UNIT – II

Location of industry: Factors determining Industrial Location – Theories of industrial Location: Weber's theory – Sargeant Florence Theory.

INTRODUCTION

- The term Industry does not only refer to manufacture but all forms goods and service produced.
- There are in fact types of industry, namely;
  - Primary- extractive activities
  - Secondary- manufacture
  - Tertiary-retailing and transport
  - Quaternary -knowledge economy
- The placement and expansion of industry are the primary concerns of all governments.
- Whether used internally or exported produce from Industrial activities provides revenue Source: Waugh,D 2002 .

DEFINITION

- Industry -economic activity concerned with the processing of raw materials, manufacture of goods in factories and the services which surround the use of these goods.
- Location -a particular place or position.
- Industrial location is therefore the strategic placement various economic activities in relation to some specific factors.

Source ;(www.freedictionary.com).

FACTORS WHICH INFLUENCE INDUSTRIAL LOCATION

- **Raw material availability-** material index = total weight or raw material/total weight of finished product
- **Supply of energy-** inefficient, unreliable or costly supplies of energy.
- **Transport**- terminal cost and long haul cost
- **Markets-** bulkiness, perishability, size and prestige
- **Capital** - working, physical or fixed and social capital.
- **Land and environment** - terrain and climate
- **Government policies-** taxes and laws
- **Labor cost** - cost,quality and quantity

Source-Bilj.H 2001

LOCATION THEORY

- When attempting to predict where business will or should be located we should consider 3 basic assumptions:
- That business owners want to maximize their advantages over competitors;
- That they also want to maximize their profits; and
- That they will take into account variable costs such as energy supply, transport costs, labour costs, etc.

(Source- Getis.J etal, 2001)

Weber's Least Cost Theory of Industrial Location

INTRODUCTION

WHO WAS ALFRED WEBER?

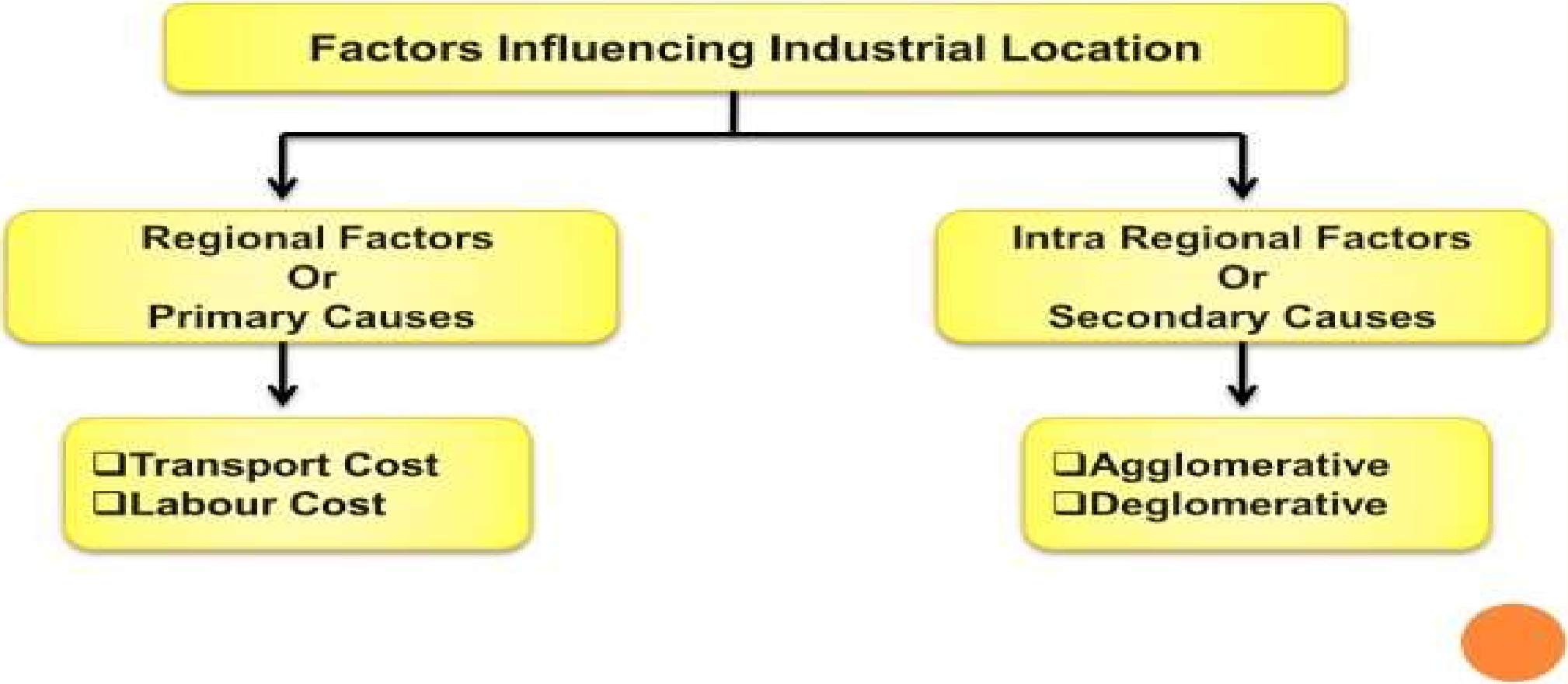
- Alfred Weber was a German economist, geographer, sociologist and theoretician of culture whose work was influential in the development of modern economic geography.
- Published his Theory on Location of Industries in1909.
- Earlier to Weber, another German economist Launhardt has given a simple principle of industrial location based on minimum transport cost.

(30July 1868 – 2 May 1958)

- Weber's basic principle is that a firm would choose location where costs are the least.

- **Assumptions:-**
  - Unit of study is taken as single country with consumption centre.
  - Some natural resources are ubiquitous.
    - E.g.: Water, Sand, Clay etc.
  - Some natural resources are localized in nature.
    - E.g.: Iron ore, Fuel etc.
  - Labour is not ubiquitous but it has fixed location and fixed mobility.
  - Homogeneous climate.

EXPLANATION:



TRANSPORT COST

- Transport cost are influenced by three basic elements.
  - The weight to be transported.
  - The distance to be covered.
  - The nature of commodity.

Classification of Raw Materials

- **Ubiquitous Materials**
- **Localized Materials**

The **ubiquitous raw materials** are found everywhere. This **raw material** is freely bestowed on earth, e.g., water, air, soil etc. The localized **raw materials** are confined only in some selected places on earth, e.g. iron ore, coal, bauxite etc.

Localised material/ resources are **resources** are those which are unevenly distributed among the world and are only concentrated in some areas. gold, diamonds and silver etc.,

Examples of **pure material** include, sulphur, diamond, water, **pure** sugar, salt and baking soda. Crystals, in general, are **pure substances**. Tin, sulphur, and diamond are examples of **pure substances** that are chemical elements.

Pure raw **material** is one which does not lose its weight during production process and the **gross** raw **material** is that which loses considerable weight in the transformation process.

GROSS MATERIALS, SUCH AS IRON ORE, WOOD, ETC. PURE OR NON-WEIGHT LOOSING **MATERIALS** DO NOT LOOSE THEIR WIGHT IN THE PROCESS OF PRODUCTION. SUCH **MATERIALS** DO NOT PULL PLANTS TO THEIR PLACES OF OCCURRENCES. **EXAMPLES**: COTTON TEXTILE, WOOL, ETC.

Agglomerative factors include gas, water etc. and are conducive for concentration of **industry** and **Degglomerative factors** include land values and taxes and lead to decentralisation.

Classification of Raw Materials

- **Ubiquitous Materials**
- **Localized Materials**
  - **Pure materials**
  - **Gross materials Or Weight losing materials**
    - Materials which impart part of their weight to final product.
    - Eg: Gold, Coal, Fuel

E.g. 1000 kg of Gold Ore will give you only10 kg of pure Gold.

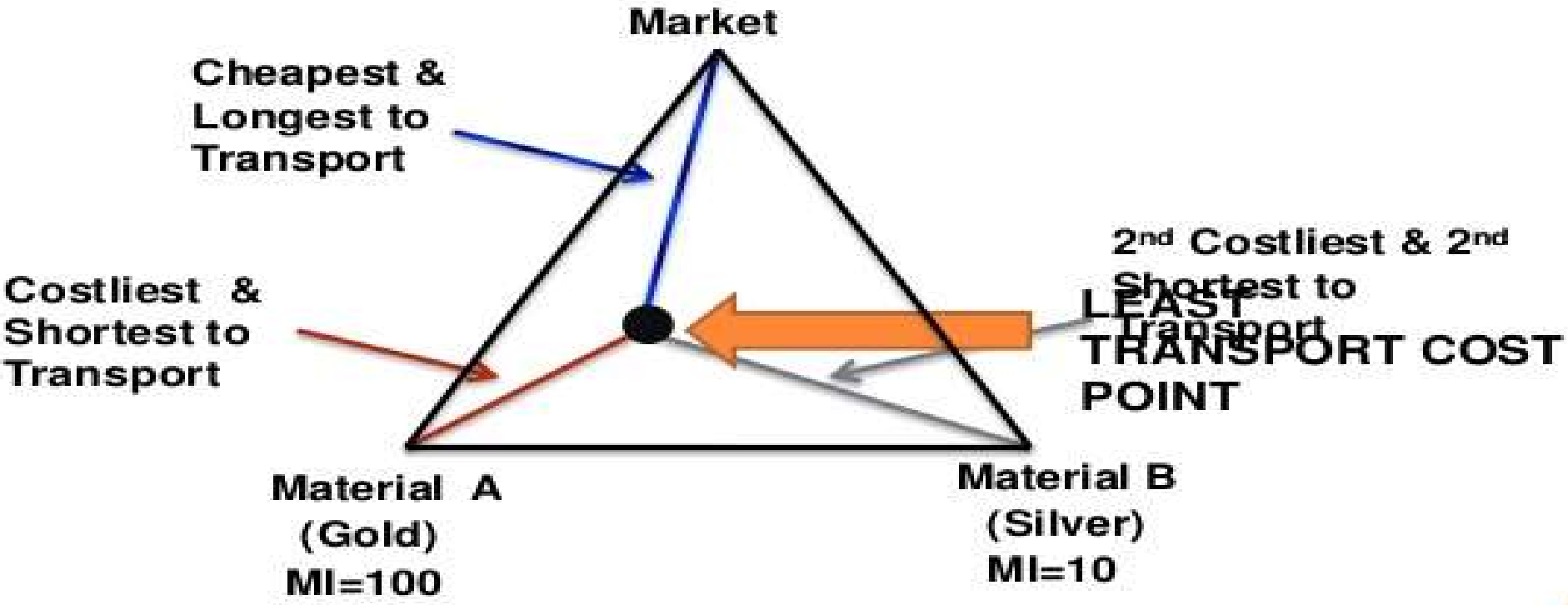
MATERIAL INDEX

$$\text{Material Index} = \frac{\text{Weight of local materials input}}{\text{Weight of final products}}$$

- If MI is greater than one then the firm is material oriented.
- If MI is less than one then the firm is market oriented.
- If MI is equal to one then the firm is material as well as market oriented.

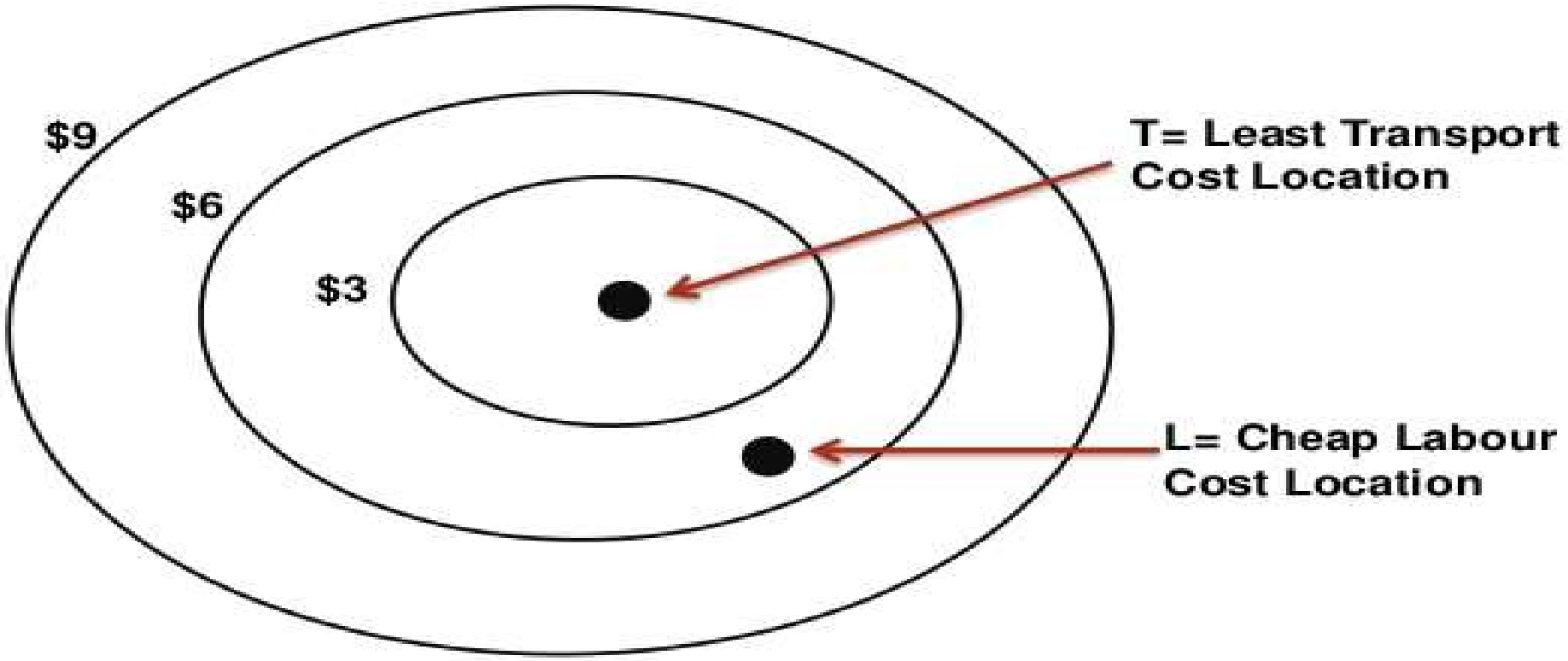
  - MI= Material Index

LOCATIONAL TRIANGLE



LABOUR COST

- According to Weber, another regional factor for deviation of Industry from one place to another is **Labour Cost**. It happens due to *Difference in labour costs*.
- The Labour costs may differs due to two reasons:-
  - Differences in wage rates.
  - Differences in the level of efficiency.
- According to him, If savings in labour cost per unit of output are greater than the extra transport cost per unit then the industry take deviation from **Least Transport Cost Point to Least Labour Cost Point.**



Labour cost per unit at L are less than $6 than at point T, as L is within isodopane $6, the firm would, other things being equal, will divert its location at the point of reduced labour cost i.e. at 'L'.

Effect Of Agglomerative And Degglomerative Factors.

- Agglomerative factors are those which make industry centralize at a particular place.
- Example: banking, insurance facilities
- Degglomerative factors are those which make industry to decentralize.
- Example : rent of land, labour cost, transport cost.

- This can be understood by

$$\textbf{manufacturing index} = \frac{manufacturing\ cost}{total\ production\ cost}$$

- manufacturing index indicates the proportion of manufacturing costs in the total of production cost.
- If this index value is high then industry will have tendency to centralize.
- If it is low then tendency of decentralization may be visible.

According to Sargent Florence, geographical location of an industry is not as important, as the distribution of occupied population. His main consideration is that occupational distribution of population should be the main and primary factor for taking into consideration the location of an industry.

His theory is mainly based on inductive analysis and while explaining location factor of an industry he has taken into consideration location factor and co-efficient of localisation. Now a question arises as to what is location factor. According to him, it is an index of the degree of concentration of an industry in a particular region. Now this raises another problem namely how to arrive at the index, to which Sargent has made a reference.

This index is calculated by taking into consideration two ratios, namely, the percentage of workers of the industry in the region under consideration and the percentage of all industrial workers in the country.

In calculating index to find out the location factor the first one is divided by the second and if the quotient is one, the location factor is said to unity and it can be said that the industry is evenly tribute over the whole country. If quotient is above unity, then the conclusion can be that the region under reference has higher share of industry.

Co-Efficient of Localisation:

By this, he meant prosperity of an industry for concentration. It indicates an industry's tendency for localisation anywhere in the country. It is primarily concerned with a particular industry and not a particular region. It will thus be a single figure for the industry and also for the country as a whole.

Co-efficient of localisation can be found with the help of following formula:

(a) % age of all workers found in each region
(b) % age of the workers of industry in question in each region
(c) Positive deviations of (b) from (a) are to be added
(d) Sum thus derived is to be divided by 100

On the basis of coefficients it becomes possible to divide the industries into three categories namely high, medium and low. Thus coefficient helps in classifying industries according to their dispersion or concentration.

Industries with low- coefficient of localisation can thrive in different regions and are thus dispersed. Industries which show a high coefficient of localisation are centralised in particular regions."