**W7 V4 SR and LR Costs**

0:09  
In this video we're going to talk about the difference between short run and long run in terms of the cost curves and firms decisions because of the costs.

0:18  
Thanks.

0:19  
So let's start off with first what we mean by long run and short run.

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Long run does not mean a period of a year or two years or anything.

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It just means that we are in the long run.

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If I'm fully flexible, I can change anything and everything that I want.

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Since now we're focusing on costs, I'm just going to focus on the definition of the long run as my ability to change my inputs.

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OK, there's one more thing in here that we will examine more, so next module.

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But for now, full flexibility means that I can change whatever inputs I want in the short run.

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What makes the short run the short run is that at least one input is fixed.

1:00  
I cannot change it, right?

1:01  
So for example, if I have signed a lease on a store for a year and I cannot do anything to get out of the lease, then that short run.

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Is one year.

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If on the other hand, I find a sub letter on Kijiji and I can get out of that lease in a week, then the short run is that one week right?

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Second, I'm not flexible.

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The time period for which I'm not flexible and I cannot change at least to one input, be more than one input, but at least one input.

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That is how we know where in the short run.

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That's pretty much it for now.

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There's one more that we'll introduce in the next module.

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So what are the implications of this for costs?

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The first one is, if you're not very flexible, then you're kind of constrained with what you can do in terms of reducing your costs, right, or producing stuff with the cheapest thing.

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So if we flip that around in the long run, because you're as flexible as you can be, you can hire workers, fire workers, change the size of your store, do whatever you want, find new suppliers.

2:03  
Your costs of input in the long run are going to be lower, or at least not AS highs in the short run, because you're more flexible.

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That's the intuition, right?

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You don't need to kind of get anything more than that.

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That's pretty intuitive.

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Also, we can tie that to the shape of the marginal cost curve, right?

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Marginal cost is a cost of producing the extra input.

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If the only way I can produce extra input is by hiring workers, then the work of productivity is going to determine the shape of my marginal cost curve.

2:39  
Pretty straightforward, right?

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I'm fixed in the short run with some inputs.

2:43  
I can't change that.

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So the only way to get more output is this one thing.

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If I change that, that productivity is going to determine my marginal cost.

2:52  
In the long run I'm more flexible.

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So now I can change labor, I can change capital, I can change everything in there.

2:58  
Costs are going to be lower, but also the cost of the extra input will be determined by something else other than marginal product of Labor.

3:08  
OK, I'm just going to say this, but we don't have the math to really talk about this concept.

3:14  
So I'm just going to say it in here and tell you we're going to explore this much, much more in the second year and beyond.

3:20  
OK.

3:20  
But in the long run, if I can change every single input, it's not marginal product of Labor because marginal product of Labor says you're just changing that one input.

3:28  
You can't do anything else.

3:30  
When I can change all my inputs at the same time, the concept I'm going to use is returns to scale.

3:36  
That is what's going to determine the shape of my marginal cost curve.

3:39  
OK, work of productivity, what inputs and marginal cost curves.

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The other thing is, look, we've got those fixed costs, which is all the time talking about marginal cost, but those fixed costs matter for my producer, not decision.

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So let's talk about fixed cost differences in the long run and the short run.

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The definition of the short run is that there's one input you cannot change.

4:03  
If there's one input you cannot change, you have to pay a fixed amount in the short run.

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And paying a fixed amount regardless of how much you produce is what we call a fixed cost, right?

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And so in that sense the fixed cost is going to happen in the short run.

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The question that you have to answer, the question is going to be important for determining firms, produce or not decisions is whether this fixed cost is sunk in the short run or not.

4:32  
OK, now a lot of students memorize at this point saying there are no fixed costs in the long run or they'll say in the short run I can ignore fixed costs.

4:42  
Please don't memorize that.

4:43  
Just think about it.

4:44  
I've got to pay for this no matter what.

4:46  
Can I do anything to get out of it?

4:48  
If I can get out of it, it's irrelevant cost because it is not sunk.

4:52  
There's nothing I can do to get out of it.

4:55  
It is sunk in the short run, and that is going to matter for my decision because way back in module 1, economists say sunk costs just ignore them.

5:05  
OK, Focus on the sunk and don't focus on the fixed or not aspect.

5:09  
OK if in the short run, even if I produce nothing and I have to pay for the fixed inputs.

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If that's true, then in the short run those costs are sunk, and in the next module we'll talk about why and how we can ignore them when making a decision.

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That's the important distinction between the short run and the long run.

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In the long run, I can change everything, which means in the long run I don't have to pay any costs.

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Theoretically, I can avoid all the costs.

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So there's nothing that's sunk, there's nothing that I'm tied to.

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And no matter what, I have to do, because it's a long run.

5:43  
Everything is flexible.

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I can get out of everything in the long run.

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This is something we're going to be invaluable for us next module.

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So please make sure you're understanding this because this is going to come back to the produce or not, decision differences in the long run and short run for the firms.

6:00  
OK, so this is what we've done.

6:02  
The fundamental difference for you in the cost side for understanding the difference between long run and short run is what can I vary and when.

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If I can vary everything, I'm in the long run.

6:14  
If I'm stuck with one input and there's at least one I cannot change, I'm in the short run.

6:19  
By definition, that's it.

6:21  
If in the short run there are some costs I have to pay no matter what, I cannot avoid them.

6:27  
I've done my best.

6:28  
You guys know when you have to pay bills, you're doing everything you can to get out of it.

6:32  
But if there's nothing you can do to avoid it, those costs are sunk, and in the next module they're going to be very important in determining whether a firm should produce or not.