

# ECO101- Introduction To Microeconomics

Lecture-12

# Time Frame for Decisions

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- ❖ A firm/business always looks to Maximise Profit
- ❖ It takes decisions about what:
  - Quantity to Produce
  - How to Produce
  - Price to Charge
- ❖ And these decisions influence the relationship between output and costs AND we can distinguish these decisions in two time frames:
  1. Short-run (S-r)
  2. Long-run (L-r)





# Short-run (S-r) decisions

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- ❖ In the Short-run, for a business most of the Factors of Production are FIXED- Land, Capital & Entrepreneurship & Labour is only variable



- ❖ Therefore, to increase OUTPUT in the S-r business must increase Labour
- ❖ Decisions of the S-r are easily changed / reversed



# Long-run (L-r) decisions

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- ❖ In the Long-run, all Factors of Production can be altered.
- ❖ Therefore to increase production, a firm can install additional machinery or buy more land or hire more labours
- ❖ However, decisions in the L-r cannot be easily changed and has **SUNK COST**.





# Short-Run Technology Constraint

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- ❖ To increase **output** in the S-r, a firm must increase **Labour**
- ❖ And the relationship between Labour and Output can be described by using three concepts:
  1. Total Product
  2. Marginal Product
  3. Average Product
- ❖ And we can explain these concepts either by *Product Schedules* OR by *Product Curves* they show how the above concepts change as employment changes



# Product Schedules

- ❖ Total Product- Maximum output all the labours can produce
- ❖ Marginal Product- Increase in output from an extra labour
- ❖ Average Product- Tells us how productive workers are on average

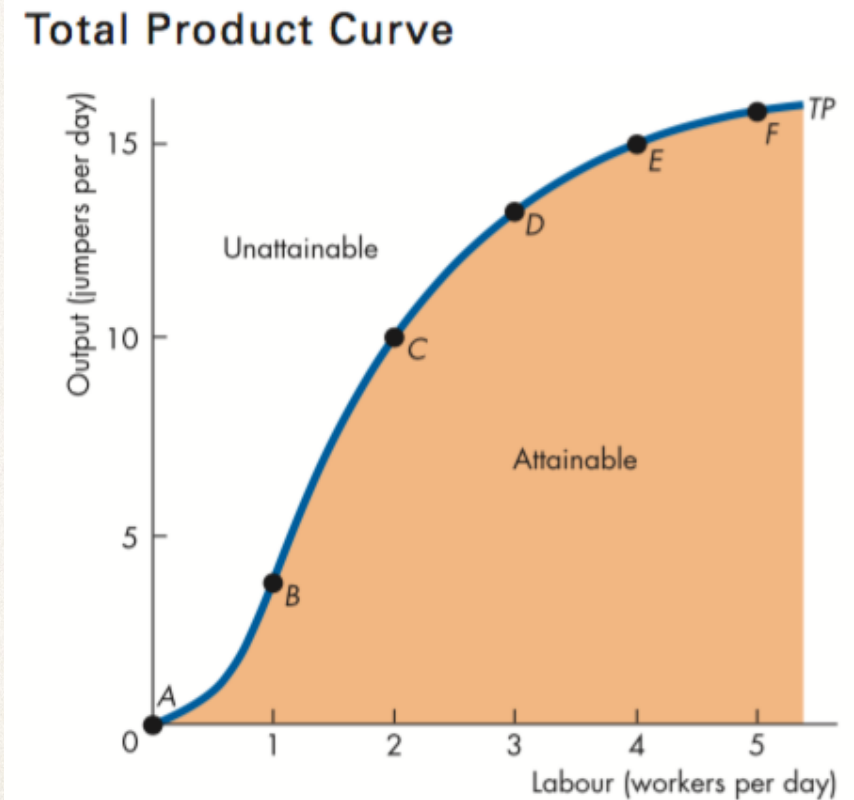
Total Product, Marginal Product and Average Product

	Labour (workers per day)	Total product (jumpers per day)	Marginal product (jumpers per worker)	Average product (jumpers per worker)
A	0	0		
		..... 4		
B	1	4		4.00
		..... 6		
<b>C</b>	<b>2</b>	<b>10</b>		5.00
		..... <b>3</b>		
<b>D</b>	<b>3</b>	<b>13</b>		<b>4.33</b>
		..... 2		
E	4	15		3.75
		..... 1		
F	5	16		3.20



# Product Curves- Total Product Curve (TP)

- ❖ Total Product Curve: As employment increases from 0 to 1 labour a day, curve becomes steeper & As employment increases 3 to 4 to 5 labours then curve becomes less steep
- ❖ *Note: Points inside the curve are technologically inefficient- similar to PPF*





# Product Curves- Marginal Product Curve (MP)

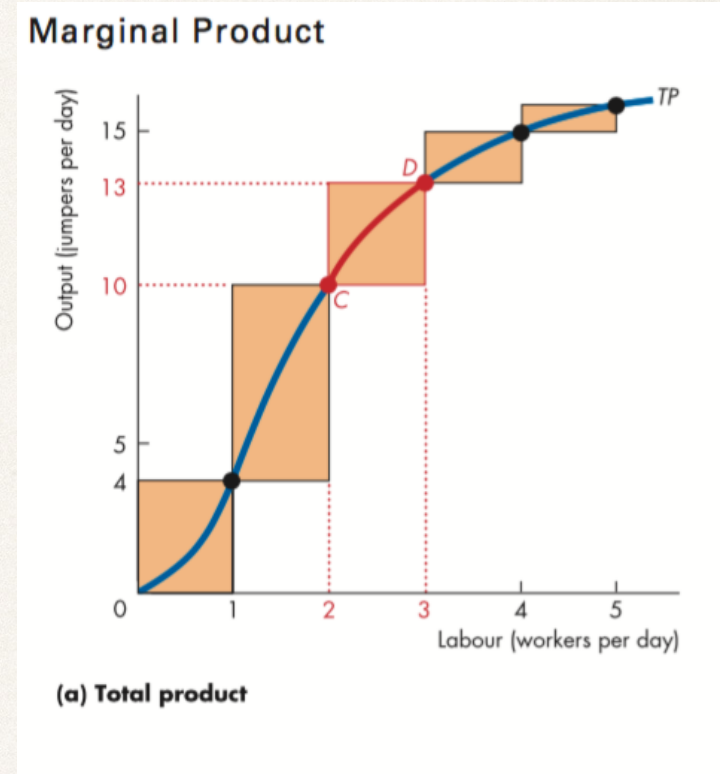
- ❖ Marginal Product (MP) can be measured by the slope of the Total Product Curve (TP) and it shows the output from an additional labour

- ❖ The shapes of the TP and AP represents:

*Increasing Marginal Returns initially  
&*

*Diminishing Marginal Returns later*

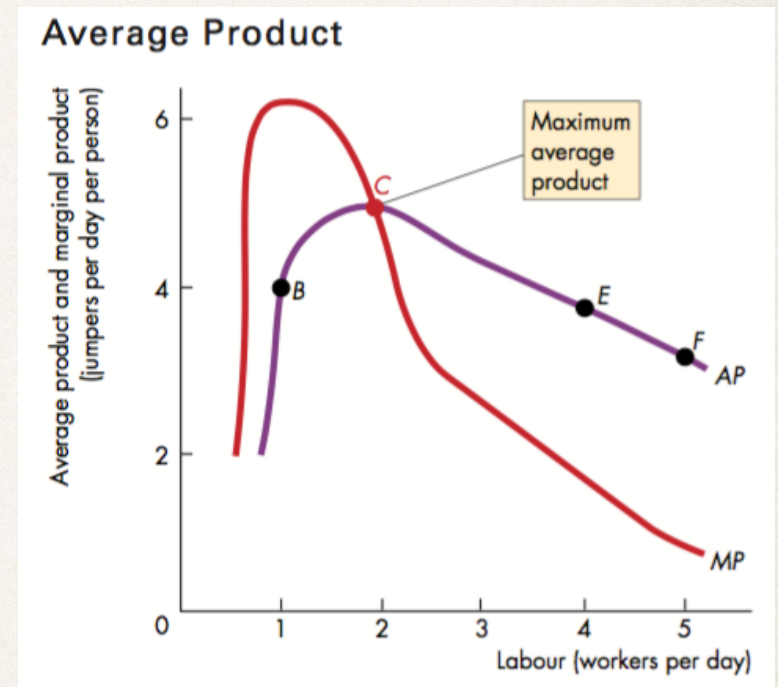
Law of diminishing returns- So this proves, as firm uses more of a variable factor of production, with a given quantity of fixed factor of production, the marginal product of the variable factor eventually diminishes





# Product Curves- Average Product Curve (AP)

- ❖ Average Product (AP) hits its maximum when it cuts the Marginal Product (MP) curve
- ❖ AP is increasing when for the number of workers MP curve exceeds the AP curve
- ❖ AP is decreasing when for the number of workers MP curve falls below AP curve





# Essential Readings for today!

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*Economics. Parkin, Powell, Matthews. 8th Edition*

*Chapter-10. pages- 222 to 226*