

Nalanda Open University

Department of Economics

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- Course – BA Economics (Part – I)
- Paper – I (Micro Economics)
- Topic – Law of Variable Proportion

Origination of Law of Variable Proportion out of Law of Diminishing Return

- Economists put different views regarding Law of Diminishing Returns. Marshall mentioned 'While the part of which nature plays in production shows a tendency to diminishing returns, the part which man plays shows to increasing return'. Thus nature's role is more dominating in agriculture rather than in industry.
- Further, when the number of one factor is increasing while other factors remains constant, proportion between the factors is altered. Here, on account of change in proportion of factors there will be a change in the total output at different rates. This originates Law of Variable Proportion.

Introduction of Law of Variable Proportion

- 'The Law of Variable Proportion states that if the input of one resource is increased by equal increments per unit of time while the inputs of other resources are held constant, total output will increase, but beyond some point the resulting output increase will become smaller and smaller' by Leftwich
- Thus, Law of Variable proportion states that, as the proportion of factors is changed, the total production at first increases more than proportionately, then proportionately and finally less than proportionately.

Assumptions of Law of Variable Proportion

- Production is not Fixed Proportion type.
- Units of variable factors are homogenous and equally efficient
- Some of the factors are fixed, so that output may increase differently at different level
- Level of technology does not change

Stages of Production

- STAGE – I Marginal product is increasing in nature with increase in Average Product (i.e. average product is below marginal product). Here Production is increasing at increasing rate. Marginal product attains maximum and also total product attains Saddle point (Point of Inflexion).
- STAGE – II Marginal product is decreasing and below Average product (i.e. average product is higher to marginal product). Total Production is increasing at decreasing rate.
- STAGE – III Marginal product is negative, Average product is decreasing and total product is decreasing.