CHAPTER II

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Carle O. Zimmerman was probably the First American rural Sociologist to express awareness of migration phenomenon in Thailand. The methodology was crude and inconclusive in modern scenario but the findings are of special interest because of his early attention to the age and sex characteristics. He observed that in contrast to the western countries more boys than girls had left home (1931)¹.

In general, rural-urban migration has effects on economic development in terms of reducing un-employment and levelling wages. There is a definite shift of employment or un-employment from the agricultural to the industrial sector, resulting in an increase in aggregate level of per capita income, simultaneously creating new problems. The objective of this chapter is to summarize the theoretical developments in the field of migration with special emphasis on rural-urban migration and social problems due to migration in Thailand's metropolis. In the First phase, the inter-regional migration theories are considered in short and secondly consideration is given to the Todaro and Harris Model and others.

Inter-regional Migration

Social, Economic and demographic forces are basic causes of migration. Migration in search of higher standards of living has become matter of concern to many nations including U.D.C.s (Under Development Countries). As migration is the flow of labour, the movement affects the labour marker in the place of origin and the place of destination.

(a) Gravity Model Approach:

It is analogous to physical gravitation (Every mass in the universe has free of attraction directly proportional to its quantity and inversely to the distance between two masses).

G.K. Zipf can be considered one who used the simple gravity model. He states that the inter-community movement of people with population P1 and P2 and that are separated by an earliest transportation distance 'd' will be proportional to \( \frac{P1 \cdot P2^2}{d} \). He considers two sub-regions 'i' and 'j' of a metropolitan area. The migration is

2. Walter Isard : Methods of Regional Analysis, Cambridge, The MII Press, Ch. 11.

proportional to the mass in \( i \) and \( j \) over mass of the entire metropolitan area.

\[
T_{ij} \frac{P_i}{p} \frac{P_j}{p}
\]

i.e. \( T_{ij} = K \frac{P_i}{p} \frac{P_j}{p} \)

Where

\( T_{ij} \) -- Hypothetical interaction between \( i \) and \( j \)

\( K \) -- A constant which is the average interaction per capita of \( i \) to \( j \).

\( P_i, P_j \) and \( p \) -- Mass in sub area \( i \), \( j \) and the entire metropolitan area respectively.

Assume a linear relationship between the \( \log \) of the ratio of actual to hypothetical (or expected) interactions and the \( \log \) of the distance between any two points in the metropolitan areas.

\[
\log \frac{T_{ij}}{T_{ij}} = a - b \log d_{ij}
\]

Where

\( T_{ij} \) -- Actual interaction between \( i \) and \( j \).

\( d_{ij} \) -- Distance between sub areas \( i \) and \( j \).

\( a \) & \( b \) -- Parameters
\[ \frac{T_{ij}}{T_{ij}} = \frac{C}{B} = \text{anti} - \log a \]

\[ I_{ij} = \frac{C}{b} \frac{T_{ij}}{d_{ij}} \]

Putting the value of \( T_{ij} \):

\[ = \frac{CK}{b} \frac{P_{ipj}/P}{d_{ij}} \]

But for a particular study \( CK/P = \text{Constant} = G \).

\[ \therefore I_{ij} = \frac{G}{b} \frac{P_{ipj}}{d_{ij}} \]

The same relationship is obtained by applying 'log' i.e. it says that the movement of people from one region to another varies directly with the population of the two places and inversely with the distance between them.

Stouffer gives theory that, 'the number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities'.

He defines intervening opportunities in different ways and developed the model of intervening opportunities and competing migrants.

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Venderkamp is interested in distance variable. He interprets distance variable as representing few separate factors like money cost for moving the difference in money income associated with the destination and the origin and uncertainty about income prospects due to lack of information.  

Heide expresses distance by expense and difficulty of travelling, the wish to maintain contacts with the region one leaves behind. The distance may mean technical distance i.e. availability communication and transportation. It may be a social distance with regards to culture, religion and social status traits.

Miller says that distance can be an impedence to mobility or a surrogate for the number of intervening opportunities. Denser the population, the more likely opportunities will be found.


So, the Gravity model can be regarded as the first formal model in explaining migration behaviour. It is used to present a cross-sectional picture of the macro-level interactional relationships along regions which are theoretically stationary with respect to time, space, direction, simulating the law of physical gravitation. A.B. Jack studied on inter-regional migration in Great Britain, his model comes from the idea that people migrate to a region to fill the jobs in that region.  

A simple Gravituity Model can be utilized to determine the range of attraction of any region. This attraction range can also tell whether the region is an Urban or a rural area. An urban area has a higher range of attraction.

(b) The Neoclassical Approach:

The Neoclassical General Equilibrium Theory says that labour will migrate from the low wage to high wage regions until real wages are equalised, assuming comparative static framework, homogeneous labour, zero migration cost and perfect competitive labour markets.

There are other modified versions of the Neo-classical General Equilibrium Theory; by Blanco, by Raimon, Harris J.R., P. Nelson etc.

(c) The General Approach:

In this approach migration occurs because of two effects; The **Push** effect (all factors which do not satisfy potential migrants) and the **Pull** effects (all factors which look satisfactory to them at some other places). It is a combination of the Gravity Model and the Neo-Classical Model trying to minimize weak points of both models. Migration functions in this approach are usually done in the form of comparison. Lowry sets his migration function in the following form:

\[
M_{ij} = F \left( \frac{U_i}{U_j}, \frac{W_j}{W_i}, \frac{L_i}{L_j}, D_{ij} \right)
\]

Or

\[
\text{as : Number of migrants from place 'i' to 'j' (} M_{ij} \text{)}
\]

is a function of relative unemployment as a percentage of the civilian non-agricultural labour force at 'i' over 'j' and the product of number of persons in the non-agricultural labour force at 'i' and 'j' over distance between 'i' and 'j'.


The Gravity Model is simple and has practically meaningless independent variables i.e. the force of attraction and the distance. The Neo-classical model has lots of assumptions depending only on the labour market adjustment. So, the combined model is desirable as both methodological and pragmatic guidelines need to be considered in the specification of a explanatory model for the analysis of migration behaviour.

According to Fabricant's Model, migration from \( i \) to \( j \) is a response to a positive expected excess demand for labour difference between \( i \) and \( \frac{i}{j} \) and a barrier Function. The barrier Function is composed of the physical distance between the geographic centres of \( \frac{i}{j} \) and \( j \), length of contiguous border between \( \frac{i}{j} \) and \( j \), Friends and relatives which are the number of persons living in \( j \) at the end of the previous period who were born in \( i \) as a percent of all living persons born in \( \frac{i}{j} \) but are not longer living there and the \( \frac{i}{j} \)'s population.\textsuperscript{12}

Urban Migration

The urban migration process is composed of innovations, innovation diffusion, decision making and inter-regional investment flows. John Friendmann says that "migration may be treated as a resultant of other urbanization process. He also refers to Paul Drewe's conclusion that migration is related to employment opportunity, accessibility, the number of intensity of prior contact with the migrant's place of ultimate destination and educational level of the population at points of migrant's origin".13.

In underdeveloped countries, rural population is rapidly increasing expending the problems of disguised un-employment - Labour with marginal productivity zero and impending economic growth. The Lewis model of development tries to explain the process of rural-urban labour migration.

The Lewis Model of Development

Sir W. Arthur Lewis developed the most famous model of development which gives consideration to the rural-urban labour transfer. The hypothesis underlying the model is that wage differentials between sectors will cause labour to move from low wage to high wage regions. The so-called Sectors are two i.e.:

(a) Highly productive modern urban industrial sector (with high attraction range) with the Capitalist Sector.

and

(b) Traditional, rural sector marked by large scale disguised unemployment with almost zero productivity; the subsistence agricultural sector.

The movement of labour will cause when wage differentials no longer exist.

The basic of the model is both the process of labour transfer and growth of employment in the capitalists sector. In growth process, two stages are evident. First i.e. as there is unlimited labour in agricultural sector,

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industrial workers cannot demand high wages to start with. Any surplus produced in the industrial sector will be reinvested, particularly on increasing employment of migrant workers from the agricultural sector. Secondly when all surplus labour has disappeared, the industrial wage must be raised as competitive bidding for labour takes place among the capitalists. As wages rise, capitalist savings and profit share will diminish and thus the expansion of the capitalists sector will finally cease. Workers are likely to gain effective bargaining power once all surplus labour has been absorbed.\(^{15}\).

Lewis' Model fails to give a satisfactory analysis sequences of rural-urban migration and no consideration is given to the possibility of unemployment in the industrial sector too, which is a reality. Neither it considers types of migrants, their quality, the rate of technical advance etc. so, it loses specifically.\(^{16}\).

**Fei and Ranis Model**

Fei and Ranis present a similar two-sector model comprising the agricultural and the industrial sector with

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15. A Thesis by RACNAN IWAN THAVENTJIT (1973) "Patterns and consequences of Regional Migration in Thailand".

available capital and labour. Their three phases are as such, Farm workers migrate to the industrial sector with no decrease in the existing real wage level in the economy as there is no reduction in farm output. In second phase, the industrial wage is greater than the positive marginal productivity of labour of farm labour and as a result, low productivity farm workers continue to shift to the industrial sector. This time farm output declines and a shortage of food occurs. Terms are in favour of agricultural sector. Migration proceeds as long as the productivity of farm workers is below industrial wage. Eventually the economy will reach a point of 'commercialization' where the marginal product of farm output equals the prevailing wage in industry. This is the phase of take off in economic development. But the crucial problem for U.D.C.'s is how to reach the commercialization point with stagnant agricultural sector. Fei and Ranis propose that with an increase in agricultural productivity as well as with a vigorous expansion of the industrial sector, it is feasible to achieve such a point in the process of labour reallocation.

Like the Lewis's Model, the Fei and Renis model predicts that the wage differentials between sectors will induce labour to migrate from relatively low to relatively high-wages area. Later explaining the role of substance sector as a potent source of the labour as well as of food. Both of them assume a comparative static frame work, zero migration cost, homogeneous labour and a perfectly competitive labour market. The combined model is known as L.F.R. model (Sir W. Arthar Lewis, John Fei and Gustave Ranis). It assumes that urban wages would have to be at least 30% higher than the rural income to make workers migrate from home.

Figure II-1 shows OA representing the average level of real subsistence income in the traditional rural sector. OW, therefore, is the real wage in the capitalist sector. At this wage the supply of rural labour is assumed to be un-limited or perfectly elastic as shown by the X-axis labour supply curve WS. given a fixed capital K1 in the striking stage of modern sector growth, the demand curve for labour can be seen by labour's declining marginal product and is shown by curve DL (k1).
Since profit maximising modern sector employers hire labours up to the point where marginal physical product is equal to the real wage i.e. the point I of The L.F.R. model of growth and employment in a dual labour surplus economy: the modern sector.  


**FIGURE II.1**

*Absissa* shows real wages and the marginal product of labour.

*Ordinate* shows the quantity of labour.

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intersection between the labour demand and supply curves, total modern sector employment will be equal to OW. Total modern sector output would be given in the area of the points FL1.

The share of this total output which is paid to workers in the form of wages would be equal to the area of OW, FL1. The surplus output shown by the area WPLF would be the total profits of capitalists. As it is supposed to that these profits are re-invested, the total capital stock in modern sector rises from K1 to K2. This causes the total product curve of the modern sector to rise which in turn helps to rise the marginal product or in turn helps to rise the marginal product or demand curve for labour. This out-ward shift in labour demand curve is shown by D2(k2). An equal level will be established to OD2, GL2 while total wages and profits increase to OWGL2 and WD2G. Again the larger profits (WD2G) are re-inverted thus increasing the total capital stock to K3, moving the labour demand curve to D3 (K3) and raising the level of modern sector employment to L3.19

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The process as above mentioned, of growth and employment generation will continue till all 'surplus' rural labour is absorbed in the urban industrial sector, hence after the labour supply curve will become slanting and both urban wages and employment continue to grow. The resultant would be structural transformation of economy i.e. economic activity moving from rural agricultural to urban industrialised sector.

For application of L.F.R. model to third world countries, three assumptions are made. Firstly it assumes that rate of labour transfer and employment are proportional to urban capital accumulation. The faster the rate of capital accumulation the higher the growth rate of modern sector and faster the growth rate of new jobs.

Figure II-2 represents the basic model where the labour demand curves do not shift properly outward but cross. Demand curve $D2(K2)$ has a greater negative slope than $D2(K1)$ to reflect the fact that capital accumulation helps labour saving technical progress. Though total output has grown (i.e. OD2 Ell is more than OD1 Ell) total wages (OWELL1) and employment (OLL1) remain unchanged. All extra output goes to capitalists in the form of profits.
Labour saving capital accumulation destroys the employment implications of the L.F.R. model.


**FIGURE: II-2**

Abssisa: shows real wages and the marginal product of labour.

Ordinate: shows the quantity of labour.
Looking at figure some might call 'anti-developmental' economic growth. Which means all extra income is distributed to few owners of capital while the income levels of workers remain unchanged. An unequal distribution of profit and income and natural without any improvement in total social welfare.\textsuperscript{20}

The second assumption of L.F.R. model is that surplus labour exists in rural areas while there is full employment in the urban areas. Some research of the U.D.C.s shows that there is very little unemployment and under employment in the urban areas and little general surplus labour in rural areas. No doubt there are certain exceptions like parts of Asian Sub-Continent and some parts of Latin America.

Last crucial assumption with reality is the fact of the existing real urban wages till the point where the supply of rural labour finishes. One of the most important features of urban labour and wages in all developing countries is that these wages should rise over time, both in normal conditions and in relation to rural incomes.

In nutshell the L.F.R. model guides to understand
united rural labour, urban surplus labour and rise of
urban wages even when unemployment exists; in third world
employment and migration problems, we will now discuss the
Todaro Model in detail.

**Todaro's Theory of Rural-Urban Migration**

In 1960's almost all under development countries
experienced increase in migration of the rural population
to the urban areas. This created employment problem in
third world countries. Michael P. todaro and others have
attempted to develop a model of rural-urban migration
explaining the apparently contrasting situation of
accelerated rural-urban migration with the concomitent
rising urban un-employment. Todaro's economic model of
rural-urban migration combines the existence of income
differentials and a probable estimate of finding
employment as the determinants of the urban labour demand
and supply. It presents two stages of development
involving migration of the unskilled rural workers to the
urban area and eventual attainment of permanent jobs for
workers from the urban traditional sector.

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and Urban Un-employment in LDC, " American Eco.
Nature of Todaro Model

In the Todaro model of internal migration, individuals are assumed to base their decision to migrate on considerations of income maximisation. It states that migration is the resultant not only of urban-rural differences, but more so of the actual earnings got in the job opportunities. The migrants choose market opportunities that are available and giving maximum gains. The expected gains are measured by:

(a) The difference in real incomes between rural and urban jobs;

(b) Probating of a new migrant obtaining job in urban area.

Figure II-3 shows a web of multiple factors affecting decisions to migrate.

Explanation of the Todaro Model

The migration model was developed for advanced industrial countries, for it assumed the existence of full employment in urban areas. Here in the environment of full employment, the decision to migrate is due to get the highest paid job whenever it exists. An average partially
A framework for the analysis of the decision to migrate

Rural Income

Psychic returns (e.g., urban amenities)

Returns to migration

Rural-urban contacts

Distance

Information flows

Expected present value of migration

Perceived value of migration

Migration decision

Complementary factors (e.g., land)

Government policies (e.g., taxes)

Social system (e.g., decision unit)

Education

Urban-rural remittances

Urban Income

Urban wage

Self-employed earnings

Probability of a job

Opportunity cost

Cost of living

Transport costs

Psychic costs (e.g., costs of social adjustment etc.)

Costs of migration

Source: Michael P. Todaro, Cap. Cit. P. 30
skilled rural worker if asked to choose between being an agricultural labour or migrating to the city, naturally that persons would select the highest paying urban job. It shows that with connivance of such migration, there should be wage reduction according to the theory of demand and supply. This type of Hypothesis particularly fails in the under developing countries for no doubt migrants come from rural area but in urban area surplus labour is already present and obviously rural migrated labour do not expect high wages but may sometimes remain un-employed or on casual employment etc. Todaro model says that the migrants have chance of being successful in getting the highly paid urban job is 20% and the expected urban income for an year is 20 units and not 100 units. If the chance of getting urban job is 70% then the expected urban income would be 70 units. It would be correct then, even with urban un-employment for a migrant to try for employment. Todaro says that for migrants between 15 to 24 years of age, the decision to migrate should be on the basis of permanent income, with low chance of finding regular income and even with low income than rural area but with the probability of increase in income in future, the migrant may not actually migrate but should increase its urban contacts. This psychosocial process has been pyarised (Fig. II-3) i.e. analysis of decision to migrate.
The model points that rural - urban migration is equilibrating force for rural - urban incomes and not adjustment of wages. Urban wages being inflexible in the downward direction rural and urban expected income are equalised if urban job opportunities fall, with its resultant of rising urban unemployment. To examplify, it supose average rural wage is 60 units, urban wages are set at 120 units. Then in one period model 50% urban unemployment rate would be necessary to mobilize further migration. So with high rate of urban unemployments migration continues. In the above model migration would continue till the 40% level of urban unemployment is not crossed that it will decline gradually.

In statistical way, the function of decision to migrate will be as follows:

Assuming -

\[ V(0) = \text{the discounted present value of the expected "net" urban minus rural income stream over the migrant's time horizon.} \]

\[ I_u(t) = \text{the average real incomes of individuals employed in the \textit{urban} economy.} \]
\[ \text{Ir}(t) = \text{the average real incomes of individuals employed in the rural economy.} \]

\[ n = \text{the number of time periods in the migrant's planning horizon.} \]

\[ i = \text{the discount rate reflecting the migrant's degree of time preference.} \]

\[ C(o) = \text{the cost of migration.} \]

\[ P(t) = \text{the probability that a migrant would have secured and urban job at the average income level in period 't'.} \]

and \[ V(o) = P(t), \text{Iu}(t) - \text{Ir}(t) \frac{dt}{dt} - (Co). \]

\[ t = 0 \]

If \( V(o) \) comes positive, it indicates decision to migrate and vice-versa.

The rural labour force \( (Lr) \) was assumed to grow at a natural rate \( (n) \) less the rate of migration to the urban areas \( (m) \).

\[ \therefore Lr = (n-m) Lr \quad \text{(1)} \]

Where \( Lr \) = the time derivative of \( Lr \)

The urban force \( (Lu) \) also grow at a rate \( n \), plus the migration from the rural areas.
\[ \therefore \quad L_u = nL_u + M L_r \quad \text{-------- (2)} \]

As \( M = mL_r \)

\( (M = \text{the actual number of rural-urban migration}) \)

So \( L_u = nL_u + M \quad \text{-------- (2)} \)

Supposing the urban employment growth at a constant rate 'g'

\[ \therefore \quad E_u = g \cdot E_u. \]

\( E_u = \text{the level of urban employment and} \)

\( \dot{E}_u = \text{the time derivative of } E_u \left( \frac{dE_u}{dt} \right) \)

Todaro assumed that the rate of rural-urban migration, \( m (= M/L_r) \), was a function of \( \frac{dE_u}{dt} \)

(a) the probability that in urban labour could successfully find a modern sector job which in its most elementary form could be written as some simple (+ve) monotonic function of the current urban employment rate \( (E_u/L_u) \) or a negative function of the urban un-employment rate \( \left( \frac{L_u - E_u}{L_u} \right) \)

(b) the urban-rural real income differential which could be expressed as ratio \( I_u/I_r = W \), where \( W \) l, and
(c) other factor, \( Z \), such as distance, personal contacts etc., which also affected the relative "costs and benefits of origin and destination opportunities.

So Todaro equation could be written as:

\[
m = F(Eu/Lu, W, Z) \quad \text{(4)}
\]

Where \( F'(Eu/Lu) \), \( F'(W) \), \( F'(Z) \)________0

Holding \( W \) and \( Z \) constant, the function \( F \) could be simplified to read:

\[
F(Eu/Lu, W, Z) = f(Eu/Lu) \quad \text{(5)}
\]

Substitute equation (4) and (5) into equation (2), it gives the basic differential equation for urban labour force growth in the Todaro Model.

\[
\frac{LU}{Lu} = n + \frac{Lr}{Lu} \quad (Eu/Lu) \quad \text{(6)}
\]

With the help of this equation, by comparing the time path of Economic growth of urban employment, Todaro was able to discuss the dynamic process of rural-urban migration and urban unemployment under differing assumptions about population and employment growth rates.\(^{22}\)

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Todaro in contrast to previous models of rural urban migration models, also concentrates on non-economic factors as a cause of migration. But still he emphasizes importance of economic factors. He says, stimulus for migration is primarily economic but also psychological, the decision to migrate depends mostly on the expected rural-urban wage differential which ultimately depends upon two factors i.e. actual rural-urban wage differential and the chance of getting employment in urban area, the chance of getting a job in urban area is inversely proportional to the urban unemployment rate and lastly it is possible that the rural-urban migration rate above the growth rate of jobs in the urban areas is possible and rational.

The Todaro model does not take into consideration the personal factors of migration like moral factors, ambitiousness or factors like lack of school, hospital, city attraction etc.
Modified Approaches to Todaro Model

(a) Harris and Todaro's Two Sector Analysis of Migration and Development: 23

To assess a growing rate of urban unemployment in the absence of surplus labour in the agricultural sector, Todaro and his colleague, John Harris constructed a two-sector internal trade model of migration and unemployment. It gives attention to the impact of migration on rural incomes, urban and rural output and total social welfare. This short run model picturises the dis-equilibrium position generated by migration process, analysing both sectors from the viewpoint of production and income.

The rural sector is specialised in the production of agricultural goods. A part of these goods traded to urban sector in return of manufactured goods because the urban sector is specialised in manufactured goods. the rural sector can utilize all its labour in agricultural sector only or can utilize only a part of it for food production and "exporting the remaining labour to the urban sector i.e. migration with the return in the form of

wages paid in the form of manufactured goods. It should be considered that a migrant's income to accrue to the rural sector because of his retained ties with the rural sector. They consider an optional policy which includes both partial subsidy and restriction as the means of improve welfare. They also attained to the point of urban wage determination, commodity pricing policies and rural development programmes on relative output levels, the terms of trade and intersectoral labour allocation as a result of induced migration. The crucial point is that increased rate of urban employment generation might actually increase levels of unemployment. And if restrictions are set on migration could actually reduce the level of rural welfare.

Then, statistically the Harris-Todaro Model would be as follows:

Assuming \( W_r \) = nominal rural wage rate,
\( W_u \) = Nominal urban wage rate,
\( E_u \) = the number of urban jobs,
\( L_u \) = the urban labour force,
\( E(W_u) \) = expected urban wage rate, and
\( E(W_r) \) = expected rural wage rate.
then

\[ E(\text{Wu}) = \text{Wu} \frac{E_u}{L_u} \quad (7) \]

and

\[ E(\text{Wr}) = \text{Wr}. \]

\( M = L_u \) is the number of rural-urban migration, assumed to be equal to \( L_u \).

A function of the actual number of rural-urban migration is a function of urban-rural expected wage differential,

\[ M = L_u \cdot f \left\{ E(\text{Wu}) - E(\text{Wr}) \right\} \quad (8) \]

The rural-urban equilibrium expected wage condition was then,

\[ E(\text{Wu}) = E(\text{Wr}), \quad (9) \]

or

\[ \text{Wr} = \text{Wu} \frac{E_u}{L_u} \quad (10) \]

\[ \therefore \quad \frac{E_u}{L_u} = \frac{\text{Wr}}{\text{Wu}} \quad (11) \]

The above equation predicts the Haris - Todaro model a first approximation of an "equilibrium" giving urban employment rate.
So, the subsidy i.e. an amount given to rural workers to compensate for wage differentials between the rural and urban sector, tends to distort the wage level necessary to determine the amount of urban employment. Migration would continue as long as the wages in the urban areas exceed that of rural areas. To say urban unemployment increases when the number of migrants is greater than the number of jobs available in the industrial sector. Restrictions on migration, by law or by taxing rural migrants however will have no effect on job creation in urban industrial sector. So Harris and Todaro recommend the combined policies as a strategy to achieve the optimum level of migration. An equilibrium for the two sectors can be achieved and migration is likely to cease as soon as the agricultural real wage is equal to the expected urban wage. H.T. model tries to explain migration on welfare basis but it is not at all clear that it is politically viable.

(b) Johnson's Labour Turnover Model

Johnson modified the Todaro and Harris - Todaro model by adding a variable of rate of labour turnover in urban modern sector

So the rate of new job creation can now be represented by -

\[ F_{u} = \langle F_{u} + B \rangle F_{u} \text{ and not simply by } g^{*}F_{u} \text{ i.e. without considering labour turnover.} \]

\( F_{u} = \) the level of urban modern sector employment
\( \dot{F}_{u} = \) the time derivative of \( F_{u} \),
\( O = \) the growth rate of urban employment, and
\( B = \) the rate of job turnover.

(c) Todaro Model (1976)

In the article of 1976, Todaro has given a simple empirically testable formula to explain the conditions under which an autonomous increase in urban job creation ostensibly designed to eradicate urban unemployment would, in fact, cause both the level and the rate of unemployment to rise. Todaro derived the following formulae to serve as first approximations for the conditions under which -

(1) the level of urban unemployment would rise:

\[ \frac{n_{p}}{M} > g \cdot \frac{F_{u}}{M} \]

Here

\[ \hat{h}_p = \text{the elasticity of induced migration with respect to change in modern sector job probabilities}, \]

\[ g = \text{the growth rate of new job creation}, \]

\[ E_u = \text{urban employment, and} \]

\[ M = \text{number of rural-urban migration}. \]

(2) the rate of urban unemployment would rise:

\[ \hat{h}_p > g \cdot \frac{L_u}{M} \]

and here

\[ L_u = \text{the urban labour force}. \]

Todaro argued that if the observed estimated period migration elasticities (np) exceed either or both of the above "threshold" value (i.e., \( = g \cdot \frac{E_u}{M} \) for the level of unemployment, and \( g \cdot \frac{L_u}{M} \) for the unemployment rate), the Government intending on solving their urban unemployment problems through expanded urban job creation would actually worsen the situation if wage differentials remained unchanged.

After the discussion on the various theories of migration which have major concentration on the rural urban migration due to new job opportunities that urban centres provide, I will try to bring out the literature on migration in Thailand.
Review of Literature on Migration in Thailand

In developed countries, the data on migration is available in detail, making the migration research studies extensive and sophisticated. But such is not the situation in under developing countries. At the first place, the research studies started late and till today, the information system is not without defects in developing countries. Michael J. Greenwood gave a gravitational model to determine the determinants of the migration in Egypt\(^\text{26}\). Byerlee and Sicher found out typical characteristic of African migrants i.e. young and better educated males migrate more. But, now a days, females are also migrating. The migrants often used to visit the area of origin and remitted from their urban savings to relatives in rural areas. this phenomenon is similar to the seasonal migration in Thailand\(^\text{27}\).

The work on migration in Phillipines is well known as far as Asian Countries is concerned. Flvira and M. Pascual used 1948 and 1960 population census in estimating


the percentage of change in migration. The migrants found to be mostly young females, and educated. Males migrate mostly after the age of 35 years. The primary motivation was "putting one's self at a better earning advantage by relocating the place of residence" with other reasons too.

Thailand does not represent distinctive population characteristics from demographic point of view. So the comparatively little attention has been paid to the social demography of Thailand. As stated earlier, Carle C. Zimmerman was probably the first American rural Sociologist to express awareness of migration phenomenon in Thailand. He was an adviser to the Government and royal family. Studying about 40 villages in various regions of the country, his report included observations on migration as 76% of the children in central region, 64% in the south, 54% in the North-East and 47% in the North were permanently residing away from their residences of origin. The age and sex characteristics of interregional migration were clearly explained. After the lapse of about 25


years, Robert Textor in Bangkok studied the residences of origin of pedicab drivers. The reasons for their migration were concluded to be basically economic. In 1957, Marian Richards Meinkoth, interviewed 537 migrants at Hua Lampong Railway Station Bangkok, on the background of migrating former from the North-east Changwad. 80% of the interviewees were from Changwads Surin, Sisaket, Roi Et, and Ubon Ratchathani. He found that economic reasons were causing migration.

Abdul Wichiencharoem, considering the data in the Demographic and Economic Survey 1954, studied dimension of migration in Thailand. He concluded that during the period 1948 - 1954, 24.6% of the country's population had migrated, of which 93% migrated in the Central Thailand of which substantial movement of migrants was into greater Bangkok.

The sixth population census of Thailand was carried out in 1960, but it was the first census indicating detailed data of internal migration. Using 1960 census as basic several studies regarding migration were carried out by Thip Charathorn Goldstein the preliminary Report of migration by the Department of Public Welfare, the ILO Report on migration etc.
Renald Mg. has studied migration patterns within and among ten regions over the period 1955 - 1960. He observes that the intra-regional movement is the main redistributive process and it is due to population density, new job creation, diversification of agricultural products, cultivable land availability etc. 47% of migration during 1955 - 1960 was mainly inter-regional.

Sidney Goldstein studied migration on the basis of 1960 population census.\(^{30}\)

He observed that 25.4% of the 1,912,000 natives born Thais in Bangkok metropolis had been born outside the metropolis. He analysed the effect of a private city upon migration in a developing country. The findings were similar to the findings of United Nations Report (1967) on migration, which put forward that a kind of 'Turnover Migration' occurring in Bangkok with age and sex differentials. Males moved at slightly higher rates, rate was relatively low for the 5-14 years of age group, peak being around twenties and dropped there after. Goldstein also found that distance played a significant role in determining the magnitude and direction of the migration.

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In 1974, Gold Stein and his colleagues tested the educational selectivity of migrants and found it statistically significant but only for the migrants who had education beyond primary level.

"The uneven distribution of educational facilities in different parts of Thailand make it necessary for those who want to seek better education to move to other provinces where better educational facilities are available. More educational facilities are available in Bangkok. Thonburi, encouraging rural youth to migrate to the capital city".  

According to Gold Stein, the growth of population of the Bangkok metropolis has migration as an important component. Man moved for adequate employment opportunities from rural areas and in addition women move there according to marriage.

Thip Chalatharn found the index of preference (IPR) and the velocity Index (ICV) on the basis of 1960 population census. It reveals that people in the central plain are willing to move to north by 10.7% and those living in other regions prefer to move into central plain

The situation is opposite for the people living in the South, who least prefered to move to other regions. By considering I.G.V. (Index of Velocity), the North-east has the highest velocity towards the central plain (27.6%), the velocity from the central region to the north is medium (11.7%) and from the south to north east (0.2%). We can relate I.G.V. to the distance directly\textsuperscript{32}.

Almost 2/3rd of all migrants to Bangkok are from provinces located in the central region of Thailand, and only minor degree from North-east, North- and south.

Rachaniwan thavornjit systematically analyses the economic causes of internal migration in Thailand\textsuperscript{33} using stepwise regression she used the net migration rates of Changwats as a dependent variable. the Independent variables were urbanization, assessibility, education, regional earning differentials, national earning differentials (excluding the metropolitan area) and population per unit of cultivated land. The urbanization variable was represented by the ratio of the population of the municipal population to the total Changwat population in 1968 to the same proportion in 1960. She

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used the proportion of students in the unperprimary level or above to total Changwat population for the ducation variable. Accessibility was represented by numbers of motor vehicle registered per population. She found that migration was significantly related to earning differentials, urbanization, education and accessibility. Above factors reflect pull factors more than push factors.

The rural-urban migration is dominant in Thailand, but because of the absence of other major urban centres, the Bangkok metropolitan area is very big attraction. Chiangmai, the second largest city has less one thirtieth (1/30th) the population of Bangkok – Thonburi.

Therefore, although there was little open unemployment in rural Thailand, there was a significant change in labor utilization patterns between the peak and slack agricultural seasons. In 1974, there was a substantial difference in the size of the labor force between the two seasons, with the rainy season labor force about 30 percent larger than the dry season labor force for the country as a whole. The data from the Labour Force Survey of the National Statistical office indicate that the open rural unemployment in Thailand is very low, about one percent only of the total labour force.
However, this does not imply that Thailand has no unemployment problem. On the contrary, the problem exists and is manifested in the form of seasonal unemployment, low labor utilization (in term of working hours), low income and/or low productivity. In addition, there was another group of persons excluded from the labour force during slack seasons as they were classified into the "Waiting for agricultural season" category who were underemployment or unemployed during the dry season. Most of them were women who worked for the household without receiving wages. These two groups, the underemployed and the "Waiting for agricultural season", could be classified as working poor, a total 7.8 million persons in 1980 and about 6.5 million in 1990.

In brief, the motivational factors influencing migrations are most countries stem from economic reasons as well as social and demographic factors; and the characteristics of migrants which are common and universal are that men at the age group of 15 - 35, and women at the age group of 13 - 30 years are highly responsive to migration, respectively. However, the difference lies upon the mobility of occupational groups with different levels of educational attainment. Especially, the trend shows
that the number of the migrants who move to the Bangkok Metropolis in the present time, women migrants has been rapidly increasing than men migrants. The various theoretical models discussed above and the research done in Thailand regarding migration pattern show that there is always migration from the area of origin to the area of destination is in search of new opportunities to earn higher income or wages. It is generally from the rural areas to urban centres or urban metropolis. The area under my study will show the trends of migration in Thailand and the problems caused by it. My next chapter will deal with the research methodology used by me for my research.