



# UGC-NET

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**GEOGRAPHY**

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UNIT - V

## #Demographic Transition Model

- \* Theory of Demographic Transition is a theory that throws light on changes in birth rate and death rate and consequently on the growth-rate of population. The theory of demographic transition (population stages or population cycle) has many versions. It has been propounded by American demographer W.S. Thomson (1929) and F.W. Notestein (1945). They explain the theory in three stages. Later on C.P. Blacker's Five Stages of Population growth added in this model. The theory of demographic transition explains the effects of changes in birth rate and death rate on the growth rate of population.
- \* According to E.G. Dolan, "Demographic transition refers to a population cycle that begins with a fall in the death rate, continues with a phase of rapid population growth and concludes with a decline in the birth rate."
- \* This theory states that every country passes through different stages of population development.

### According to C.P. Blacker, 5 stages are

- \* The high stationary phase marked by high fertility and mortality rates.
  - \* The early expanding phase marked by high fertility and high but declining mortality.
  - \* The late expanding phase with declining fertility but with mortality declining more rapidly.
  - \* The low stationary phase with low fertility balanced by equally low mortality.
  - \* The declining phase with low mortality, lower fertility and an excess of deaths over births.
1. **First Stage:** In this stage, the country is backward and is characterised by high birth and death rates with the result that the growth rate of population is low. People mostly live in rural areas and their main occupation is agriculture which is in a state of backwardness. There are a few simple, light and small consumer goods industries. The tertiary sector consisting of transport, commerce, banking and insurance is least developed or absent. All these factors are responsible for low incomes and poverty of the masses. Large family is regarded as a necessity to argument the low family income. Children are an asset to the society and parents.
  2. **Second Stage:** In the second stage, the economy enters the phase of economic growth. Agricultural and industrial productivity increases and means of transport develop. There is greater mobility of labour, Education expands, Incomes increase, People get more and better quality food products, medical and health facilities

are expanded. People do not have any inclination to reduce the birth of children because with economic growth, employment opportunities increase and children are able to add more to the family income. With improvements in the standard of living and the dietary habits of the people, the life expectancy also increases. People do not make any effort to control the size of family because of the presence of religious dogmas and social prohibition towards family planning. Of all the factors in economic growth, it is difficult to break with the past social institutions, customs and beliefs.

- \* As a result of these factors, the birth rate remains at the previous high level. With the decline in the death rate and no change in the birth rate, population increases at a rapid rate. This leads to Population Explosion.
- \* According to Blacker, 40% of the world population was in this stage up to 1930. Many countries of Africa are still in this stage.

3. Third Stage: In this stage, birth rate starts declining accompanied by death rates declining rapidly. With better medical facilities, the survival rate of children increases. People are not willing to support large families. The country is burdened with the growing population. People adopt the use of contraceptives so as to small families.

- \* Birth rates decline initially in urban areas, according to Note stein.
- \* With death rates declining rapidly, the population grows at a reducing rate. This is the "Late Expanding" stage.
- \* According to Blacker, 20% of the world population was in this stage in 1930.

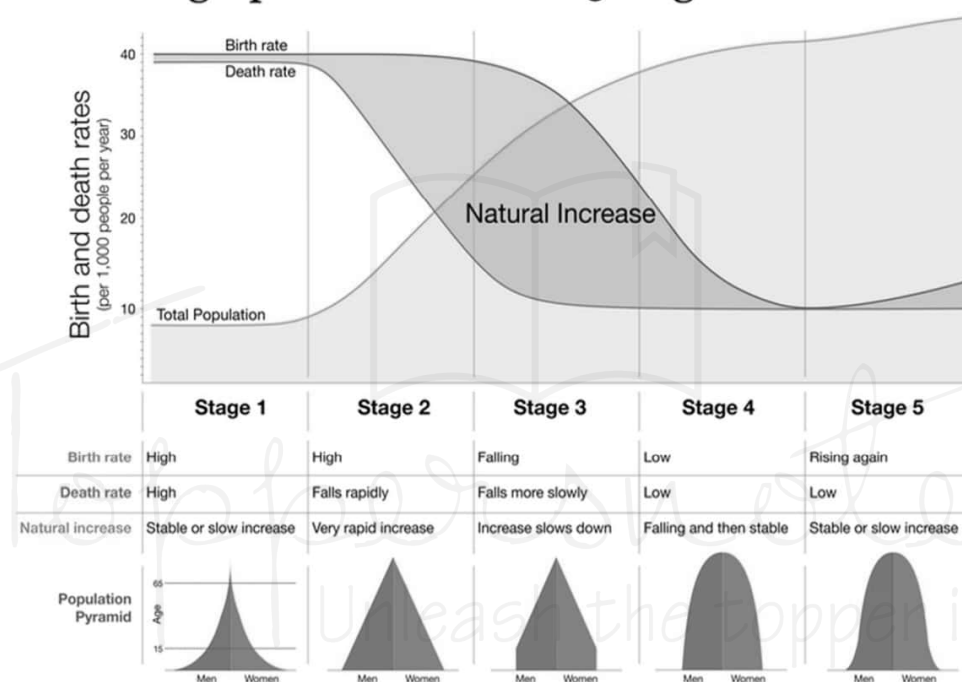
4. Fourth Stage: In this stage, the fertility rate declines and tends to equal the death rate so that the growth rate of population is stationary. As growth gains momentum and people's level of income increases, their standard of living rises. Education expands and permeates the entire society. People discard old customs, laws and beliefs, develop individualistic spirit and break with the joint family. Men and women prefer to marry late. People readily adopt family planning devices.

Germany	+0.20	Low birth rate, population is old, population increased from 2013 to 2016 due to positive net migration rate following civil war in Syria due to refugee flow.
Spain	+0.03	Low birth rate, population is old, economic crisis
Albania	+0.13	Low birth rate, emigration

5. **Fifth Stage:** In this stage, death rates exceed birth rates and population growth declines.

- \* A continuing decline in birth rates when it is not possible to lower death rates further in the advanced countries leads to a 'declining stage' of population. The existence of this stage in any developed country is a matter of speculation, according to Blacker. However, France appears to approach this stage.

## The demographic transition in 5 stages



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## Criticisms of the Theory of Demographic Transition

Despite its usefulness as a theory describing demographic transition in Western Countries, it has been criticised on the following grounds:

1. **Sequences of Stages not Uniform:** Critics point out that the sequences of the demographic stages have not been uniform. For instance, in some East and South European countries, and in Spain in particular, the fertility rates declined even when mortality rates were high. But in America, the growth rate of population was higher than in the second and third stage of demographic transition.
2. **Birth Rate not declined initially in Urban Areas:** Note Stein's assertion that the birth rate declined initially among urban population in Europe has not been supported by empirical evidence. Countries like Sweden and France with predominantly rural populations experienced decline in birth rates to the same extent as countries like Great Britain with predominantly urban populations.



3. Explanations of Birth Rate decline Vary: the theory fails to give the fundamental explanations of decline in birth rates in Western countries. In fact, the causes of decline in birth rate are so diverse that they differ from country to country.

## #The Malthusian theory of population

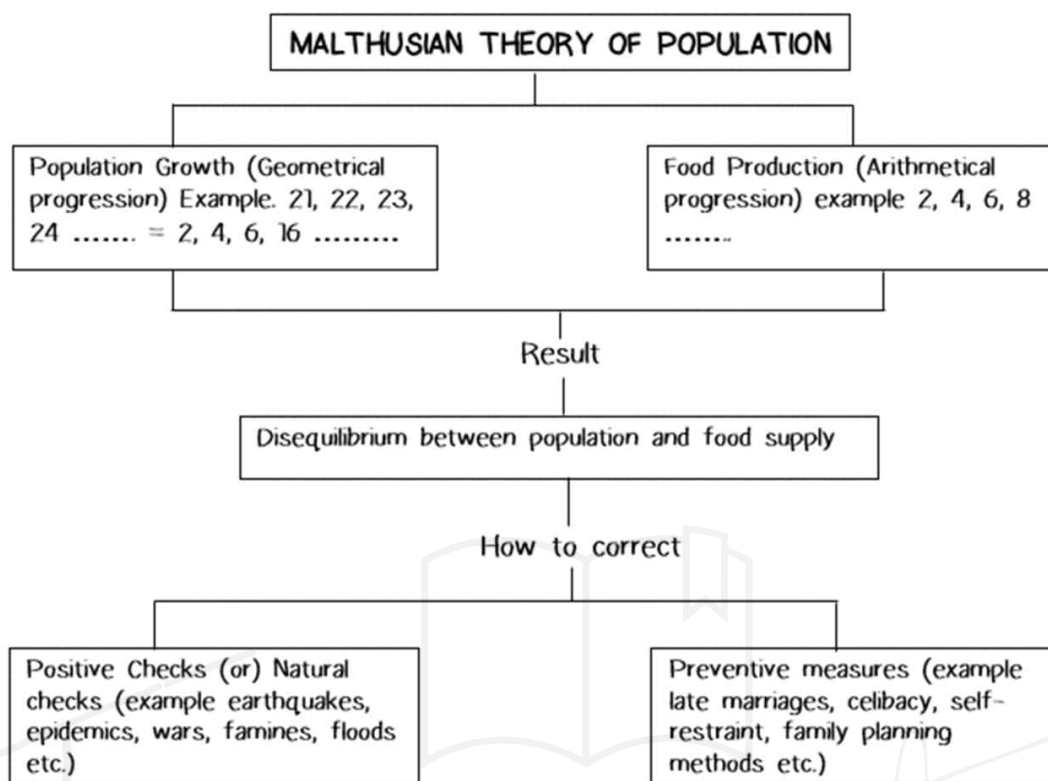
Thomas Robert Malthus (1766-1834) was the key figure to analyse the population statistics. His formulation on population was a landmark in the history of population theories. He generalized the relationship between population factors and social change. His empirical approach to the population problem was a result of his study of the experience of West European countries. In his book "Essay on the Principle of Population" (1798). Malthus argued that two types of checks hold population within resource limits:

Positive, which raise the death rate, i.e. positive checks include hunger, disease and war

Preventive, which lower the birth rate example preventive checks includes family planning, postponement of marriage and celibacy.

Malthus contended that the world's population was growing more rapidly than the available food supply. He argued that the food supply increases in an arithmetic progression (1, 2, 3, 4, 5, 6 and so on) whereas the population expands by a geometric progression (1, 2, 4, 8, 16, 32, 64 and so on). In simple words, food supply increases at a slower rate than population. This means that there will be shortage of food sooner or later. This is because of the operation of the Law of Diminishing Returns in food production.

According to him, the population could increase by multiples, doubling every 25 years. He said the gap between the food supply and population will continue to grow over time. Even though food supply will increase, it would be insufficient to meet the needs of expanding population.



## Criticism of Malthus Theory

The principle theory of population of Malthus has been critically analysed by others. They have pointed out the following flaws:

1. Malthus' basic premise on sexual passion has been criticised as it mixes up desire for pleasure and sex (a biological instinct) with desire for children (a social instinct).
2. It has been noted that population has rarely grown in geometrical proportion and means of subsistence have only rarely multiplied in arithmetic progression.
3. Malthus has assumed a time span of 25 years for a population to double itself. But the doubling period varies from country to country.
4. Malthus established a causal relationship between positive checks in the form of natural calamities and overpopulation which is not necessary, as natural disasters can happen in under populated areas also.
5. Malthus ignored the role of changing technology and transformations in the socioeconomic set-up of a country.
6. Malthus ignored the biological limitation of a population, that is, it cannot grow beyond a limit.

## Is Malthusian Theory Valid Today in India?

The following points high-light the facts:

1. India's population is rapidly increasing at a rate of 2.3% per annum.
2. India is facing food shortage even today in spite of the fact that it has experienced Green Revolution. In 1997, Indian Government is planning to import about 2 million tons of food grains.
3. Standard of living is another indicator. Indians have a poor standard of living as compared to the people of other nations. About 39% of the people are below poverty line.
4. Life expectancy is also poor in India. Average life of an Indian is around 60 years which is quite low as compared to other nations.
5. Birth rate in India is as high as 30 per thousand. This is quite high. No other nation is facing the problem of such a high birth rate. Preventive checks (family planning) are not much popular.
6. Death rate is also as high as 11 per thousand. It shows that natural calamities like floods, diseases, hunger and squalor are not under full control.
7. Marriage is a universal phenomenon. Marshall recommended self-restraints, celibacy, late marriages etc. to control population. In India, early marriage is a social evil. Hence high growth of population.

To conclude we can say that Malthus' principle finds its roots in the Indian economy. Extra-ordinary emphasis on family planning measures for birth control in Indian Planning is a clear proof of the 'Malthusian truth'.

## #Michael Thomas Sadler's Destiny Theory

- \* Michael Thomas Sadler, an Economist and a British social reformer, was born in 1780- died July 29, 1835. He was a contemporary of Malthus. He expressed his ideas about population in his book "The Law of Population" (1830).
- \* According to Sadler, the law which regulates the growth of animals and plants is primarily the same as the law which regulates the growth of human population.
- \* He was of the opinion that "The fecundity (Fertility) of human beings is in the inverse ratio of the pressure of their numbers." Moreover, the fertility rate decreases with the increase in the density of population. In the agriculture based or pastoral countries where the density of population is low, the fertility rate of the population becomes high. In such countries, people have the capacity to work hard and hardworking people give birth to more children. With the passing of time, when there is industrialization and the population becomes more civilized and literate, the density of population increases. Here people

would limit the size of family and in such socio-economic conditions they will be happier and there will be prosperity. Sadler was a great critic of Malthus. He did not accept Malthus's view that population increases in geometrical progression and food supply increases in arithmetical progression.

- \* According to Sadler, such increase of population and food supply in mathematical terms just cannot happen, because when population increases density too will increase. And when density increases, the capacity to produce children goes down and thus with the increase in density, the fertility rate declines. He believed that population adjusts itself with the times. He did not accept the fear of Malthus that positive checks by nature take place with the growth of population. He also did not believe in the preventive measures of birth control described by Malthus.
- \* Sadler was very optimistic and he tried to establish a link between population and food supply. He was of the view that if the fertility rate of population increases, people will be able to produce food according to their needs and the food supply and population will get adjusted to each other.
- \* Sadler also believed that when the density of population increases the unhealthy atmosphere also increases which leads to the increase in the death rate. Further, if the death rate is high, it will lead to increase in the birth rate. This happens to compensate for the loss of population. And if the death rate is low, the birth rate also goes down.

### Criticisms of Michael Thomas Sadler's Destiny Theory

- \* If we compare Sadler's theory to the Malthusian theory of population, it can be said that the theory of Sadler is very optimistic.
  - \* When Sadler's book was published in 1830, many economists, sociologists and demographers were under the spell of pessimism created by Malthus in his population theory.
  - \* In such an atmosphere to give optimistic thoughts it was a great achievement.
  - \* But the theory of Sadler is also criticized on different grounds:
  - \* Sadler failed to distinguish between fecundity and fertility. He said that the fecundity of human beings is in the inverse ratio of the condensation of their numbers. But in fact no biological reason is found to prove the idea that if density brings down 'fertility', it will bring down 'fecundity' also. This is because in slums the density is very high and at the same time fertility is also high among slum dwellers.
  - \* Moreover, in many countries of the world where the density is high, the fertility rate is also high.
-

- \* Even in India, in some states like Delhi, Kerala and West Bengal where the density is high, the fertility is not low in comparison with the fertility of other states.
- \* Another point of criticism is the paradoxical statement of Sadler that with the increase in density, the fertility rate decreases. At the same time, he was of the view that with the increase in density the death rate will increase and consequently, to compensate for the loss of population the fertility rate also increases. It means that the fertility rate will not decrease, but it will increase with the increase of density. Thus, Sadler's statements are self-contradictory.
- \* Sadler's view that with industrialization the population decreases has not been proved true.
- \* In a country like India, industrialization has not led to the decline in the growth of population.

## #Ricardian Growth Model

Ricardo's development model is based on the Malthusian theory of population and this theory is less valid in present time. It is stressed in this model that real wages never reach the subsistence level. As development proceeds, the share of wages rise in national income and brings improvement in standard of living of the Labourers. The workers now-a-days not only receive wages on the basis of productivity but they receive other benefits like bonus, medical aid etc. So it is absurd to think of subsistence wages in modern time. Ricardo makes two-sector analysis of the economy. He draws distinction between an agricultural sector and industrial sector. He assumes that agriculture is subject to law of diminishing returns while industry is subject to constant returns. Further, Ricardo regarded real wages to be fixed in terms of corn, i.e., the product of the agricultural sector. Labour when supplied with corn (wage goods), i.e., circulating capital and also some fixed capital (tools and equipment) to produce more than its subsistence and the difference between the output and subsistence wages is the surplus produced by the labourers which is shared between the capitalists, the owners of capital, and the landlords, the owners of the lands.

### Assumptions

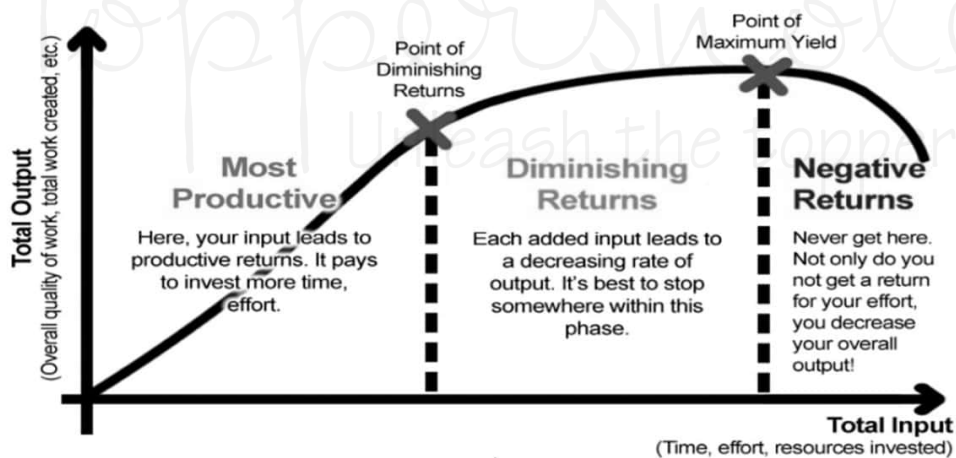
**The Ricardian theory is based on certain assumptions which are as under**

1. Supply of land is fixed.
2. Land is used for production of corn and the working force in agriculture helps in determining the distribution in industry.
3. Law of diminishing returns operates on land.

4. Demand for corn is perfectly inelastic.
5. Labour and capital are variable inputs.
6. Capital consists of circulating capital.
7. There is capital homogeneity.
8. All workers are paid subsistence wages.
9. The state of technological knowledge is given.
10. There is perfect competition.
11. Demand for labour depends upon accumulation of capital.
12. Demand and supply price are independent of the marginal productivity of labour.
13. The supply price of labour is given and constant.
14. Capital accumulation results from profits.

## Law of diminishing returns

- \* Law of diminishing returns explains that when more and more units of a variable input are employed on a given quantity of fixed inputs, the total output may initially increase at increasing rate and then at a constant rate, but it will eventually increase at diminishing rates. In other words, the total output initially increases with an increase in variable input at given quantity of fixed inputs, but it starts decreasing after a point of time.



Let us first take the agricultural sector which, according to Ricardo, is subject to diminishing returns.

As more and more doses of labour and capital are employed, marginal product of labour and capital would diminish. The capitalist employer will employ labour to the extent that he just meets the expenses of production on the margin. The intra-marginal doses of labour employed would produce surplus over the expenses incurred on them, which is the source of capital, that is, the wage fund that will be used for employing labour in future for further production. The greater the volume of saving

out of the surplus, the faster will be the rate of capital accumulation and more rapid the growth of output and employment.

Ricardo's Model - Growth of the Industrial Sector: It should be noted that the food-grain surpluses generated in agriculture are essential to employ labour in the industrial sector. It is in the industrial sector that stock of fixed capital plays an important role in the growth of output and employment, while in agriculture it is the amount of land which is of crucial significance. While the land as a whole is fixed and diminishing returns ultimately occur when more doses of labour and capital are used, increase in the stock of fixed industrial capital on the other hand is possible since it is made by man. Therefore, as a result of the rise in the prices of the food-grains and thereby the rise of the wages of labourers will reduce the surplus or profits made by the capitalists in the industrial sector. The rate of profit expressed as ratio of net revenue earned on the capital will go on declining till it becomes zero. When the rate of profit becomes zero, further capital accumulation in the industrial sector will cease and in this way a stationary state will be reached. Before the stationary state is reached, the level of output and employment of labour force during any given period in the industrial sector will depend on the stock of given fixed capital (and therefore the marginal productivity curve of labour) on the one hand and the wage goods supply forthcoming from the agricultural sector on the other.

## Topic-Migration

Migration is the movement of people from one place to another with the intentions of settling, permanently or temporarily, at a new location (geographic region). The movement is often over long distances and from one country to another Country. People may migrate as individuals, in family units or in large groups. A person who moves from their home due to forced displacement (such as a natural disaster or civil disturbance).

- \* Push factors are the reasons that make someone decide to move. This is their own experience of life in one place which gives them good reasons to leave it. Often push factors are negative things such as unemployment, crop failure, droughts, flooding, war, poor education opportunities or poor services and amenities.
- \* Pull factors, on the other hand, are the expectations which attract people to the new place. They are usually positive things such as job opportunities, a better standard of living, better education or better healthcare.

## Classification

### 1. Internal Migration

Rural to urban or urban to rural or urban to urban or rural to rural.

### 2. International Migration

Emigration- Leaving a country or other geographical context.

Immigration- Entering into a country or other geographical context.

### 3. Intentional migration

Temporary migration

Permanent migration

### 4. Effective duration

Contract migration or seasonal migration.

### 5. Employment oriented (Economic migration)

### 6. Health migration

### 7. Forced migration

Movement is forced by conflict, natural disasters, persecution, and discrimination.

We also discuss the Migration Model of Ravenstein and Lee

Push-factors	Migrants	Pull-factors
Countries of origin		Countries of destination
* Population growth, young age structure * Inadequate educational institutions, Medicare and social security	Demographic factors and social infrastructure	* Stable population, population decline, demographic ageing * Welfare state benefits, educational institutions, Medicare, social security.
* Unemployment, low wages * Poverty, low consumption and living standard	Economic factors	* Labour demand, high wages * Welfare, high consumption and living standard
* Dictatorships, shadow democracy, bad governance, political upheaval.	Political factors	* Democracy, rule of law, pluralism, political stability. * Peace, security, protection of human and civil rights, protection of minorities.



* Conflict, (civil) war, terrorism, human rights violation, oppression of minorities		
* Ecologic disaster, desertification, lack of natural resources, water shortage, soil erosion, lack of environmental policy	Ecological factors	* Better environment, environmental policy, protection of natural resources and environmental protection.

## #Impacts of Migration

### Positive Impact

Unemployment is reduced and people get better job opportunities. Migration helps in improving the quality of life of people. It helps to improve social life of people as they learn about new culture, customs, and languages which helps to improve brotherhood among people. Migration of skilled workers leads to a greater economic growth of the region. Children get better opportunities for higher education. The population density is reduced and the birth rate decreases.

### Negative Impact

The loss of a person from rural areas, impact on the level of output and development of rural areas. The influx of workers in urban areas increases competition for the job, houses, school facilities etc. Having large population puts too much pressure on natural resources, amenities and services. It is difficult for a villager to survive in urban areas because in urban areas there is no natural environment and pure air. They have to pay for each and everything. Migration changes the population of a place, therefore, the distribution of the population is uneven in India. Many migrants are completely illiterate and uneducated, therefore, they are not only unfit for most jobs, but also lack basic knowledge and life skills.

Poverty makes them unable to live a normal and healthy life. Children growing up in poverty have no access to proper nutrition, education or health. Migration increased the slum areas in cities which increase many problems such as unhygienic conditions, crime, pollution etc. Sometimes migrants are exploited. Migration is one of the main causes of increasing nuclear family where children grow up without a wider family circle.

## #Gravity Model of Reilly

One of the most important contributions of geography in the field of migration analysis is with respect to the relationship between distance and migration. A clear and persistent inverse relationship between the two has been established in several studies.

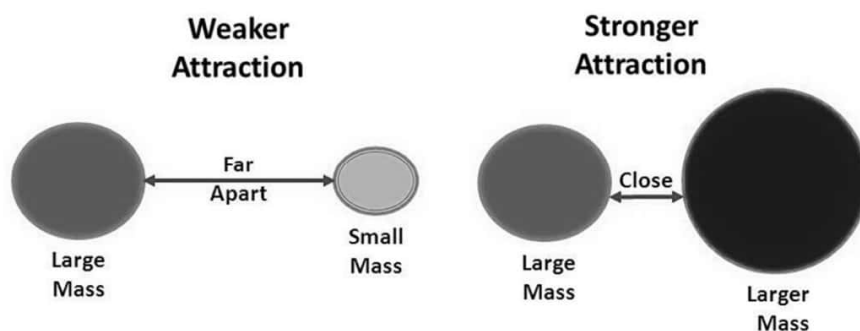
Gravity model, based on Newton's law of gravitation, goes one step further and states that the volume of migration between any two interacting centres is the function of not only distance between them but also their population size.

**Important** - The gravity model is a popular mathematical model used to predict the interaction between two or more places. In other words, migration is directly proportional to the product of their population size and inversely proportional to the square of the distance separating them.

$$G_{ij} = G \frac{M_i M_j}{d_{ij}^2},$$

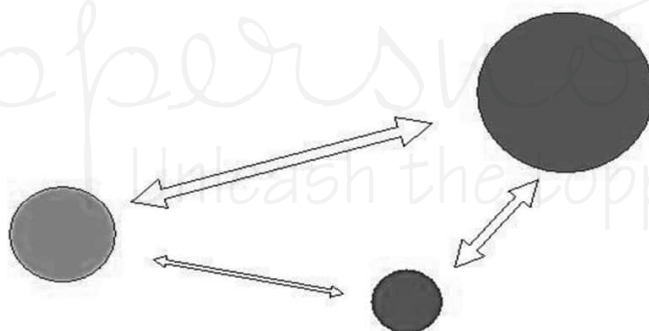
Where –

1.  $G_{ij}$  is the gravitational bond between objects  $i$  and  $j$ .
2.  $G$  is the gravitational constant,  $M_i$  and  $M_j$  are measures of the attractiveness of masses  $i$  and  $j$ .
3.  $d_{ij}^2$  the square of the distance between objects  $i$  and  $j$ .



PUSH	PULL
<ul style="list-style-type: none"> <li>• political instability</li> <li>• lack of education</li> <li>• fear of persecution/poor treatment (example Hate of tribes)               <ul style="list-style-type: none"> <li>• lack of safety (example Kidnapping, war, explosions)</li> <li>• lack of freedom (example LGBT equality)</li> </ul> </li> <li>• Racism, discrimination</li> <li>• Lack of gender equality</li> <li>• Natural disasters</li> <li>• Poor economy</li> <li>• Lack of quality healthcare</li> </ul>	<ul style="list-style-type: none"> <li>• Freedom</li> <li>• Multicultural</li> <li>• Marriage (Family is in another country)</li> <li>• Good quality education, opportunities for studies.</li> <li>• Lots of job opportunities</li> <li>• Environment (clean, hospitable)</li> <li>• High-tech (access to technology, electricity ..... Etc.)</li> <li>• Strong economy</li> <li>• Safety, peace</li> </ul>

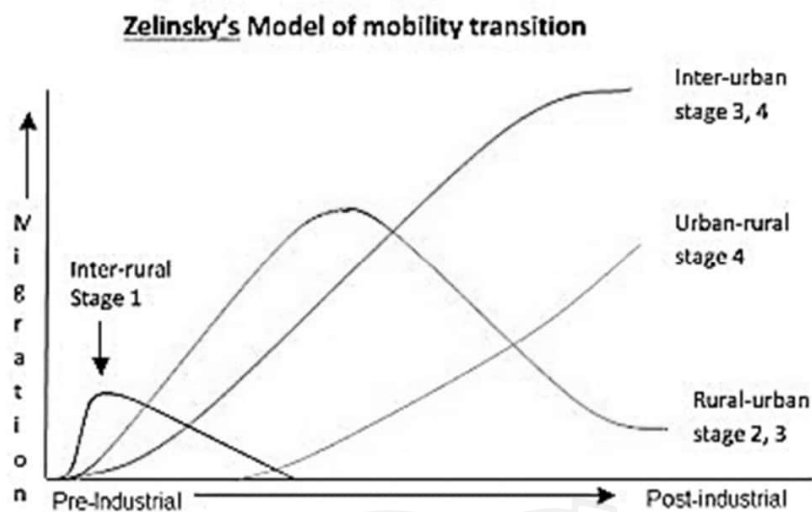
### Illustration of the Gravity Model



*The shorter the distance between two objects, and the greater the mass of either (or both) objects, the greater the gravitational pull between the objects.*

## #Zelinsky Model of Migration Transition

The Zelinsky Model of Migration Transition also known as the Migration Transition Model, claims that the type of migration that occurs within a country depends on how developed it is or what type of society it is. A connection is drawn from migration to the stages of within the Demographic Transition Model (DTM). It was developed by Wilbur Zelinsky, long-time professor of geography at the Pennsylvania State University.



## Model stages

1. Stage one ("Premodern traditional society"): This is before the onset of the urbanization, and it is very little to no migration and natural increase rates are about zero. There are very high levels of mobility (nomadism), but very little migration.
2. Stage two ("Early transitional society"): During stage two a "massive movement from countryside to cities" occurs. And as a "community experiences the process of modernization". There is a "rapid rate of natural increase". And internationally there is a high rate of emigration (Leaving), although the total population number is still rising.
3. Stage three ("Late transitional society"): Stage three corresponds to the "critical rung of the mobility transition" where urban-to-urban migration surpasses the rural-to-urban migration, where rural-to-urban migration "continues but at waning absolute or relative rates", and "a complex migrational and circular movements within the urban network, from city to city or within a single metropolitan region" increased, circulation and non-economic migration starts to emerge. Then the net-out migration trend shifts to a net-in migration trend as more people immigrate than emigrate. That is, more people move in rather than out.
4. Stage four ("Advanced society"): During stage four the "movement from countryside to city continues but is further reduced in absolute and relative terms, vigorous movement of migrants from city to city and within individual urban agglomerations...especially within a highly elaborated lattice of major and minor metropolises" is observed. A large increase of urban to suburban migration can also occur. There is a "slight to moderate rate of natural increase or none at all".