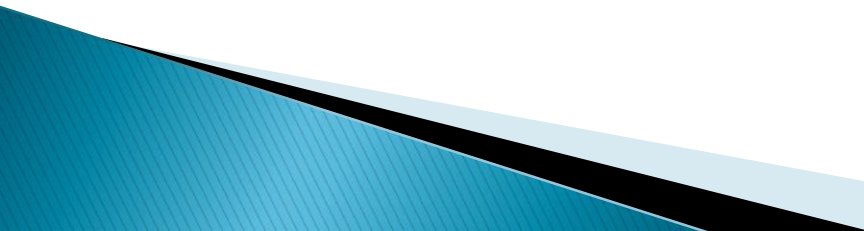


Law of Variable Proportions

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Law of Variable Proportion

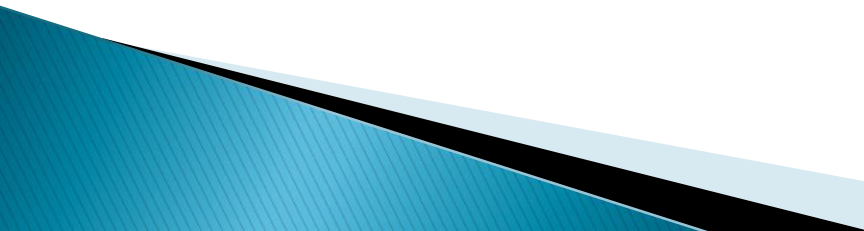
- ▶ The law of variable proportion analyses the input output relationship in the short run through the marginal implication. It studies the production function with one variable input and other inputs remains constant.
 - ▶ As more and more units of a factor of production are added to fixed factor, the total product rises, at first more in proportion to increase in variable factor, then less in proportion and finally decreases.
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Definition of Law of Variable Proportion

"As equal increments of one input are added, the inputs of other productive services being held constant, beyond a certain point, the resulting increments of produce will decrease i.e., the marginal product will diminish".

By: *Stigler*

Assumptions of Law of variable Proportions

- ▶ Short run situation.
 - ▶ All the, resources apart from one variable, are held unchanged in quantity and quality.
 - ▶ The technique of production remains unchanged during production.
 - ▶ Each variable factor unit is identical in amount and quality.
 - ▶ Factors of Production can be used in different proportions.
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The Stages of Law of variable Proportions



Increasing Returns



Diminishing Returns

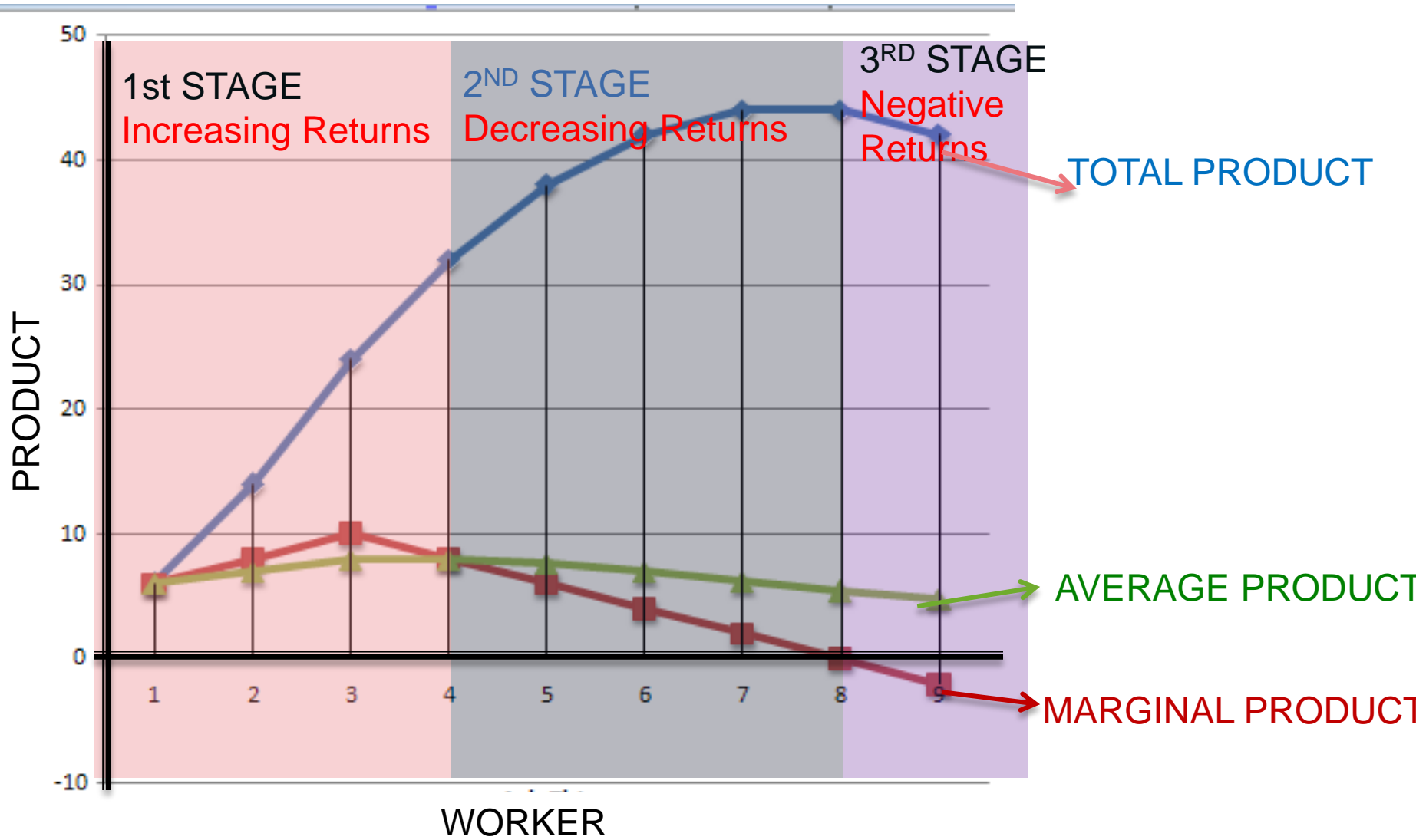


Negative Returns

Table 1

Land and Capital (Units of fixed factor)	Workers (Units of variable factor)	Total Product (TP)	Marginal Product (MP)	Average Product (AP)	Stages of Variable Proportions
10	0	0	-	-	
10	1	6	6	6	Increasing returns
10	2	14	8	7	
10	3	24	10	8	
10	4	32	8	8	
10	5	38	6	7.6	Decreasing returns
10	6	42	4	7	
10	7	44	2	6.2	
10	8	44	0	5.5	
10	9	42	-2	4.8	(negative returns)

Graphical Representation of Three Stages of Law of Variable Proportions



Importance of Law of variable proportions



Explains the input output relations in short period

The tendency of diminishing returns is found in all sectors of the economy

The elasticity of the substitution of the variable factor for the fixed factor is not infinite.

Conclusions

- ▶ From the law of variable proportions, it is concluded that we can suspend the operation of diminishing returns by continually improving the technique of production through the progress in science and technology.

Thank you

