18:10  
First thing you always want to check again if it is binding.

18:15  
So here's the word we're looking at.

18:17  
We're looking at a labor market, right?

18:18  
So I've got the quantity of Labor demanded, price for labor is the wage.

18:22  
So that's the price that's going to be up here.

18:25  
I've got labor supply and I've got labor demand.

18:27  
So labor supply is coming from workers who are responding to the wage and deciding whether they want to provide labour or not.

18:35  
And labour demand is coming from firms, right?

18:37  
They're hiring workers and so they're they're demanding workers.

18:40  
And then the wage is kind of the price at which labour flows from the worker side to the firm side.

18:46  
OK, good.

18:47  
So a price floor or a minimum wage has to be binding, which means that the minimum wage here is going to be higher than what the market wage would be without it, which would be down here.

19:00  
What happens when we have a binding minimum wage?

19:03  
We've got the wage is really high.

19:05  
So lots of people want jobs, Very few firms want to hire people because they're like, now you're expensive, I don't want to hire you because your marginal product, your marginal benefit of the worker, not enough workers cross the threshold with the higher price.

19:20  
So what we have here is a situation of excess supply, more workers wanting to work, then there are jobs.

19:29  
So when you have lots of workers, very few people hiring, what's the market quantity?

19:33  
It's going to be determined by the minimum of that because I need both sides to engage in a trade.

19:37  
So the market quantity here is going to be determined by demand, which is coming from the firm side and that's going to be based on the minimum wage of the price floor, OK.

19:50  
And that on this diagram is going to be L1.

19:55  
OK.

19:56  
So that's the trade that's happening with all of this excess supply.

19:59  
Let's talk about surpluses.

20:01  
Now I've purposely chosen this because sometimes students just get so used to consumer surplus, producer surplus and the drawing the triangles, they're not thinking very carefully.

20:11  
So here there's no consumers and producers as firms and workers.

20:15  
So you really have to think about the two when you're finding the surpluses, OK.

20:20  
So firms, Firms are demanding workers.

20:24  
OK, this is their labour demand curve.

20:26  
This is what they're willing to pay for a worker.

20:30  
This is what they have to pay for a worker.

20:33  
That gap here is going to be the surplus that the firms get up to every worker that they hire, which in this case will be L1.

20:43  
So firm surplus here will be a notice.

20:47  
It's lower with the minimum wage for two reasons.

20:49  
One, for those workers that they continue to hire, they're losing this surplus that they got from being able to pay these workers a lower wage before.

21:01  
But we have an additional loss in that there are some workers that were being hired before and I was getting some benefit as a firm from them, but I'm not anymore because I don't hire those workers.

21:11  
OK, so we've got firm surplus now.

21:14  
What about worker surplus workers?

21:16  
Some workers very happy they were getting this low wage, but now they're getting this high wage and their surplus will be the difference between the wage that they're getting and the minimum that they were willing to work for, right?

21:30  
Labour supply here is the minimum price you need to pay this worker to get them to work for you pay them anything higher, they're very happy they get surplus.

21:38  
So worker surplus will be that gap all the way up to through a number of workers who actually get jobs, right?

21:47  
So these workers here will get surplus of B + C + D notice again, right?

21:54  
Some workers benefit because they're getting a higher wage.

21:58  
This is how much they benefit.

22:00  
But there are some workers who lose their job, right, who are getting jobs before at a lower wage too, but they had a job and now they're not getting a job.

22:08  
So there's kind of winners and losers to each one of these deadweight loss.

22:12  
Follow the same thinking as before.

22:14  
What are trades that should be happening that are not happening?

22:18  
Deadweight loss.

22:19  
These are workers that should be hired because there's surplus available.

22:23  
We don't care how it's distributed, but it's surplus should be happening.

22:26  
That's not happening.

22:27  
That is deadweight loss.

22:30  
Again, I don't care.

22:32  
Absolute value is what I want you to focus on, because loss to society you could also calculate and you should also calculate that weight loss in another way to verify your calculations.

22:43  
And the way to do that would be to take total surplus, which in this case is market surplus, which will be consumers plus producers, which is firms plus workers.

22:55  
Because we have firms and workers, and because we have a competitive market without externalities, I can just use these curves to calculate total surplus and relative to efficient surplus, that's the difference.

23:09  
Market surplus is getting me A + B + C + D, but I'm not getting E plus F Why?

23:15  
Because those are trades that should be happening that are not happening any longer in the same way that we talked about with price ceilings.

23:23  
We also have a potential for misallocation.

23:27  
So let's check the misallocation at this minimum wage.

23:31  
Who wants to work?

23:34  
All of these workers want to work.

23:36  
How many jobs are available?

23:38  
Only these two jobs on the diagram.

23:41  
When I was calculating surpluses, I assumed those first few low cost workers got the job.

23:47  
It may not be the case.

23:48  
It can be those few scarce jobs because workers are identical.

23:52  
Somebody here gets the job at the expense of somebody in here with a lower willingness to work.

23:58  
Moving this job from here to here will increase surplus, right?

24:04  
So yes, we have the potential for misallocation may not happen, but there's a potential for misallocation right from the worker side or the producer side.

24:16  
If we're thinking about a more general model, OK, what about from the consumer side or the firm side?

24:20  
In here at this wage, only these firms want to hire and these are the highest willingness to pay firms.

24:26  
The ones other ones don't want to hire because the wage is too high for them.

24:30  
So there's no misallocation on the firm side or on the demand side in this case.

24:35  
So this deadweight loss that we found in the same way as before is also the minimum deadweight loss because it could be higher when we have misallocation.

24:46  
So just to summarize, a price flow only is a problem if it is binding.

24:51  
Then we have a lower quantity than efficient traded and that's what reduces surplus.

24:55  
We also have the potential of misallocation among these sellers, which in here would be the workers, right?

25:02  
We have a waste of resources.

25:03  
Think about all of these people searching for jobs, huge amount of time and effort, not enough jobs available.

25:08  
That is a waste of resources, right?

25:11  
You've got to compete for those jobs, which means you've got to work really hard, higher than harder than you work with otherwise.

25:17  
And that could be inefficient, right.

25:19  
Illegal activities, think about those few jobs and then people getting saying, fine, you don't need to pay me minimum wage, I'll work under the table.

25:25  
And what happens when you lose the job protection with that?

25:28  
Right.

25:28  
That's not a good outcome.

25:30  
So we want to think about all of those things.

25:33  
So, so far this is where we leave you at Eco 101 kind of with the impression that don't think about a minimum wage because it's a really bad idea because all of these reasons, but people want a minimum wage.

25:46  
There's a huge kind of thing coming up from that.

25:49  
So what does the data say when in doubt?

25:52  
And every economist, anytime we make a model or we should go over the data and as we've had more minimum wage laws come in, there's a lot of data being coming, coming in to kind of see what that is.

26:02  
So let's think about that a little bit, OK?

26:06  
When we have a price floor, we have people who benefit.

26:11  
And those would be people who keep their jobs, right, And get a higher wage.

26:21  
Those people are clearly better off.

26:23  
Think now if we want to say, oh, minimum wage, watch out for it, because there's people who are going to be losing.

26:27  
But who's losing?

26:29  
One set of people who are losing it will be firms who have to pay higher wages.

26:36  
And then there's also the firms that now don't hire any workers anymore, right?

26:40  
So there's job loss in there.

26:43  
And so that's where they reduce their surplus.

26:46  
So we'll say, fine, we don't care about firms.

26:48  
We really do introducing minimum wage because we want to protect the workers.

26:51  
Are there any workers that lose?

26:52  
Yes.

26:52  
These workers who lose will be the workers who lose their job, right.

26:56  
Who can't find jobs specifically, who lose their jobs.

27:03  
OK.

27:03  
So those are the ones we really want to worry about.

27:04  
So when we're looking at the data, these is what we're looking for.

27:07  
How many people lose their jobs when you have a minimum wage introduced?

27:12  
So what does the data say?

27:13  
OK.

27:15  
We need to find a market where the minimum wage is, we're covering most of the workers, OK.

27:19  
So these would typically be markets or jobs that have lower semi skilled workers that are affected by this.

27:25  
If you're in a bank or investment job banking job, you're not going to be affected by minimum wage, OK.

27:31  
So we're looking for industries where we've got lower and semi skilled workers and that typically the most common example here where we can think about fast food and restaurant workers, OK.

27:41  
So if we're saying job loss, well, what causes job loss?

27:46  
So I'm going to show you that what causes or what's related to the number of jobs lost is the elasticity of demand for labour.

27:53  
OK.

27:54  
So that's what we're going to talk about in the next slide.

27:56  
And here I want you to think about a minimum wage industry.

27:58  
And the example I have in my head, a restaurant food service workers.

28:03  
OK, so here are two identical starting points, right?

28:09  
Same minimum wage, same starting wage without any intervention.

28:12  
What is different across these two is the elasticity of labour demand from the firm side.

28:18  
Here I've got inelastic demand.

28:21  
So up here and here I've got elastic demand.

28:24  
We've talked about this in the elasticity module.

28:27  
OK.

28:29  
Why am I focusing on demand?

28:30  
Because when I have a price floor, it's the minimum that determines the quantity traded and the minimum here is the quantity demanded.

28:39  
OK.

28:40  
So if demand relative to the at the starting point is relatively inelastic, the job loss is not going to be that big.

28:49  
If it is really elastic, then it's going to be pretty high, right.

28:55  
So we should really be worried about industries where we have minimum wage workers, a large fraction of the workers and minimum wage workers and the elasticity of demand for workers is really high.

29:09  
So given that I'm thinking about, you know, the example of fast food and restaurant workers, what would you predict about the elasticity of demand?

29:17  
Typically our priors are like, look, these are workers, they work in the restaurant industry.

29:22  
Wages go up.

29:23  
I'll just replace them with computers, right.

29:24  
I have a checkout counter, let people serve themselves, people order the counter, they're expendable.

29:31  
So I would expect going in that the elasticity of demand is pretty high, which means that I should be really worried about job losses in minimum wage industries.

29:42  
OK.

29:42  
So that's one of the reasons why before we had a lot of data coming in, people were really worried about in minimum wages and they were saying don't do that because a lot of people will lose their jobs, OK.

29:51  
But now we have data.

29:52  
So what does the data tell us?

29:54  
So here's the slide that I've pulled from the study on on the right.

29:59  
And the reason for pulling this slide and showing you kind of this is to show you how many studies we have, right?

30:04  
There's a lot of data coming in.

30:06  
So this is not based on one study.

30:07  
There's a lot of data coming in and specifically what they're doing.

30:11  
And I'm just going to pull the punchline from the top of the study is looking at the job loss in response to an imposition of a minimum wage.

30:20  
OK.

30:21  
That's again another way you can kind of see an interesting use of elasticity, right?

30:24  
How elastic is the job loss in response to a change in the wage?

30:30  
Turns out very small, which is really surprising, right, given what we've just talked about, how we expect elasticity of demand to be really high.

30:39  
It is very minimal now.

30:42  
Why, right.

30:43  
How do we reconcile our traditional model with this data coming in?

30:48  
And this is an exercise that shows you how important it is to have assumptions, predictions, but then go back to the data, because our job is not, we're not doing physics.

30:56  
We're trying to understand what's in the real world.

30:59  
And so if there's something that we can't match, we've got to go back and fix it, right?

31:03  
So where do we fix it?

31:04  
First is maybe it's not a perfectly competitive labor market, which makes sense if you've ever tried to find a job, right?

31:11  
Perfect competition assumes workers and and firms are price takers.

31:16  
If you try to get a job, you know that that's not always the case, right?

31:19  
Wages are a result of negotiation and if you know sometimes workers are not all paid the same price sometimes, and this is something people are more and more worried as we go on.

31:30  
We have this idea where we have one firm that's buying a lot of labour and they have the ability to set wages really low.

31:37  
So that's one stream that people are kind of exploring a lot more about this, and we'll revisit this slightly when we talk about monopoly later on.

31:45  
Here's another thing, right, Maybe labor demand comes from worker productivity, right?

31:51  
So maybe what happens when you impose a minimum wage is people just feel happier and they work harder, right?

31:58  
So forms are not going to let go of them.

32:00  
If you're going to pay me to stand there and do customer service and I'm going to deal with customers and you're paying me a really low wage, I don't want to work very much right?

32:11  
But if you pay me a really high wage, I'm incentivized to work, I will be more productive and it makes it worth it for the consumer, for the firms.

32:19  
We could also have what we call efficiency wages.

32:22  
I don't want to lose a job that's going to pay me $50.00 an hour.

32:25  
I will work really hard.

32:27  
So we respond to incentives, right.

32:30  
And my productivity is not some fixed dimension.

32:32  
It's something that I can change and I have an incentive to do that.

32:35  
So when we have data coming in, we need to go back to the drawing board and also revise our expectations so that all thing that oh, you know what economists believe that minimum wages are bad used to be true when we didn't have the data.

32:54  
So here's study the kind of surveys economists and ask what do you think?

32:59  
Way back when, before we had any data, 90% agreed with the fact that I would expect lots of people to lose their jobs.

33:09  
But then as the data comes in, you can kind of see opinions shifting, right?

33:14  
And now, kind of in the last survey, very few economists believe the minimum wage will lead to substantial job loss.

33:21  
So things change.

33:22  
People's opinions change, Economics changes as more data comes in.

33:26  
So we really need you to be part of this process.

33:29  
There's nothing that I'm telling you here that's stuck in stone.

33:31  
It's for you to argue.

33:32  
It's for you to examine, and it's for us to take to the data and adjust our models when the data comes in.

33:39  
OK.

33:40  
So when we impose a price ceiling, there's always a reason for why we do that.

33:45  
So that should be the first thing you think about.

33:47  
Second thing you think about is, is this binding, Because if it is binding, then we can start thinking about sources of deadweight loss, OK?

33:54  
And in this case, it's typically because the quantity is lower.

33:58  
Sometimes we can also have the potential for misallocation.

34:01  
So that's not observable on the diagram.

34:04  
You want to pay attention to that.

34:06  
And sometimes more than misallocation, we can also have other sources of inefficiency, and I'd like you to keep that in mind.

34:12  
And just remember, data eventually is our disciplining device.