Chapter II

THEORETICAL BACKGROUND AND REVIEW OF EMPIRICAL STUDIES
CHAPTER II
THEORETICAL BACKGROUND AND REVIEW OF EMPIRICAL STUDIES

2.1. INTRODUCTION

To get a background for the present research work and to put the research issues in a proper prospective, the theoretical underpinnings have to be understood. In this chapter the first section discusses the relevant theoretical aspects of labour market and its characteristics. In section two, an attempt has been made to review various empirical studies carried out in developed, developing and in India on earnings, mobility and labour market segmentation aspects.

SECTION I

The large amount of empirical investigation into the relationships between education, occupation, and earnings from employment which have been conducted since the 1960s in both high and low income countries have resulted in two major findings. The first of these is that the main criteria used by employers to recruit new entrants into the occupational structure are level and type of education. To formalize this, minimum educational entry requirements are generally set for each occupation. Second, there is a very close correlation between an individual's educational attainment and his or her level of lifetime earnings. Explanations of these observations, however, vary widely. Each is based on a different theory of the operation of labour market (Hinchliffe, 1987). We shall discuss the theories of labour market in the following paragraphs.

2.2. LABOUR MARKET : A THEORETICAL SKETCH

As the Labour market has been viewed from different perspectives, an analysis of how wages are determined and workers are allocated to different jobs will help to
understand the concept and the process of segmentation. A number of segmentation theories - rather models- have been evolved since late 1960's, first in the United States and then in other developed capitalist economies. The various names given to the segmented labour market theories are radical, dual (primary-secondary), tripartite (core-periphery- irregular), stratified, hierachical (multiple) and job competition (Biswal, 1995).

Contributors to the analysis of labour markets are usually classified by their perspectives into three broad groups viz., Classical, Neo-classical and Segmented labour market or Dual labour market (SLM or DLM) and Radical (Marxist) theorists. The first two are also known as 'Orthodox' and the other two as 'alternative. A brief taxonomy of existing labour market in its proper perspective is presented in the form of a Table (2.1) (Psachrpolous, 1977).

Table 2.1
A TAXONOMY OF LABOUR MARKET THEORIES

<table>
<thead>
<tr>
<th>Theory</th>
<th>Key element</th>
<th>Policy prescriptions</th>
<th>Principal exponent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical</td>
<td>Population dynamics,</td>
<td>Population control</td>
<td>Smith, Malthus, Mill,</td>
</tr>
<tr>
<td></td>
<td>Subsistence</td>
<td></td>
<td>Marx.</td>
</tr>
<tr>
<td>Orthodox</td>
<td>Wage.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neo-classical</td>
<td>Supply and Demand, Marginal productivity</td>
<td>Productivity boosters, provision of education + training</td>
<td>Marshall, Schultz, Becker</td>
</tr>
<tr>
<td></td>
<td>Human capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segmented (Dual)</td>
<td>Demand side institutional structure,</td>
<td>Reduction of barriers, institutional changes</td>
<td>Bluestone, Doering, Piore, Harrison</td>
</tr>
<tr>
<td>Alternative</td>
<td>Mobility barriers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radical (Marxist)</td>
<td>Social class conflict</td>
<td>Development of social class consciousness</td>
<td>Bowles, Gintis, Reich, Gordon, Edwards</td>
</tr>
</tbody>
</table>
2.2.1. The Classical Theory

Classical analysis more or less treats the labour market as an unified entity in which allocation is regulated by the price mechanism. They have adopted an aggregate view of labour as a factor of production and therefore were mainly concerned with the long-term share of wages in national income rather than personal income distribution. A typical example of their thinking is Malthus' dynamic model of food and population interaction leading to a subsistence wage. Improvement of labour conditions seemed beyond the control of the individual and, translated into modern terms, population control would be one of their policy prescriptions.

Smith and other classical writers believed the actions of the participants on the labour market as class based. They arose out of the shared means of the employers who combined to pay as little and of the employees who combined to raise their wages as high as possible. Marx gave the workers combinations a revolutionary purpose. Others did not. Both Smith and Marx regard labour as the only source of wealth. Smith realises the advantages of division of labour. So far as creation of wealth goes but does not fail to realise its disadvantage which he details in the theory of moral sentiments (Deshpande, 1983).

While classical economists were primarily concerned with the problem of distribution, they did not ignore the structure of the labour market. Adam Smith, for example, provided a number of explanations of why some workers earn more than others, including the 'agreeableness or disagreeableness' of the work, the tenure of the job and regularity of employment and the cost of acquiring the skill necessary to undertake the job. Smith argued in the 'Wealth of Nations' that education could be viewed as an investment in future earnings capacity which must replace to him the whole expense of his education, with at least ordinary profits of an equally valuable capital. Other classical economists such as J.S. Mill disputed Smith's theory of wage relativities and argued instead that the
labour market was composed of noncompeting groups of workers. Those in the most desirable (both high-wage and more agreeable) jobs are in these occupations as much because of their social background as because of their education or skills. Wages in skilled jobs are higher because social barriers restrict entry of these jobs, not because there are barriers based on lack of education.

Of particular importance for this discussion is the classical concept of non-competing groups. This concept was developed by Cairness (1874) and Mill (1900) in recognition of the fact that there exist distinct markets for different kinds of labour. Smith's proposition that wages vary inversely with the agreeableness of the job was thus modified (as early as 1850) to take into account the lack of mobility or opportunity: workers in dirty jobs were paid less than workers in more pleasant jobs because the latter were mainly recruited from their own ranks.

2.2.2. Neo-Classical Theory

The neo-classical theory of labour market represent the main stream approach to labour market analysis. This theory has its origin in the work of early neo-classical economists such as Alfred Marshall and J.B. Clark during the 19th century. Their work was a part of the 'Marginalistic Revolution' which saw the introduction of a framework for analysing economic problems that remains the corner stone of current economic analysis. Whereas the Classical Economist had concerned themselves with distribution, neo-classical economists focus on the process through which the economy allocates its scarce resources between their possible uses. Attention was directed, in particular, to how a free market system could achieve on efficient or optimal allocation of resources and to the economic behavior of individual aspects in this process (McNabb, 1987).
In the labour market the implications of this approach for the demand for labour are described in the 'Marginal productivity Theory' as developed by J.B.Clark (1899). Assuming that firms operate in a competitive labor market and face an inelastic and homogeneous supply of labour at the going wage rate, firms will maximise their profits if they employ labour up to the point where the wage equals the value of the marginal product. This theory provided an explanation of labour demand. It suggests that the number of workers employed by a firm and the wage they were paid depend among other things, on the productivity of those workers. On the supply side, the Neo-classical economists were concerned with the question of how the supply of labour changed with changes in the wage rate. Differences in labour quality were to all intents and purposes ignored, and education was treated as one of many goods available for consumption. This theory has provided an explanation of the general levels of wage and employment and the determinants of the wage and employment.

The proponents of the neo-classical school take pride in the contribution that their school has made to the meeting ground. They claim that they have made labour economics far more analytical than it was not a few decade ago. The application of micro and macro economic theory to explain the outcomes observed commonly in the labour market has brought with it the choice-theoretic approach. It assumes that time, personal incomes and social resources are scarce. Therefore, every individual has to choose. He is guided in his choice by costs and benefits and adopts his behavior to the changes in perceived costs and benefits (Deshpande,1991).

Neoclassical labour market theory is basically a theory of markets and market interdependencies without reference to its societal context. In its purest form, neoclassical labour market theory is non-institutional -that is, factors like trade union influence, collective bargaining and the state do not appear as necessary conditions in the workings of their
models of reality. (Loveridge and Mok 1976). Rather the orthodox neoclassical view rests on the proposition that the worker is paid its worth; this is brought about by the existence of well behaved production functions (when good behavior is defined by diminishing returns to factor input) and perfect labour markets (where perfection requires large numbers of capitalists and workers with equality of status within and between these groups). Given these preconditions, the equilibrium price of labour will be determined by the elasticity of substitution for capital in the production process and its relative plentitude. The problems arising from differences in skill requirement and labour quality are resolved by supposing that labour productivity results partly from natural endowment and partly from investment in human capital. The market signals for 'quality' labour, and labour adjusts itself by increasing human capital investment (either by foregoing current income or acquiring funds in a perfect capital market) to raise its productivity and hence its price. By contrast Marxian labour market to the system of power and domination in society at large.

The assumptions on which neoclassical competitive model is based are as follows: i) employers and workers have fairly accurate knowledge about wages and job opportunities through the market; ii) employers are 'rational' in the economic sense—that is, employers act to maximise satisfaction from real wage; iii) employers and workers individual choice has no impact on wages; iv) labour and other factors of production are perfectly mobile; v) workers and employers act individually and not in concert with others workers (through unions) or employers (through associations) in making wage and employment decisions; and vi) labour within a particular market is homogeneous and interchangeable.

Thus, the central assumptions of the competitive model of the neoclassicals are: maximising behaviour of all parties involved; perfect substitutability of labour and capital; and a tendency of supply of labour and demand for labour to balance by wages.
However, a close look at the above assumptions would reveal that most of them are unrealistic, do not confirm to the real world situations. This competitive model, therefore, has never given a real picture of labour market functioning and structure. It has always been seen as an 'ideal type' in which each condition may be released under controlled conditions. This model altogether skips over the analysis of 'internal' labour market which are mainly characterised by a specific technology and a specific skill structure.

Moreover, as Marx puts, there must constantly be an unemployed reserve army of labour to keep the supply of this commodity abundant and its price low. So, according to this reasoning, the most important condition for development of capitalism in its middle stage is the existence of an industrial reserve army which exerts enough pressure from the 'external' market on the 'internal' market to keep down wages inside the factory or workplace. Thus, the assumption that, at any point of time there is a tendency of the supply of labour and demand for labour to balance at a given wage seems unrealistic.

Apart from this other neoclassical models—'signaling' (Spence, 1974), 'job competition' (Thurow and Lucas, 1972) and 'human capital'—have been unable to satisfactorily explain the structure and functioning of labour market in advanced industrial economies. These models while explaining the labour market experiences of different participants put much emphasis on development of individuals. For example human capital model states that an individual's position in the labour force depends primarily on the amount 'invested' on that individual. (Schultz 1961 and Blaug 1976). So like an economy, an individual's position in the labour market can be analysed in terms of a production possibility curve, available resources and prices of these resources (Carnoy, 1980).

2.2.3. Human Capital Theory

During the late 1960s the Neo-classical theory of the labour market reflected the emergence of the "Human Capital Theory." According to the human capital theorists such
as Gary Becker and his associate at University of Chicago coined 'Human Capital' to represent characteristic such as education and on the job training are related to productivity. This theory was an off-spring of the modernisation theory which assumed a direct and positive relationship between improvements in the levels of education and increases in productivity of the labour force.

Whilst the human capital literature has highlighted a number of productivity related characteristics, human capital theorists give more emphasis to the importance of education as the main component of productivity. Since there is a close relationship between particular educational program and the type of occupation can go into, the human capital theory also provides a model of occupational choice. Occupation that offer high wage will, other things equal, encourage people to invest in the particular educational programs associated with them.

Not only does the neo-classical explanations of the relationship between education and labour market outcomes provide an explanation of wage structures and occupational choice, but it is also of crucial importance for public policy aimed at improving the distribution of income. According to the human capital theory, any such policy must of necessarily include some form of education policy, since low pay, poverty, and other forms of economic disadvantages are assumed to reflect a deficiency in the level of education of the people concerned. The neo-classical theory has been developed in terms of some rather simplistic assumptions, such as that of competitive labour markets, it is in fact robust to changes in the assumption made. (Psachropolous, 1987). The human capital theory takes as its model the rational economic man who acts to maximise his returns, and extends this to labour market decisions.
Research into the structure of individual earnings has been voluminous. Most analysis, under the heading 'human capital' concentrate on 'quality' differences among workers. Nevertheless, other research traditions addressing essentially the same questions have taken quite different, and conflicting, views of wage determination. They include investigations of aggregate differences in earnings patterns arising from differences in employing industries, in occupations, and in employment location and analyses based upon production relationships and the derived demand for labour.

Major difference among the alternative theories relate to labour market definition and the modeling of how labour market structure affects individual earnings. Human capital research concentrates upon differences among individual workers while generally assuming all workers participate in a common aggregate labour market. On the other hand, direct analyses of aggregate labour market differences (denominated by the geographic area, industry or occupation of workers) display sizeable differences across labour markets but generally ignore differences among individual workers. Finally, demand studies, concentrating on differences in labour and market structure, typically ignore differences and responses of individual workers, while the different classes of research have proceeded quite independently, available evidence suggests that each has a role in explaining individual earnings.

Proponents of human capital theory have explained the unequal distribution of labour income in terms of differential amount of human capital like education, experience, training necessary behavioral traits, etc., possessed by different individuals. While doing so, they have tried to establish a positive functional relationship between the earnings of an individual owns. It follows that the human capital theory puts much emphasis on the supply-side of the labour markets thereby, to a greater extent, undermining the importance of demand-side factors. This theory thus turns to be a partial
approach to labour market analysis. Though, these theorists have succeeded in empirically verifying most of the human capital hypothesis, they fail to explain the eco-political implications of structures labour markets. Also, they have not succeeded in answering the question as to why individuals having otherwise equal potential human capital are rewarded differentially in the labour market at least in certain specific labour market segments (Biswal, 1995).

2.2.4. Segmented Labour Market Theory

At this juncture, in late 1960's a rich non-neo classical theory of labour market analysis was evolved to fill the voids in the explanations of labour market structure and functioning. This goes under the rubric of "labour market segmentation". However, it should be noted that the theories of labour market segmentation did not come as threat to neoclassical labour market theories in general and human capital theory in particular, rather they came as complementary to neoclassical theories of labour market. The existence of segmentation in the labour market - defined as different wages for workers of equal efficiency - are regarded as imperfections resulting in a misallocation of resources. These are recognised to exist both in 'in-market' (in the form of the monopoly power of labour and the monopsony power of capital) and 'out-market' (in the form of non-competing groups) situations and are generally condemned. But such imperfections are considered by neoclassical theorists to be of marginal importance compared with the 'deep silent strong stream of the tendencies of normal distribution and exchange' (Marshall, 1952).

The growth of large corporations, multinationals and big trade unions led many to doubt the relevance and utility of the Neo-classical model in explaining the behaviour of labour market to the world as it existed. The Great Depression and the Keynesian revolution have further weakened the following that the Neo-classical school once boasted.
At the same time, the number of institutionalists and radicals who offer explanations about the structure of labour markets has increased by leaps and bounds. Cain has called this crowd as the 'Segmented Labour Market Theorists' (Cain, 1976).

It is argued that the labour market is characterized by number of segments, each of which has different conditions of employment and recruits from among separate sections of labour force. To some theorists the types and number of jobs in each segment are determined by technological requirements; to others segmentation occurs as a result of conscious actions by capitalists to divide the working class and reduce class consciousness. Broadly these proportions can be classified into two: Institutional approach and the Dual Labour market approach.

Firms demand for labour is influenced by a set of factors which is not directly related to the technological and cost aspects of production function and these factors may be known as institutional factors. Employees associations, tacit or explicit agreements among them about wages and employment conditions and employment standards are also included in this set of institutional factors. Cairness (1874) maintained the existence of 'non-competitive group's. It is claimed that wage structure, even in labour market is not determined by efficiency (productivity) criterion but, rather by customs and habits. Therefore, the distribution of jobs and income is not dictated by ability and human capital but by customs and institutional practices (Prohit, 1985).

Thus, labour market segmentation theories have been evolved to provide a realistic explanation of different aspects of labour market functioning and the effects of the segmented labour markets on industrialisation, productivity of the labour force, distribution of income between households of the industrialised as well as industrialising countries (Biswal, 1995).
2.2.5. The Dual Labour Market Approach

A long standing issue in labour market studies is the extent to which inequality derives from market vs. institutional sources. Neoclassical economic theory emphasizes market forces. It assumes that the labour market is a single arena in which wages respond to competitive pressures fairly rapidly. In contrast, dual labour market theory argues that, due to institutional constraints, the labour market is segmented and in that primary sector employment is rationed by non-price mechanisms.

The two economists most often associated with the dual labor market theory are Doreigner and Piore (1971). They draw their inspirations from the works of two prominent economists of their time. They are Dunlop (1957), and Kerr (1954), who first gave prominence to the concepts of internal and external labour markets. Dunlop and Kerr viewed the growth of large firms and unions in the United States, as promoting internal (within-firm) labour markets that were only weakly connected to the external (between-firm) labour markets.

According to this theory the entire labour market can be divided into primary and secondary sectors (segments). The variables mainly used by the 'dualists' to divide the labour market in to primary and secondary segments are 'job contents', 'circumstances of employment' 'average earnings' level of different groups of workers and the degree of 'mobility' between the segments.

The extent of worker bargaining power is probably a continuum. In the dual labour market approach, this continuum is approximated by two-sector model in which workers in the primary sector are said to have high bargaining power and workers in the secondary sector have low bargaining power. Thus, workers in the primary sector tend to be employed in internal labour markets whereas secondary sector workers are exposed to greater levels of neoclassical market competition.
The primary sector consists of high-wage jobs with good working conditions, considerable opportunity for advancement within the firm and substantial rewards for obtaining education and training. The characteristics of secondary sector are low wage jobs with poor working conditions, considerable variability in employment, harsh and arbitrary discipline, little opportunity to advance. Labour relations are generally formalised either by union contract or in an employment relations handbook. Company policy sharply circumscribes supervisors' authority. Because of the high wages, employees tend to stay on the job for a long time. Because of firms' investment in screening and training, firms tend to hold onto workers. Also, primary firms may insulate themselves from demand swings by contracting out the more volatile portion of demand (Dickens and Lang, 1992).

With primary-sector wage being relatively inflexible due to organisational constraints, labour market outcomes are clearly affected by the availability of job positions and the associated distribution of wages. The dual labour market model also differs substantially from the neoclassical approach in regard to industrial policy and earnings inequality. (Blow and Summers 1986; Thurow 1975).

In the debate over the operationalisation of the dual labour market, no classification scheme seems to be entirely satisfactory for all research concerned (Zucker and Rosenstein 1981, Hodson and Kaufman 1982; Dickens and Lang 1985b). Some studies used occupational definitions (Osterman 1975; Rosenberg 1976; Rumberger and Carnoy 1980 Coverman 1986). Some defined the sectors in terms of industries (Beck, Horan and Tolbert 1978; Wallace and Kalleberg 1981 Hodson 1983) while some used both occupational and industrial criteria (Bibb and Form 1977; Schergish 1983). A few studies considered sectors in terms of firm size (Stolzenberg 1978; Oi 1990) whereas economists have intensively studied the union/non-union division (Freeman and Medoff 1984).
Dickens and Lang (1985a) avoided the issue of operationalisation by estimating sector specific wage functions without any direct measure of the individual's sector.

Following a brief period of popularity, it faded after influential critiques suggested that existing evidence did not differentiate between labour market segmentation and standard human capital theory (Wachter 1974, Cain 1976). In the last decade several important theoretical and empirical developments have generated a resurgence of interest in the theory.

Dicken's and Lang (1992) reviewed these developments and concluded that labour market segmentation theory provides a good alternative to human capital theory and identified two crucial elements of segmented labour market theory. First, the labour market can be usefully thought of as being made up of several distinct segments with different rules for wage determination and employment policies. Second, access to jobs in at least some sectors at some times is limited in the sense that more people want job than there are jobs offered. Thus there may be queuing for these jobs either in the form of unemployment or job queues among employed workers or both.

While it is easy to state that labour market segmentation theory implies distinct segments, just what is meant by 'distinct segments' is more difficult. Minimally, a number of important characteristics of the wage determination mechanism and the employment relation must be correlated so that segments can be characterized as regions in a space with dimension significantly smaller than the space of characteristics. In the extreme, dual market theory has been interpreted by some as implying that a wide range of job characteristics are all highly correlated so that jobs can be arrayed along one dimension and described adequately by their position along that dimension.
Many tests of dual market theory have operationalised the concept of segment with particular reference to the wage determination mechanism. Most of these studies find that there is a difference between the wage determination mechanism in the primary sector and in the secondary sector. Further, the differences are in accord with the descriptive literature on labour market segmentation.

This aspect of the research helps to establish that labour market segmentation theory provides a good description of the income distribution and is therefore of heuristic importance. Although summarising many characteristics of a job by its location in some classification system may be useful, it does not challenge the application of human capital theory to labor market problems. The reasons for segmentation may be important for understanding the form of the income distribution, but segmentation, as such, does not imply any market failure. Thus, Heckman and Sedlacek (1985) estimated a model of a segmented labour market consistent with a human capital view, and Heckman and Hotz (1986) proposed such an interpretation for their finding that two equations fit the Panamanian income distribution better than one. The more fundamental criticism of human capital theory implied by labour market segmentation theory is that labor does not clear that access to some sectors is subject to non-price rationing.

All the early writers on labour market segmentation theory identified limited mobility among sectors as an important aspect of the theory. More significantly, they argued that there is a hierarchy of sectors with access to the highest paying being the most difficult. Critics of labour market segmentation theory used the fact that during the economic expansion of the 1960s in U.S.A., blacks were more likely to move into high wage jobs than whites as evidence against reduced mobility (Schiller 1977). Smith (1989) revives this argument by showing that earnings rise more rapidly with experience among blacks than among whites. Leigh (1976) found substantial and comparable earnings
growth for blacks and whites and suggested that this refutes the dual market hypothesis. On the other hand, Rosenberg (1976) and Carnoy and Rumberger (1980) found that minority workers are more likely to begin their career in the secondary sector and, having started there, are less likely to leave than are whites. These authors argue that this differential mobility supports dual market theory.

Thus, authors on both sides confounded lack of mobility with barriers to entry. However, in the extreme no mobility between sectors could be consistent with complete barriers to entry or no barriers at all. If workers always enter the sector they prefer on their first job, there is no need for mobility among sectors. On the other hand, if whites can enter whichever sector they prefer, but blacks must queue for good jobs, blacks will be more likely than whites to move into good jobs.

By shifting the emphasis from mobility to evidence for queues the question becomes much clearer. Evidence of excess supply in high wage jobs, wage differences unrelated to ability or job quality (and perhaps related to other characteristics not suggested by human capital theory), and that workers in low wage jobs would prefer high wage jobs for which theory would qualify, all provides evidence of queues.

Since queues imply excess supply to high wage jobs, they also imply some degree of wage rigidity at least in high wage jobs. Thus theories of labour market segmentation require some form of wage rigidity.

Dickens and Lang (1992) view the existence of segments with different wage setting mechanisms and queues for high-wage jobs as essential elements of labour market segmentation theory. However, there are several other attributes common to many versions of labor market segmentation theory. The first of these is that the labour market
can be usefully modeled as having two major segments-secondary and primary. The latter is often divided into a lower and upper-tier.

**Effects of Segmentation**

Neo classical theory assumes that individual workers can freely make a choice among a wide range of job options in the labour market, based upon their personal tastes and preferences. To the degree that institutions such as unions or monopoly producers are recognised in this process. They are considered to be aberrations which distort but do not displace the basic tenets of the theory. Segmentation theory, on the other hand focuses on groups or classes of workers who face objectively different labour market situations which systematically condition their tastes and restrict their range of effective choices. The development and operation of institutions, which are central to segmentation theory, result in several, rather distinct segments without the labour market. Jobs within one segment differ from jobs within another segment along a number of dimensions, including wages, promotion opportunities returns to education and training and employment security.

Rumberger and Carnoy (1980) examined the effects of segmentation on two important labour market processes-mobility and the determination of earnings. According to them Labour market segmentation does not constitute a single, unified alternative to neo classical theory. Segmentation proponents differ in the number and type of distinct segments they propose. Many investigators have focused on occupational division of the labour market, in the USA as well as in other economies, (e.g Doeringer and Piore,1971; Harrison 1972; Reich. Gordon and Edwards,1973; Velloso 1975; Liu 1975; Rubery,1978).

Proponents of labour market segmentation also differ in their explanations of how segmentation develops. There are essentially two schools: one views segmentation from a class-conflict perspective, the other from a technological perspective. Both schools
emphasize the importance of institutional forces in shaping the development of segmentation. But some proponents (e.g. Piore 1975) argue that these institutions develop from technical considerations and the nature of product demand. Others (e.g. Gordon, Reich and Edwards 1973) argue that the conflicting interests of capitalists and workers condition the subsequent development of institutions and the technology they employ.

Because of its dynamic nature and the many variants of the theory that exist, segmentation has yet to be fully tested empirically. Although a particular scheme for defining segments is applied in the empirical analysis, the results are not intended to support any particular notion of segmentation. Rather the analysis is intended to show that segmentation can be used to understand better the operation of labour markets.

2.2.6. Radical Theorists

Partly in response to the inconsistencies of the empirical findings with the hypothesis of the dual labour market theory, a more elaborate and dynamic theory of segmented labour market was developed by Edwards, Reich and Gordon in the early 1970's and this theory was modified later in the early 1980's by economists like Rumberger, Carnoy, Loveridge and Mok, Rosenberg, Rodgers and other empiricists.

The radical theory of segmented labour market expresses a more explicit critique of capitalism, acknowledges its ties to Marxian dialectical analysis, and emphasizes class conflicts. The radical theory is similar to the dual labour market theory in drawing upon sociological analysis of institutional change, but the radicals give emphasis to historically rooted class based motivations of behaviour by employers and workers. Technology is viewed as an endogeneous variable that is manipulated by employers to further class interests rather than profits. It is difficult, however, to test these ideas relative to neo classical theory, which also may view technology as endogeneous, depending on the time period analysis, and which may hypothesize non-pecuniary aspect of profit maximisation (Cain 1982).
It should be remembered that most of the issues raised by the radical theorists are similar to that of dual labour market theory. But the division of labour market into various segments and the explanation of the segmentation process provided by the radial economists are different from that of the dualists. Radical labour economists divide the labour market into multiple segments, mainly into three segments - primary independent, primary subordinate and secondary. Some economists have also added another labour market segment termed as 'crafts' to the above three markets.

The radicals claim that the main cause of segmentation is monopoly capitalism: "employers actively and consciously foster segmentation in order to divide and conquer the labour force" (Reich, Gordon and Edwards (1973). In fact, it is the creation of human capital that further segments the labour force (Bowles and Gintis 1975). Therefore the radical policy prescription is for workers to become class conscious and fight to increase their class power and share in production.

Today, the main debate is between neo-classical theory and segmented labour markets. The reason is that, on the one hand, the profession has made some progress over classical economics. On the other hand, most of the radical prescriptions are not easily implementable, at least if one accepts the political regime as given.

2.2.7. Segmentation Models

To Gerry Rodgers (1993) there are several alternative models, reflecting different theoretical perspectives on the origins of segmentation. One regards segmentation as simply reflecting a process of modernisation. Modern production activities involve different labour force characteristics and skills, so that during a phase of transition economic dualism will be reflected in labour market dualism.
A related model explains segmentation in technological terms. Production systems involve heterogeneous economic activities, some requiring stable, skilled committed workers because of the technology of the production line, while others require only a casual, unskilled labour force. In the original American literature (e.g. Doeringer and Piore, 1971) a mix of technological and institutional factors lead to 'primary' labour markets in which firms provide internal labour markets which offer workers career progression and skill development contrasted with 'secondary' labour markets in which jobs are unstable, non-progressive and low skill. Market forces dominate wage setting in the secondary market but not in the primary.

A more radical interpretation of the same phenomenon treats it as a process of 'divide and rule'. Segmentation limits solidarity between workers and provides a mechanism for employers to offer different levels of wages and security to groups of workers with different social and economic influence: a core of secure workers may then be co-opted at the expense of the low wage periphery. Technological factors are secondary in this model; jobs structure reflect a social process, and segmentation is a mechanism by which employers control the labour process.

But supply side factors may also lead to labour market segmentation where jobs are scarce, since those who are in employment search for ways of defending their territory. Employers may find this efficient if it helps to ensure labour commitment; so they may reach agreements which give trade unions, intermediaries, social groups or individuals workers considerable control over recruitment, fragmenting the labour market. But control over skills or knowledge by particular groups will also have similar effects independently of the actions of employers, as well as restrictions on information about job opportunities. These sorts of factors are particularly important in family and small scale enterprises.
So many factors may lead to segmentation, which will tend to follow the fault lines of society; the more there are dividing lines with the society, the easier it is for the labour market to fragment. And the scarcer income-earning opportunities, the greater the instability of segmentation. So differences in the access to jobs becomes a crucial determinant in the overall pattern of inequality. Individuals have to rely on a restricted range of personal and community contacts and information to obtain labour market entry. The narrowness of the range of options allocable to each reinforces efforts to defend the ground which they occupy, so that barriers to entry are fortified. Even in more meritocratic parts of the labour market, where educational qualifications are important, unequal access to education merely shifts the sources of inequality further back; and credentialism leads to sprilling qualifications for access to jobs, so that if educational systems expand, the disadvantaged remain disadvantaged. The labour market, therefore, readily reproduces existing social hierarchies.

How to model LMS? According to Khandker (1992) there are two models (Neo-classical and Segmented labour market) that try to explain LMS and its impact on labour market outcomes such as distribution of wages and employment, and income and occupational mobility of workers. The Neoclassical labour market (NLM) model emphasises that the labour market outcomes reflect the interactions of profit-maximising behavior of firms and the utility maximising behavior of workers. In this view, supply and demand forces clear the market, and thus earnings, occupational choice and mobility reflect on-job training and other investment in human capital. The model thus tends to emphasize differences among people, rather than among jobs, as a determinant of the distribution of jobs and income (Dickens and Lang 1985).
In contrast, the Segmented Labour Market (SLM) view suggests that labour market segmentation results more from differences in jobs than from differences in people. Differences in jobs arise because of tastes and institutional rigidities that prevent the market from operating as the NLM view suggests (e.g. Doeringer and Piore, 1971; Piore, 1983). Various categories of jobs emerge because job access depends more on the implicit job-specific labour contract than on the skill of the worker. Although the SLM view does not offer any concrete model, it emphasize that demand and supply forces cannot compete away the wage differential across sectors; nor skill differentials among individual can overcome the institutional barriers. It also argues that human capital investment is not enough to promote income and employment of the poor; it is thus also necessary to understand the nature and causes of labour market segmentation and its impact on the poor.

What is important from SLM view is that since good quality jobs are short in supply relative to demand, they are rationed and thus contact and influence rather than market forces interact with the market outcomes. Furthermore, because institutional barriers and preferences restrict entry into good jobs, labour market segmentation produces labour immobility across sectors, especially among the poor. A large literature has been developed along the lines of SLM view which casts doubts on the efficacy of the NLM view of the labour market (Taubaman and Wachter 1986).

In response to SLM criticisms, the NLM model allows for some labour market segmentation. It allows geographical and biological factors (e.g. age of the worker) to make labour imperfect which then creates market segmentation. It also allows institutional factors such as labour unions and government laws of minimum wage to cause market segmentation which arises because of market's response to externalities created by these institutional influences (Williamson, Wachter, and Harriss,1975). However, the presence
of such non-human capital influences distorting the market process and thus affecting market outcomes does not contradict the basic concept of the maximising behavior of the firms or the individuals.

Although the controversy continues over the sources of labour market segmentation and their theoretical underpinning, important empirical questions still remain: a) what causes labour market segmentation; b) how much do the causes of market segmentation affect the distribution of wages and employment; c) how strong are these effects on occupational and income mobility of workers; d) how many people are trapped in low paying jobs, and e) whether there is any room for policy intervention to improve the plight of the poor. Empirical research addressing these questions may help understand what determines the distribution of income and employment and the policy options for eliminating poverty.

Empirical verification of such issues is not an easy task. It depends on how the labour market segmentation is viewed. The dual labour market segmentation based on either production system (e.g. primary and secondary, public vs. private, formal vs. informal) or wage (e.g. high vs. low wages) is not mutually exclusive and so remain unsatisfactory (Rodgers 1989). For example, in the formal segment of labour market, informal arrangements such as contractual employment may emerge which are not different from the casual work of the informal sector. Similarly, in the informal sector where informal arrangements dominate, some formal labour arrangements may exist for certain categories of labour.

Therefore, a satisfactory way of identifying labour market segmentation should not be based on the characteristics of the production system or wage but on the job characteristics of an individual worker. Vijverberg and Van der Gaag (1990) conducted a test of labour market segmentation in the private wage sector of Ghana where they use
job characteristics to predict the formality index of worker's job and then found its impact on her or his productivity. They found labour market segmentation even in the private wage sector.

However, as Khandker suggests, individual-specific job characteristics are important sources of labour market segmentation. Rodgers (1989) has identified five categories of labour market segmentation based on individual's 'labour vulnerability, protection, and control over work. The job vulnerability approach (based on worker's job characteristics) to sort out labour market segmentation identifies not only different forms of labour market segmentation but also the level of poverty among various groups of urban workers as well. This approach also has important policy implications. A number of ILO-sponsored labour market studies document how urban poverty can be identified with worker's labour vulnerability (Rodgers, 1989).

Identifying market segmentation based on an individual's job characteristics has also a number of attractive properties: a) it is less ambiguous than the approach based on type of wage/industry/production system; b) it provides a framework to identify the relative influence on a worker's sectorial job allocation and wage of individual characteristics and the characteristics of the industry where she or he is employed; and c) more importantly, it facilitates the use of a sectoral selection bias test of market segmentation that sorts out who plays an upperhand in the distribution of employment and wage, workers or employers.

From the foregoing paragraphs we have discussed the different theories of earnings, mobility and labour markets and the evolution, definition and development of labour market segmentation theory. Section two in the following pages cover the review of empirical studies available in the literature.
SECTION II
2.3. REVIEW OF EMPIRICAL STUDIES

In this chapter, in the foregoing pages we have discussed the theoretical base for our study. We have discussed the major theoretical hypotheses of earnings, mobility and labour market segmentation. Part two and Part three review the available empirical studies on labour market segmentation in the developed capitalist economies and in developing countries respectively and finally Part four attempts to review the studies which were made in India.

2.3.1. Major Hypotheses of Labour Market Segmentation

There have been a number of attempts to empirically test the existence of segmented labour markets, both in developed and developing countries during the last two and half decades. However the empirical models of labour market segmentation differ. This may be because of lack of identical theoretical models of labour market segmentation. Several studies attempt to provide empirical evidence of the existence of segmented labour markets- both of dual and multiple segmented labour markets, both at occupational and industrial levels. Although most of the segmentationists agree that segmented labour market exist, empirically they fail to provide precise boundaries of different segments of the labour markets. However, identification of empirical boundaries of different labour market segments do not matter much. Therefore, most of the economists assuming that distinct segments exist in the labour market have attempted to empirically test the validity of different theoretical hypotheses (propositions) of labour market segmentation theory.

There has been considerable progress over the years in the discussion of segmentation. Early arguments were based merely on observed heterogeneity in the labour market and differences in the mean earnings of different groups were taken as
evidence of segmentation. Now, much of the work on the subject is devoted to identifying differences after accounting for similarities between human capital variables. One criticism of this approach is that it involves an econometric identification problem. If there is a protected sector that, for whatever reasons, pays relatively high wages, its selection criteria are likely to be such that the educated will be found in these better paid jobs even if the jobs do not actually require high education and skills. In the segmentation literature we come across a number of hypotheses relating to various aspects of labour market operations. However the major hypotheses tested in the empirical studies on segmented labour market are:

i. Different labour market segments exist which are characterized by differential behavioral patterns and human capital characteristics.

ii. That, in the labour market, disadvantaged groups are crowded into secondary segment which consists of jobs having low wages, no upward career prospects, no security of employment and bad working conditions. The existence of these conditions will be taken as support for what has been referred as the dual labour market hypothesis in the literature.

iii. The methods of wage determination in different labour market segments differ and human capital is not properly rewarded in the secondary segment. In other words there does not exist any positive correlation between the earnings of the individuals and their respective human capital characteristics in the secondary segment (Biswal, 1995).

2.3.2. LABOUR MARKET SEGMENTATION IN DEVELOPED COUNTRIES

A number of empirical attempts have been made in advanced industrial countries to test the theoretical hypotheses of the labour market segmentation. In this section an attempt is made to briefly review some of the important studies on labour market segmentation (viz. Andrisani, 1973; Bosenquet and Doeringer, 1973; Wulf, 1974; Osterman, 1975;
Andrisani (1973) attempted to empirically test the labour market experiences of white and black males in the Ohio state. His study was based on a sample of 159 males (82 whites and 77 blacks) interviewed in 1966 and 1969 and who were of 14-64 years old and education with not enrolled in schools to 12 years of schooling. By dividing his sample into primary and secondary segments he attempted to estimate: a) the degree of mobility between secondary first job, intermediate and primary jobs in 1968; b) the relation between likelihood of primary first job and human capital, socio-economic status, mental ability, and other independent variables; and c) the relationship between secondary/primary sector mobility and human capital and other independent variables.

While providing his definition of job segments, Andrisani takes the median income in 1959 as the criteria to divide the labour market into primary and secondary segments. Those individuals in occupations with median earnings greater than or equal to the median earnings of the entire labour force and in an industry with median earnings of atleast $ 4404 were defined by him as the primary labour markets. Similarly those individuals in occupations with median earnings of the entire labour force and in an industry with median earnings below $ 4304 were defined as in the secondary labour markets. However, this definition of primary and secondary labour markets makes it much more likely that there will be less movements between secondary and primary jobs, since what is measured here is movement from occupations below median earnings to
occupations above the median earnings. This is the reason as to why Andrisani's independent variables were not effective in explaining what may be nothing more than one upward drift in jobs as young workers gain experience in the labour market.

According to Andrisani, educational attainment was significant for whites but not for blacks, while mental ability was significant for blacks but not for whites to gain access to primary segment jobs. That, whether black or white males get a primary job in largely random.

The Study of Nicholas Bosanquet and Doeringer (1973) in Britain look at both macro and micro-economic evidence on labour market behavior to see if there were sufficient similarities between the low paid sectors in the United States and Great Britain to support a thesis of labour market duality in the latter. The authors tried to make the analysis by combining the educational data for age and sex and occupation groups in the 1961 census of population with the earnings data for groups in the New Earnings Survey for 1970, which followed a broadly similar classification. The labour market show some clear differences between the two countries. There is more long term unemployment and some what less chronic job-changing among the labour force in Britain. The internal labour markets are not as fully structured nor as sharply delineated on balance; and the distinction between primary and secondary markets in Britain is weaker. But even taking these differences into account, many of the same symptoms of market duality are present, and a basic distinction can usefully be made in Britain as well as the US, between the primary and secondary sectors. In the primary sector worker on average show relatively low levels of turnover, have higher earnings and relatively good advancement and on-the-job training opportunities. In the secondary sector workers have low levels of skill and on-th-job training, earnings are low, promotion opportunities are infrequent, and turnover is relatively high. Women and colored workers, with the exception of the better educated find access to on-the- job training and to promotion severely limited.
Edward N.Wulf (1974) examined differences in earnings by occupations, and within occupations by sex and by race, on the basis of the 1/100 public use samples of the 1960 and 1970 U.S. Population Censuses. This study employed interval analysis to establish 32 categories of occupation with similar characteristics. Little relation was found between mean earnings of occupational groups and the degree of earnings inequality within them. When the figures were examined by Sex, it was found that men on average, earned over twice as much as women in both years, but women's earnings were more unequally distributed.

Osterman (1975) by using the US data on 5076 male workers of the 1967 survey of Economic opportunity and by dividing individuals into each of three segments—secondary, lower-tier primary and upper-tier primary investigated into the hypothesis that the earnings functions differ significantly between different segments of the labour market. He estimated earnings functions for a pooled sample of blacks and whites as well as separate earnings functions for blacks and whites in each labour market segments.

He used his personal judgment to place to each five digit occupation into the proper segment. In his study the secondary segment of the labour market contained occupations characterized by low wages, instability of employment, and similar factors, and even within the primary segment each occupation was assigned to the upper or lower tier on the basis of autonomy and personal freedom enjoyed by workers in that occupation. However, this division of labour market has raised serious questions. Because this division of labour market into different segments conflicts with the notions of the secondary labour force as lower class' the lower tier primary as 'working class' and the upper tier primary as 'smallish elite' of the middle class.
For the entire sample, variations in human capital characteristics explained the variance of earnings quite well in the primary labour market but not in the secondary labour market. There were greater returns to education and age (a proxy for experience) in the upper tier than in the lower tier of the primary labour market. The separate regression for each racial group show basically the same pattern of results except the educational attainment is found to have a significant impact on the earnings of blacks in the secondary labour market. This is not consistent with labour market segmentation Theory. Osterman downplayed the importance of this results and concluded that the findings of his study strongly support the dual labour market theory. However, in spite of the drawbacks Osterman's criteria is widely used in empirical studies on labour market segmentation.

In his study of the labour markets of large city low income areas, Rosenberg (1975) attempted to test a number of hypotheses about the behavior of secondary and primary labour markets, including the determination of a worker's initial job (primary or secondary) and the mobility between the job segments. His sample consisted of individual males of 21-64 years old, living in low income areas of Brooklyn, New York (5031 cases), Cleveland (1838 cases), Detroit (2085 cases) and San Francisco (1496 cases), Survey as part of the 1970 US Census.

Also, in a study of urban labour markets, Rosenberg (1987) attempted to look into the relationship between the economic contractions and racial differentials in job mobility in the US. One of the most important contributions of Rosenberg's (1975) study is his definition of job segments. While dividing the labour market into different segments, Rosenberg relies on Robert Lucas study on working conditions, wage rates and human capital (1973), which links the Dictionary of Occupational Titles (DOT) job classification system of about 10000 occupations. He defined secondary jobs by the low specific vocational training and general educational attainment required to do the job, as well as
the low pay and temperament (ability to take the direct orders) of the workers. Primary jobs were taken as those jobs which were not secondary. Thus, Rosenberg's definition of secondary job is much more carefully specified than in other previous studies. In his 1987 study, Rosenberg also measured occupational standing by using one-digit Census occupation and the Duncan Socio-economic status index—an ordinary prestige scale that assigns a rank between zero and 97 to each of the three digit 1960 census categories.

He found that educational attainment plays an important role in primary first job determination, much stronger role than in current job determination. These, he argued, were consistent with the dual labour market theory which predicts that a worker's job experience, rather than education, becomes increasingly important in determining future jobs as career progress. According to Rosenberg mobility between primary and secondary markets was found to be significantly affected by years of schooling although the evidence is not strong enough to argue that the reason people are locked into secondary jobs is because of lack of education. Training was not significant in explaining mobility, but in some cases migration is. The effect of labour force experience on the mobility of the secondary workers is also quite small which is consistent with the dual labour market hypothesis that increased experience in the secondary labour market would not lead to upward mobility. It was also found that blacks are more heavily concentrated on the lower-end of the occupational structure and whites were more so at the higher-end of the job structure. Whites are more mobile than their black counterparts.

Carnoy and Rumberger (1976) and Carnoy, Girling and Rumberger (1976), by drawing their data from the 1/1000 Public Use Samples of the 1960-70 of the US Census attempted to empirically test the existence of segmented labour markets. It should be noted that these two studies, for the first time included female workers in their samples thereby making these studies distinct from the earlier ones dealing with male workers only.
However, the specific hypothesis tested in these two studies are a) mobility between occupational and industrial segments is limited for both black and whites; b) mobility which does occur is random- i.e it does not follow any pattern predicted on individual characteristics of those who move and do not move; c) age earnings profiles for blacks and whites in secondary occupations are flat (no significance in earnings with increased age) while there are significant increase in earnings with increasing age in primary subordinate and primary independent jobs (internal labour markets); d) similarly, in competitive private industries, age earning profiles are flat, while non competitive private industries there are significant increases in earnings over working life; e) in secondary jobs increased education is not divided, while in primary jobs, particularly in primary independent jobs, it is; f) employers do not seek stability of employees in secondary jobs and in competitive private sectors, since the secondary jobs or jobs in the competitive sector tend to more temporary; economy thus stability is not rewarded by the additional earnings.

Carnoy and Rumberger (1976) and Carnoy, Girling and Rumberger (1976) found that women, both blacks and whites, were less likely to move in to higher segment of the labour market than are corresponding race males. White women in higher segments are more likely move into lower segments than in white men. Besides, they find an additional dimension to the outward mobility of black males and women in primary independent jobs; in all groups, those employed in the public sector have much higher stability in primary independent jobs than those employed in the private sector. This difference is particularly striking for blacks. For both black and white, men and women, there was less movement from the private competitive to the non competitive industries and that form the non competitive to the competitive. However, blacks have somewhat less sectoral stability than whites. Mayhew and Rosewell (1979) investigated occupational mobility pattern of males in the United Kingdom to see whether the British labour market is segmented along with the lines suggested by the American labour market segmentation theorists. Their mobility information was
drawn from the data collected by the Oxford social Mobility group on a sample of over
10,000 men taken in 1972, to test the existence of segmented labour market in the UK by
investigating into the mobility patterns that existed between different segments. Data are
available on the respondents first job, job ten years later, job in 1969 and job in 1972.
They do not find specific identifiable labour market segments between which mobility is
very restricted. A small amount of mobility exists all along the occupational hierarchy.

They found that fathers labour market status (i.e his labour market segment) and
education are significant in predicting whether an individual will have first job in the
primary segment of the labour market.

McNabb (1981), by using individual data from the general household survey of
7000 employed men conducting the tests on the possible existence of dual labour markets
in the UK. Specifically, he estimated individual earnings functions to see whether there
was evidence of segmentation in terms of wage determination mechanisms and if there
was evidence of differential human capital earnings relationships consistent with those
proposed by the dualists. He found a positive and significant relationship between the
earnings and the human capital variables in both the upper and lower segments of the
labour market. The effect of experience on earnings is positive in secondary segments.
However, the magnitude differs between primary and secondary segments. According to
him, though the findings differ slightly from that of the segmented labour market
hypotheses, the UK labour market is segmented along the line suggested in the dual
labour market theory. Apart from these, two other studies Bosenquet and Doeringer (1978)
and Psacharopoulos (1978) provide weak evidence of segmentation of labour markets in
the UK.
Kumar and Lou Coates (1982) examined the role and empirical significance of compensating differentials in the 1970 distribution of median earnings of male workers in Canada (across 372 four-digit occupations, using the 1971 Census data and the information from the Canadian classification and Dictionary of occupations). They estimated the earnings function in which the level of earning in an occupation jointly dependent upon the schooling and post-schooling investment of workers and the job-related pecuniary aspects of employment. Results provide valuable empirical and theoretical perspectives on the relationships between individual worker human capital investments, occupational requirements and other non-pecuniary aspects of employment.

The result of the study confirm the inadequacy of the human capital theory, which out of the individual investments in schooling and experience as the principal compensating wage differential; they find a positive and significant rate of return on additional years of GED/SUP requirements, holding human capital investment constant thus, suggesting payments for some omitted set of skill not fully reflected in the common schooling and age variables. The study by Bertil Holmlund (1983) had two interrelated objectives. The first one is to explore the role of expected wage gains for mobility decisions. The second aim is to investigate the effects of mobility on subsequent earnings. Do workers actually gain by moving or had they done better by not moving? This information, in turn, will illuminate the relationship between life cycle earnings profiles and life cycle patterns of job mobility.

Holmlund analysed the data from the Swedish level of living surveys of 1968 and 1974. The approach in this study extends beyond a standard approach in mobility studies, where earnings differentials between stayers and movers are captured by a dummy variable in an earnings function. A tacit assumption in this traditional approach is that the computed wage differential (if positive) measures the stayers gain from
moving, had they moved. However, the movers and stayers are not randomly selected groups but rather self-selected, presumably on the basis of perceived benefits associated with the alternatives. The earnings of movers are, therefore, not necessarily attributable to stayers, had they moved, nor are the stayers earnings necessarily attributable to those who actually moved, had they not moved.

Their analysis takes the interdependence between wage growth and mobility into account; wage growth rates are affected by mobility and the mobility decision responds to alternative prospective wage growth rates. The framework they used results in a model with binary and limited dependent variables.

The results indicated that actual job movers obtain around 4 percentage points higher real wage growth compared to a situation where they had decided not to move. It was also interesting to see that potential mobility gains are decreasing over the life cycle thus providing one piece of an economic interpretation of observed life cycle patterns of mobility and earnings.

Dickens and Lang (1985), by drawing their data from Thirteenth Wave (1980) of the Panal study of income dynamics, attempted to test the hypotheses relating to the rationing of primary segment jobs and the degree of inter segmental mobility. According to them, dividing the sample on the basis of occupation or industry has major drawbacks. Since the worker's choice of industry or occupation is not independent of major characteristics, there is a danger of sample selection biases. Often industries and occupations are classified as secondary because they offer low wages. The firm, it is not surprising to find that in low wage jobs, the returns to schooling is relatively low (Cain, 1976).
Moreover, the assumption that all members of an occupation or in an industry are in the secondary sector may significantly reduce the power of the tests of segmented labour market theory. Thus, it is possible that anomalous results found in the segmentation literature are due to inaccurate classification. Dickens and Lang, therefore, apply a technique that allows to derive the probability of sector attachment directly from the observed distribution of wage and workers attributes. They have argued that this resolves the problem of attributing primary or secondary sector employment to every one in a given industry or occupation. Then, they propose a direct test for voluntary confinement of workers to the secondary sector.

They also found a flat secondary sector wage equation which implies that the returns to experience (which is measured precisely in terms of age) is essentially zero. The secondary sector equation is almost everywhere below the primary sector equation. Moreover, two wage equations fit the data considerably better than one. So far as the rationing of primary sector job is concerned, Dickens and Lang found that the blacks are discriminated against in the labour market.

McNabb (1987) in a study of the British labour market, determines the components of the core and periphery sectors on the basis of the proportion of females employed in each industry and the proportion of workers covered by a collective bargaining agreement. Highly unionised, male-dominated industries are placed in the core while the least-unionised, female-dominated industries are placed in the periphery.

He concentrates on the industrial nature of duality. Using data for men from the 1975 General household survey, he found no support for an industrial-based theory of Labour market segmentation. Education and work experience are more important in earnings determination than is industrial affiliation. The relationship between education, work experience and earnings differences according to occupation with these variables
explaining a large share of the variance of earnings among professional and managerial workers, less of the earnings variation among skilled workers and very little of the variation among semi-skilled and unskilled workers.

Thus we find that the above results of the empirical studies reviewed are not similar and they differ on certain aspects. However, we can draw some tentative conclusions based on the above set of studies on labour market earnings, mobility and segmentation.

i. There exists considerable degree of mobility between secondary and primary jobs.

ii. The segmentation theories view that the secondary jobs are marked by instability on turnover is subject to serious question on a number of grounds.

iii. The mobility patterns between primary and secondary segments, while affected by educational and age is not very well explained by any of the studies reviewed here. In that sense, it is largely random, atleast in terms of human capital variables and, therefore supports the segmentation theory concept that mobility between segments does exist is not based on merit or productivity, and that those of equal education and age in the secondary and primary subordinate segments are not different except in the type of work they do and the salary they receive.

iv. The variables such as education and labour market experience seem to be insignificant in explaining earnings differences among individuals in the secondary market than in the primary jobs.

2.3.3. LABOUR MARKET SEGMENTATION IN DEVELOPING COUNTREIS

In the last decade several econometric studies have been carried out on labour markets in the developing countries. Interestingly enough, econometric studies in the industrialising countries (Zehra Kansnakoglu, 1968; Andorsan, 1973; Alexandor, 1974; Velloso, 1975; Liu, 1975; Clignet, 1976; Lobo, 1977; Barbosa and De Souza, 1978; Majumdar and Massoori, 1978; Corbo and Stlcner, 1978; Toledo, 1979; Fields, 1980;
Neuman and Ziderman, 1986; Heckman and Hotz, 1986; Uthoff, 1986; Susanne Schmitz, 1989; Sakamota and Dechien 1991.) provides quite different empirical evidence on labour market compared to that in the industrialised countries.

The purpose of Zehra Kansnakoglu's (1968) study was to examine the causes of annual earnings differentials among the household heads outside agriculture in Turkey for 1968. The primary data source was a survey conducted by the Department of Population Studies of the Hacettepe University of Turkey in 1968. The distribution of earnings among the male heads of households was examined within the framework of recursive and simultaneous equation models. The models developed have three endogeneous variables, namely education, occupation, and earnings. The exogenous variables include availability and quality of schooling, experience, geographical location and socio-economic background factors. The casual model of income determination was employed in this study.

The recursive and simultaneous equation models have been developed to analyse the determinants of male earnings differentials in Turkey for the urban areas. The models developed introduced socio-economic background factors such as father's occupation, fathers literacy and region of origin, in addition to the traditional variables such as experience, place of current residence, years of schooling, availability of schooling, quality of schooling and occupation with the exception of region of origin, all the variables considered are found to be significant in explaining earnings differentials.

The striking feature of the results presented in this study was the relative importance of the family background factors. While the results suggest that experience, place of residence and quality and availability of schooling have significant effects on earnings, family background factors, represented by father's occupation and education are by far the key factors. It is revealed that the children of higher income classes have better chance for more and better quality education and high status occupations and therefore earn more.
Experience, migration to larger cities, and more and better quality schools can only serve as poor substitutes for the family background effects.

A study by Andorson (1973) on the 'Informal sector' or secondary labour market offers a model to describe labour market segmentation in the Caribbean. The data was collected by the household level through the National Mobility Survey (NMS) conducted in 1984 by the Institute of Social and Economic Research. The findings demonstrate that there are clear differences in income among labour market sectors, which are not entirely explained by differences in human capital, thus providing support for the theory of segmented labour market.

A study by Alexander (1974) examined the relationship between the structure of internal labour markets and the mobility, experience and income of workers. The main source of data used in this study allows one to measure explicitly experience within a firm, experience within an industry and the general experience associated with age. This source is the social security one percent work history file, ten consecutive years of information (1957-1966) were available for analysis. From one percent file a 10 per cent random sample was generated. This sample was further reduced to males of 20-60 years age in 1965, with income from at least one employer in the first quarter of 1965 exceeding $500. Finally, workers in agriculture, city, state and local government and 4 digit SIC industries with less than 40 observations were excluded. This large sample included somewhat more than 16,000 individuals in 100 and 36 industries.

An industry was classified as 'manorial' if firm mobility was less than 10 per cent. 'Guild' industries had firm mobility minus industry mobility greater than 20 per cent and if the industry was not classified as guild, it was 'unstructured. The study found that the mobility falls sharply with experience for the lower-income groups, but less sharply as income rises.
Mobility, firm experience, and income form one interrelated system. Variations in mobility patterns are linked to different internal labour market structures. Income, industry concentration, capital intensity, and mobility are also bound together. The relative importance of firm-specific experience and general experience varies across income class but not across structural types. Unions, technology, capital intensity, competition, the bureaucracy of large organisations, and the supply of and demand for the different kinds of human capital all play important roles in determining the structure and impact of internal labour markets.

Velloso (1975) estimated earnings functions by labour market segment and also tested for the effect of education, experience and employment (his independent variable) on the distribution of earnings within segment. He used his data set urban males 14-60 years old in the labour force, not enrolled in school and with non-zero income from the 1.27 per cent sample of the 1970 demographic census of Brazil. He included both those who were employed and unemployed (but looking for work) at the time of the census. He excludes self-employed persons and employers.

The estimated equations by segment indicate that in all three types of jobs, education, labour market experience (as measured by age) and months worked are significant variables in explaining earnings. Furthermore, the coefficient of investment in education is largest in the secondary market and lowest in the primary independent, quite the opposite of what the theory predicts. The result that the variables age has a lower coefficient in secondary jobs than in either of the primary markets is consistent with segmented labour market predictions, but if the results were to be entirely consistent, the coefficient of age in the secondary market equation should not be significant at all. The employment variable also does not behave consistently with the segmented labour market model. Vellosa used these earnings functions to estimate the relative contributions of each independent variable to the variance in earnings within segment.
Liu (1975) used a two-stage survey data of 124 industrial establishments in Singapore's manufacturing sector as his data base, to test the propositions relating the determination of earnings of different group of workers in the labour market; inter-segmental mobility patterns; and determinants of access to primary market jobs. Based on the information about jobs obtained from that survey, jobs were classified as either primary or secondary: jobs were delineated into two groups in such a way that there was almost no possibility of mobility between the two; and the mean earnings of jobs in one group were above the mean earnings of all jobs in the firm, while the mean earnings of jobs in the lower group were below the mean earnings of all jobs in the firm. In the second stage of the survey 133 firms participated. In all, 785 male employees in these 133 firms were identified as working in primary jobs, and 7651 in secondary jobs. 460 male primary workers and 1105 secondary workers were selected for interview, of which 33 and 915 responded.

Liu was able to collect data at the firm level and study the educational, sex and ethnic preferences of workers from employer interviews. It was found that for high level jobs, the educational requirements increases with size of firm; indeed, educational requirements for all but production jobs are greater in the larger firms.

On the basis of the second stage sample interview data taken in 1974, Liu estimated equations relating probability of getting a primary segment first job in the labour market as function of education social class and other variables. This parallels Rosenberg's estimates for the U.S.

Liu's results are similar to Rosenberg's in some ways, but very different in others. Like Rosenberg, he found that education particularly higher education in Liu's case is the single most significant factor explained of first job, along with social class variables (Rosenberg's data don't include a measure of social class). Liu also found that education
plays a much smaller role in determining current job than either first job or first job in the firm, and that additional education increases the probability of mobility between segments.

Lobo (1977) included earnings functions by labour market segment as part of his analysis for Mexico, by drawing his samples from the 1960-1970 Mexican National Censuses, like Toledo and Velloso, limiting this particular analysis to urban male wage earners, older than 14 years.

Lobo divides the labour market into four occupation segments: Primary independent, Primary subordinate, secondary and crafts. Lobo found that in Mexico the secondary and crafts segments are characterized by lower rewards to schooling and age (experience) to the bulk of workers in those segments than to their counterparts in the primary labour market, particularly those in independent jobs. At the same time, male workers in poorer regions who have secondary and crafts jobs are relatively worse off compared to richer regions than those in primary jobs.

Lobo finds that important differences appear in the effects of education and age on log income in different labour market segments. Moreover, log earnings from additional schooling is greater in the primary subordinate segment than in other segments. For all purposes, age does not play any significant role in the secondary and crafts jobs but the coefficients of age becomes increasingly significant as one moves to higher segments.

Dipak Mazumdar and Massoori (1978) for their study on labour market segmentation and determination of the earnings of employees in urban Malaysia conducted a household sample survey in the second half of 1974 in Peninsular Malaysia, to throw light on various aspects of the labour market.
Both the employees and the self-employed were covered in the survey, but since it was felt that the "exploration" of the earnings of the self-employed is more complex, the analysis of the material for the employees was undertaken separately. The analysis was confined to males only.

The human capital framework has been used widely and up to a point successfully—to explain earnings as a function of education and experience. An important issue for the analysis of the distribution of personal earnings in the urban economy, however, is whether workers of the same quality earn different amounts depending on their location in their market (e.g. the type of enterprises in which they work). According to them a rather stringent definition of labour market segmentation is that a difference in earnings can be attributed to 'institutional' factors after we have allowed for variations in measurable human quality factors like education and experience.

In this empirical work, the sample was broken down into three groups: i. unskilled workers, ii. other semi-skilled and skilled blue collar workers and iii. white collar workers. It should be noted that human capital variables used in the regressions include not just education and experience, but also race and migrant status. While the last two are not strictly speaking human capital variables, they are included because they reflect more the personal attributes of the workers rather than the characteristics of the enterprises.

The earnings of the unskilled labour in both markets in Malaysia are explained by human capital, and not institutional factors. For the skilled blue collar and white collar occupations the employment size of the plant is the only institutional variable which adds significantly to the explanation given by the education-experience cluster but the relative importance of the plant size variable is small.
In the metropolitan labour market Kuala Lumpur there is considerable evidence to suggest a 'trade-off' between experience and formal education, with the returns to experience being higher in the lower rung of the labour market, and the returns to education higher in the upper rung. This result was observed when they cut up the labour market by plant size and also by occupations.

No evidence was found of the popular hypothesis that opportunities for increased earnings through a worker's career are limited in the informal sector of the market, if they could identify wage employment in small plants with such a sector. In an established labour market that of Kuala Lumpur the greater opportunities for increased earnings in the larger plants through formal educational attainment are balanced by a closer relationship between experience and earnings in this smaller plants.

Barbosa and De'Souza (1978) examined the nature and extent of labour market segmentation in Brazil through a survey of 82 modern sector firms in Sao Poulo. Hiring, training and promotion patterns are found to differ significantly between occupations and a key to understanding these patterns in the nature of skill acquisition particularly 'learnings on the job'. Furthermore, the presence of skill specificity and internal labour markets for supervisory personnel provides a possible explanation for why relative wages have widened during Brazil's period of rapid economic growth. The principle conclusion of this study is that internal or segmented labour markets do appear to exist in Brazilian industry despite its lack of effective labour unions and that this has important implications for relative wage divergence in conditions of rapid employment growth.

Toledo (1979) by basing his study on sample drawn from the 1961-1972 Peruvian National Census, estimate earnings functions by labour market segments and test for the existence of segmented labour markets in the urban sectors in Peru. Toledo divides the
labour force into four occupational groups; secondary, primary subordinate, primary independent and crafts. The segments are defined by him roughly in the same way as in the Center for Economic Studies Analysis in the US.

Toledo's regression estimates of the earnings functions show that except for a few levels of schooling, formal schooling is rewarded with additional income in all four labour market segments. This implies that there is no distinct pay-off to education in different labour market segments, again contradicting what the segmentation theory predicts. However, in this case, because of the nature of the labour market segments, it is somewhat problematical to compare the returns to different levels of schooling across segments because the average level of schooling vary greatly between segments. He also found that the age-earnings profiles of secondary and crafts jobs are flatter than those of the primary segments. This finding is in agreement with the segmented labour market model, but at the same time, the profiles of all segments but crafts show considerable increase in earnings with increased age.

Gary S. Fields (1980) evaluated the Bogoto labour market to analyse the proposition that labour market segmentation causes income inequality in Bogoto. The statistical and econometric work for Bogota is based on a sample of more than 66,000 persons, derived from the 1973 census of population. Persons over the age of 12 who reported that they had worked in the week preceding the census and a job in that week were defined as workers. This group includes more than just wage and salary employees. An economic model of how personal and employment characteristics interrelate to determine income in a segmented labour market was set up, and an econometric procedure for estimating these relationships was also formulated. Eight statistical models for empirical estimation of a segmented labour market were presented. However, none of the eight models which have been fully applied in the literature capture the interrelationships among the variables. Hence, the author warns that one cannot
simply borrow an established procedure developed in some other context and apply it as is to Bogota. It was found that there are differences in income among various groups of workers. There is much inequality within each group and much overlap between the groups. The data exhibit neither a class duality nor any sign of bi-modality; only a weak correlation appears between income and occupation or industry of employment.

Neuman and Ziderman (1986) examined the dual labour market hypothesis for Israel. Utilizing individual data drawn from the Israel labour mobility survey and assigning workers to primary and secondary sectors on the basis of occupational prestige scores, earnings functions were estimated and compared for the two sectors. The results are very closely in line with predictions of the dual labour market, strongly suggesting that the dual labor market hypothesis may be relevant for Israel.

This study, based upon data from Israel labour mobility survey (1974) arises directly from that of McNabb and Psacharopoulos and employ a broadly similar methodology. Regression analysis is employed to examine difference in the wage determination process in the 2 labour market sectors. A major prediction of the dual labour market hypothesis is that human capital related variables perform considerably less well as explanatory variables in secondary labour market.

Following McNabb and Psacharopoulos, (1977) the male sample was categorised into two groups, corresponding to primary and secondary labour market segments, on the basis of occupational prestige rating for Israel. Based upon an inspection of the distribution of prestige scores, a prestige rating of 31 was chosen as the demarcation point distinguishing the primary from the secondary sectors.
Average earnings of secondary workers are less than those of primary workers. The importance of workers of oriental origin is higher in the secondary sector; years of residence in Israel also is higher. Movement between primary and secondary sector over a 5 years period was extremely low.

In this study, the human capital earnings functions basically of the Mincer type, were estimated for the primary and secondary sectors separately. Earnings were positively related to years of schooling and years at present place of work; the relationship between earnings and labour market experience is U shaped, as found in numerous other studies. No significant difference in earnings were found between industrial branches. The secondary sector regression results showed that lack of significance of the human capital co-efficients on the years of schooling and the experience variables were significantly different from zero, confirming that human capital investments do not contribute to earnings augmentation in these markets. The results indicate that notwithstanding the fairly long tenure of workers with the same employer in secondary labour market employment in Israel, such employees, evidently do not find it advantageous to undertake, human capital investments in such workers. And the returns form the human capital investments in the secondary sector are significantly lower than those in the primary one. The results were found to be very closely in line with predictions of the DLM model, thus strongly suggesting that the DLM hypothesis may have some considerable relevance in the Israeli context, if not more generally.

The study by James Heckman and Hotz (1986) presents empirical evidence on labour market segmentation and the importance of family background in Panama.

The authors first review Mincer's earnings function and related accounting models of the determination of earnings. They first, compared estimates of earnings regressions for the country as a whole with estimates of earnings functions fit for regions of the country.
Second, they tested a different version of the segmentation hypothesis which suggests that poor people are in a different market than others. This type of segmentation hypothesis is sometimes called the dual labour market hypothesis. The 'obvious' way to test this hypothesis is split the population into two groups: the poor and the rest. If estimated earnings functions are different between these two groups, it would appear that they are in separate markets.

The authors presented evidence on the social stratification hypothesis and on the importance of inequality in intergenerational transfers of educational status across generations. They examined the importance of family background variables in determining labour market earnings. They fitted intergenerational educational mobility models and compared their findings with estimates from other countries. They found much greater evidence of stratification in Panama than in the U.S.

The data used in this analysis were from the Socio-economic Survey of Panama collected in 1982 which covered 8,591 households. The survey information includes the annual amounts of various sources of income, demographic characteristics (such as education, family size), expenditure patterns, and characteristics about housing and health status.

A way to test the dual labour market hypothesis in a regression framework divides data on earnings into two sectors and fits separate earnings equations for the two sectors. Evidence that estimated earnings equations are different in the two sectors suggests that there are in fact two different markets for worker. The authors divided the sample into two groups: one consisting of individuals whose annual income falls below the poverty level and the another consisting of those above the poverty level. Using this sample separation results in approximately 25 per cent of the original sample being included in the poor sample.
This study presents new empirical evidence on the determinants of the earnings of Panamanian males. The following are main conclusions. a) estimated rates of return to schooling are high in Panama; b) Strong regional differences in estimated earnings functions was found in this study; c) this finding indicates sharp geographical differences in rates of return; These differences are surprising in view of the small size of Panama; d) Labour markets appear to be geographically segmented. There are also sheer differences in the functional forms of earnings fit for samples of high-earnings and low-earnings workers.

Family background plays an important role in determining Panamanian male earnings. It was found that parental education has a strong effect on the son's cohorts of Panamanians, it is still much stronger than are intergenerational educational attainment relationships estimated in U.S. data.

Uthoff (1986) by drawing his data base from the Employment and Unemployment Surveys of the Economic Department of the University of Chile, divides the labour force into two segments: formal and informal, on the basis of the degree of effective rate of protection to the firms operating in the economy. His informal sector is comprised of independent non-professional workers (less than 12 years of schooling) and employers less than 6 employees. The formal sector consists of all wage earners (which cannot be distinguished by union membership or firm size), of independent professional workers and employers with six or more employees. Uthoff found that the earnings of formal and informal sector workers differ greatly and much of the differences the earnings between the two types of workers can be accounted for the large gain in earnings which accrue to the formal sector workers because they are protected from underemployment, i.e. they receive a fixed wage for the fixed amount of time worked. In addition, levels of education and on-the-job training play an important role in explaining the earnings differences. Apart from
this, the degree of access to capital market has a positive impact on the earnings level of formal sector workers. Schooling is being used as credential for labour market entry into formal sector. The shape of the schooling log-of income profile curve increases mainly because schooling becomes more valuable in both the segments and also because the inter-segments schooling variance increases over time as the result of a larger selectivity process according to schooling endowments between segments. These changes, Uthoff argues, are the result of labour market liberalisation policies such as abolition of minimum wages and labour turnover legislations in the formal sector, the promotion of self-employed activities in the informal sector, and the selective mobility pattern between segments.

Sakamota and Meichu Dechien (1991) developed a dual sector typology based on the theoretical concerns. Since the primary objective was to empirically investigate segmentation in the labour market, this study used several indicators of worker bargaining power to define primary-sector employment. Such as 1. professional or managerial occupations (based on the 1970 census codes); 2. the oligopoly or core industrial groups as defined by Hodson (1983); 3. establishments with 1000 or more workers; or 4. jobs that were covered by union contracts. The secondary sector is defined as all private-sector workers who are not included in any of the above four categories.

It used the endogenous switching regression model with known regimes that allows to simultaneously consider sector attainment and sector specific wage functions. The model consists of three equations: a wage regression for each of the two labour market sectors, and a probit equation predicting the individual's sector (i.e. the ith person's probability of being in the primary sector). The three equations are estimated simultaneously by maximum likelihood assuming that the error terms for the three equations may be correlated and follow a trivariate normal distribution.
The data are from the matched March-May, 1979, Current Population Surveys which provides information on establishment size in addition to the usual demographic and socioeconomic characteristics of workers. The analysis was restricted to men between 25 to 27 years of age who were paid employees in the private sector for at least one hour during the week prior to the survey.

To investigate this issue this study used switching regression methods that allow us to simultaneously consider sector attainment and sector specific wage functions.

The empirical results indicate that, contrary to the dual labour market prediction, schooling does not receive a higher return in the primary sector. These findings are more supportive of dual labor market theory regarding the nonprice rationing or primary sector jobs. If workers can choose their sector of employment freely to maximise their utilities derived from labour force participation, then rational actors should weigh the relative benefits of sector employment as implied by the maximisation specification. Even if there are unobserved compensating differentials for secondary sector employment, the neoclassical view would nonetheless contend that the maximisation model should have greater explanatory power because workers still weigh the value of compensating differentials against the sector wage differential.

For all 919 workers in the sample, the predicted wage in the primary sector is greater than the predicted wage in the secondary sector. It is likely that the sundry sector has more desirable work conditions or other non wage features that compensate secondary sector workers for their lower wages.

2.3. LABOUR MARKET STUDIES IN INDIA

In India, labour market studies, particularly studies on segmented labour markets are few in number. Exclusive theoretical and empirical studies on segmented labor
markets have not been done in India. It may be because of the peculiar characteristics of the labour market or because of the lack of availability of suitable cross-section and time-series data on the existing labour force. Moreover, factors like caste, religion and culture may have greater influence on the functioning of the Indian labour market. Perhaps for this reason, we do not find an integrated labour market in India which makes it difficult for empirical analysis (Kannappan 1985; Papola 1985). However in the present section, we will review the few available (Papola and Subramaniam, 1973; Mazumdar, 1974; Tilak, 1978; Deshpande, 1979; Mazumdar, 1979; Harriss, 1982, 1986; Deshpande, 1983; Mazumdar, 1983; Datta, 1985; Papola, 1986; Saila bala Debi, 1988; Harriss, Kannan and Gary Rodgers, 1989; Acharya and Jose, 1991; Khandker, 1992) empirical studies on segmented labour markets in India.

A study of the local labour market in Ahmadabad was undertaken by Papola and Subramanian (1973). Primary data was collected from 100 sampled units and 1,066 workers. The focus of the study was on the interrelationships between wage structure and labour mobility, with a view to reaching certain conclusions about the rationality of wage differentials of various types and of worker behavior in the local labour market.

The job market is characterised by a lack of formalised channels of information and procedures of recruitment. While this may not be undesirable in itself, it seems to have led to a situation in which a new entrant can find a job in a section or department of factory only when an influential worker there belongs to his family, caste, or native place. This phenomenon has been one of the factors responsible for making workers relatively less mobile.

The authors were not sure about the characteristics of these workers at the time they made job changes, as they know only their present characteristics—like age, family, earnings, etc.—which must have undergone changes. Consequently, they cannot identify
the factors that made a worker mobile in the past. It was found that workers educational levels and their mobility measure (number of job changes in relation to the years of working) are highly correlated. Thus, education seems to be one of the factors making a worker more able and willing to make job changes.

Mobility is not found to bring any substantial advantage to the workers in terms of wages. No doubt, a mobile worker has around 20 per cent more earnings than an immobile one in the same occupation; but this difference is mainly on account of the fact that the mobile workers has put in more years of service.

As the study was concluded low geographical mobility appears to be normal and there has been generally low mobility even within the local labour market. According to the authors this does not seem to be due to lack of knowledge, as most of the workers keep themselves fairly well posted with job vacancies and earnings in the market. But the net advantage of a job changes is not found to be significant, except when a worker crosses over to more skilled occupations which is not possible without substantial sacrifice of time and money and this, in turn, may render the possible change devoid of any net advantage.

A study was undertaken by Dipak Mazumdar (1974) on the working of Urban labour market based on a study of the workers of Bombay city. His attempted provided the explanations both the rural - urban wage gap and earnings differentials between casuals and permanents employed in the industry. The author obtained the collaboration of Bombay University in undertaking a special survey of the Bombay Labour marker in the years 1972-73. The survey answered the need to obtain information on different parts of the labour market - the formal as well as the informal-on a range of common topics.
The survey sample covered three sectors of the market: a) the single workers and the casuals; b) the workers in the small-scale sector; and c) the workers in factories. From the sample owner/workers and family workers who constitute an important proportion of the city's "informal" sector of workers. This study was deliberately limited to wage earners.

The sample size of workers to be interviewed was predetermined for each of the three sectors of the labour market, and the total for each sector was distributed among establishments belonging to different industrial groups, so as to ensure that for each sector of the market the sample of establishments reflected the industrial distribution of the wage earners. For each of the Factories selected, the quota of workers to be interviewed was selected at random from the employee roll while for small-scale sector all the wage earners in each of the sample establishment were surveyed. This size of the sample was about 2,700 workers in factories and 2,000 workers in small-scale units. Since the casual workers were not attached to any establishments this study does not have a sample frame for an establishment-based survey. It was decided to survey 1,100 casual workers randomly selected from those who gathered for work in the well-known market places for casual workers.

The study found little evidence of the type of "investment in unemployment" for the fresh migrant to the urban market which has been stressed in the Hariss- Todaro paradigm. This study found differences in earnings in different parts of the market were significant. This study has analysed the difference in earnings between the three sectors distinguished -casual, small- scale and factory. This study was confined to male manual workers only to make their analysis meaningful. This study intended to know about the extent of earnings differences after controlling for the human capital endowments of the workers.

79
The form of analysis this study undertake for the statistical exercise was Multiple Classification Analysis" -a method of displaying the results of the analysis of variance especially when there are no significant interaction effects". This was found particularly useful when the explanatory variables are in categoric terms, so that they can best be entered into the analysis as sets of dummy variables.

It was found education credentiaism does not play a role in recruitment to the high wage sector of the manual labour marker in Bombay as has sometimes been suggested in other LDCs. Following are some of the major conclusions.

Differences in earnings are substantial between sectors of the labour market and are only reduced when we control for factor (such as education) typically allowed for in earnings function analysis. Workers in the largest factories earn just above twice as casual workers.

Activities with lower levels of earnings have a larger proportion of migrants with a short duration of urban residence. Taken in conjunction with the distribution of workers by length of work in the current job, and the degree of mobility within the labour market, this phenomenon suggests a higher incidence of return migration in low wage activities. Family size in Bombay was also significantly smaller for migrants in low wage activities.

The alternative view of wage differences caused by institutional factors is a second runner, because the mechanism outlined by this study is seen to operate within the non-factory sector, in which institutions do not play any obvious role in wage determination.
Unemployment before the first urban job was very uncommon among Bombay migrants. "Graduation" in the urban labour market is significant, but given the low rate of mobility, the process does not work quickly enough to make much difference to the calculation of migrants.

Unemployment before the first urban jobs was found as very uncommon among Bombay migrants. 'Graduation' in the urban labour market was significant, but given the low rate of mobility, the process does not work quickly enough to make much difference to the calculation of migrants.

The study made by Tilak, 1978 was based on data collected through a sample survey in the West Godavari district of Andhra Pradesh conducted in 1977-78 covering about 1000 members in the work force. It was found that among other things, the incidence of unemployment was higher among women than among men at every level of education; that the unemployment rate among the highly educated was higher in rural areas than in urban areas; and that there was substantial discrimination in the labour market with regard to wage against the weaker sections. Though no strong relationship can be found either between age and discrimination, or between education and discrimination, there was a tendency for the coefficient of discrimination to increase as the age of people rises.

The Bombay Labour Market Study (Deshpande, 1979) using survey data relating to 1974-76, distinguishes between a) casual workers, employed on a daily contract basis b) workers in the small scale sector; and c) workers in the Factories registered under the Indian Factories Act of 1948. The sample study was based on a sample of 11000 casual workers randomly selected from those who gathered for work in well known market places for casual work distributed across the city, a sample of 2000 workers in small scale units drawn by using the registers of such establishments maintained by the Municipal Ward
Offices. And a sample of about 2700 employees in factories sampled by using the list of factories kept by the Chief Inspector of Factories. In the study, casual workers and those employed in small establishments have been described as working in the 'unorganized' sectors, as opposed to the 'organized' sector of the registered factories and comparable business and service establishments.

Analysis of data revealed that amongst the workers in the factories and small establishments, 57 per cent (in each sector) reported having changed at least one job, but only 13.5 per cent of them had started as casual workers. Seventy percent of the Casual workers had not changed jobs at all implying low degree of mobility. Deshpande was not able to find out how many factory workers had worked in small establishments, but the evidence on the way in which placements were made led him to doubt the 'graduation hypothesis. (Deshpande 1974). Over all evidence strongly indicates that

"...the process of recruitment by which regular jobs go to friends and relatives of those already employed helps to continue the stratification of the urban job market that began in the villages" (Deshpande 1979).

This shows that, in India, personal 'contact' plays a vital role in the process of recruitment of workers into regular factory jobs.

Moreover, data on earnings in common occupation in all three sectors (i.e casual, small and factory) indicate the existence of very marked differentials and suggest that the sectors constitute non-competing groups.

Apart from this it was found, that, over the period, the factory workers have gained in terms of their real wages whereas the casual workers have experienced a slight decline in their real wages. He argued that due to fierce competition from fresh migrants the casual workers
did not experience a rise in their real wage because their money wage were kept much lower compared to that of factory workers in a context of rising prices in the economy.

In Sum, the Bombay Labour Market Segmentation study provided quite strong evidence of the existence of distinct compartments in the labour market, those employed in different sectors having distinct personal characteristics, with little mobility certainly between casual work and regular employment and market differentials in wages and lifetime earnings prospects. Moreover, it was found that the relative incidence of poverty was higher in the casual work sector.

In 1979 Dipak Mazumdar studied the Bombay Labour Market. He undertook a multiple classification analysis (a form of the analysis of variance) of the determinants of the earnings of a sample of 5000 wage workers in Bombay city in which the sector of employment (Casual, small enterprise and factories distinguished by three employment size group) was included along with human capital variables (education, age and knowledge of English and training). All the variables were highly significant and the model explained no less than 68 per cent of the variance. But the important point was that the 'sector of employment' variable turned out to be the most important explanatory factor, measured either by the ranking of the various variables in the order of explanatory power, or the spread of earnings associated with each category of variables after controlling for the others. Thus, workers in factories employing 500 or more workers earned two and one-half times the casuals, after controlling for other factors, while the earnings of workers with post secondary schooling were only 40 percent higher than those of illiterates. The result underlines the limited importance of purely 'legal' factors in creating wage differentials since the Factory Act covers most workers in enterprises with more than 10 employees.
The model was tested for the two way interaction of the explanatory variables, and it was only the interaction between the size of the firm and the age of the worker which was of significance. The educational distribution of the workers in the different sectors of the labour market was very similar. Returns to the various educational levels, although significant in each sectors, did not differ very much as between sectors.

Mazumdar (1979) reports findings from these data that: Differences between earnings are substantial between sectors of the labour market, and are only reduced- not eliminated- when we control for factors (such as education) typically allowed for in earnings functions analysis. Workers in the largest factories earn just twice as much as casual workers.

Harriss (1982, 1986) by drawing his data from a survey of engineering units and slum households of Coimbatore in 1980 tried to look into the labour market experience of different groups of workers. His sample consisted of units in engineering (in both organised sector designated 'factories'-123 workers in six units; and unorganised sector designated small workshops- 85 workers in 15 units), and a survey of 827 households in five slum areas selected to represent the range of working class residential areas in the city. It should be noted here that data here provide information on the social characteristic of workers in different types of employment on their mode of entry into the labour markets and on mobility between different types of employment. This study on the segmentation of the labour market and the degree of determination of chances in the market exercised by ascriptive social characteristics.

Harriss divides the labour market into sector one (comprising of engineering workers which is 'organised' or 'permanent') and sector two ('unorganised' or 'short-term'). One important aspect of Coimbatore labour market is that most of the workers in sector two and one-third of the workers in sector one in engineering industry are migrants. Moreover, particular caste groups use to control particular occupations.
In other words the 'principal of particularism' is clearly very strong in this case. Permanent wage workers in engineering or relatively highly educated and a substantial minority have had specialised technical training. Short-term wage workers in unregulated production units are rather unlikely to have had any technical training, but they are generally fairly literate. In case of the household survey data, Harriss, divided the workers into permanent, short-term, casual workers and self-employed. Almost the same characteristics of workers (as in case of engineering industry data) are found with the workers of household survey study. However, here caste, community, with its concomitants in terms of broader social background, appears to have been a more significant determinant of entry into permanent wage work than education.

There are strong indications in Coimbatore that mobility between sectors is very restricted though there are greater possibility of movement from short-term into permanent wage work, than from casual work or self-employment to permanent wage work. In Bombay study Deshpande argued that "... in a sense the segmentation of an urban labour market begins in the villages. The same might be argued for Coimbatore also, when, members of the prestigious land-owning rural caste communities enter mainly into permanent wage work, while those from the bottom of the rural ladder remain the casual work and poorly remunerated dependent commission selling".

Moreover, comparison of wage levels in different forms of employment suggests that in Coimbatore, there is a marked difference between wages in permanent wage work and those in other types work. What is striking here is that wage differentials exist even among the similar type of workers. In this case the role of trade unions in maintaining wage differentials is significant. Besides, the incidence of poverty is higher among casual workers than among other categories of workers.
The above findings, therefore, suggest strong evidence of existence of labour market compartments, having different labour market characteristic and rewards in Coimbatore.

Deshpande (1983) in his study divided the employment in the Bombay city into two sectors, regular and casual. The size of the sample was 6000 and its distribution was based on proportionality. A sample of 5000 was drawn from Factory and Small Establishments representing non-employees. and remaining 1000 workers were drawn from industry.

The distribution of 5000 workers between factory and small establishments is again based on proportionality: the factories and workers were distributed by size of employment and the sample of 3000 was distributed proportionately. The 2000 workers from small establishments were distributed in different segments, again proportionally.

He found that segmentation of the urban labour market begins in the rural areas. The labour force is best differentiated by their ownership of assets, tangible and intangible. Those who own no or inadequate physical and human capital end up in the peripheral market as marginal workers. Others enter into the 'better' sections of the urban labour market. The process of migration and job-search play their role in pre-entry discrimination against the poor. Lack of occupational and intersectoral mobility keeps the majority of the poor confined to the periphery. This constitute the proof of post-entry discrimination against the poor. The market discriminates against the poor, women and the young in general. He also showed that human capital variables afford a satisfactory explanation of income determination in the regular employments but less so in the casual. This conception of the labour market and its operation has many implications for policy.

The author classified the factors relevant to the Neo-classical and Segmented labour market theories: viz.,
The Neo classical theory;
1) age, 2) education, 3) agency of training, 4) period of training, 5) level of skill or occupation

The SLM theory;
1) sex, 2) caste, 3) religion, 4) mother tongue, 5) parents education, 6) family occupation, 7) migration status, 8) earning status.

These factors were treated as appropriate dummies and sub groups. The most comprehensive list of independent variables counted 48 factors in casual, 51 in small establishments and 50 in the factory sector.

It was found that the differences in incomes between the three segments do not appear to be marginal. The data being mostly cross-sectional, he was not able to say how the differentials have moved over time.

The major finding in this study relates to the segmentation of the labour market. It showed that due to lack of sectoral mobility the casual workers continued to be employed at the lowest rung of the socio-economic ladder in Bombay just as he was in the village. Thus in a sense the segmentation of an ULM begins in the villages.

The study shows that the intersectoral mobility in Bombay is low. Finally, it was concluded that faster growth of good jobs in labour market does not guarantee that all participants in the market would have an equal access to them.

Mazumdar (1983), by investigating into the labour market experience of the Textile workers of Bombay and Ahmadabad, attempted to throw light on the process of segmentation of Indian labour market over time and its corresponding labour market rewards to its participants. Analysing his sample, Mazumdar found that, in India, urban markets for workers of low skills often tend to develop a sector of high wage, accompanied
by job security and other benefits available to large number of workers outside this sector. He also found that wage levels are high in the formal sector. The educational distribution of these workers in different sectors (formal and informal), is very similar. Returns to various educational levels, although significant in each sector, do not differ very much as between sectors.

He argued that stabilised firm-specific labour in the LDCs, especially in India may develop into a group which does not compete with and is not replaceable by the general mass of urban labour. Such a body of workers can be and often is organised. These give rise to segmented labour markets in the urban areas of India. The point to be noted here is that unionism is established as a natural consequence of the labour market segmentation produced by previous stages, rather than being a cause of the segmentation. Thus, Mazumdar's study only takes into account the labour market experience of the family as well as individual migrants in the urban areas of India.

In a study which was based on primary survey conducted by Datta (1985) in the city of Udaipur covering 389 households it was found that education and labour market experience are the two very significant determinants of individual earnings. Schooling alone explains more than one-third of the variance in earnings among individuals. Inclusion of the variable experience raised the explanatory power of the model to two-thirds of the total earnings variance. This was higher than the results obtained in quite a few studies conducted in both developed and less developed countries.

Another important finding was that there seems to exist only one optimal level of schooling i.e., higher (post-graduate) education which maximised both the terminal earnings and discounted lifetime earnings, each of which rised monotonically with educational attainment.
Papola (1986) provided empirical categories of urban labour force on the basis of the criteria depends on capital and share of wage income in the total personal income of the industrial workers. He divides the Indian labour force into: i) workers in the public services; ii) factory workers; iii) employees of the non household establishments; iv) household industry workers; and v) other self-employed and independent workers.

Papola considers each of the categories of labour as consisting separate labour market segment without following any precise criterion of labour market segmentation. So, one can say that he has not applied segmented labour market model to analyse the Indian labour market. He also tried to explain the mobility patterns between the above segments of labour market which seems that the explanation of mobility is between the categories of labour force rather than between market segments.

The most popular definition of labour market segmentation is based on the assumption that all the differential earnings are attributed to segmentation. In reality, according to Saila bala Debi (1988) earnings differentials may be influenced by educational variables, socio-economic variables and job related variables.

To estimate relationship among these factors in Orissa, the required model was constructed to know how the labour market might be segmented. A sample of 598 workers in Bhubaneshwar having the qualification above matriculation was selected for the study by Sailabala Debi (1988). The workers were divided according to their age, sex, sector of work, nature of occupation and experience.

It was a primary study. Data were collected by canvassing a questionnaire. The mean income of workers by these above characteristics was estimated and the labour market segmentation was tested with the help of multiple regression models. In order to estimate earnings functions for different types of occupations and for different sectors of
work, separate regressions were run for each type of occupation and for each sector of work taking into account different levels/types of education, and age as the independent variable. The dependent variable in each regression was log of income. The empirical evidence with the help of econometric models have brought the following results.

1. There were differences in income among various groups of workers selected. The simple mean earnings of workers were different for different age groups, different educational levels, different occupations and in different sectors of work.

2. There were differences in earnings functions when the earnings functions are estimated separately for men and women.

3. The earnings functions are noticeably different for workers in various sectors of employment market and in various occupations. All the differences are statistically significant also.

4. The study established the existence of segmentation in labour market.

Harriss, Kannan and Rodgers (1989), by defining and measuring 'labour status' (in terms of protection, regularity and autonomy) more effectively than is possible with conventional labour statistics and by demonstrating its importance in the analysis of the functioning of urban labour markets, have built and tested models of labour market segmentation. Besides, the processes of job access and mobility, patterns of household labour supply and labour market insertion, and the implications of 'labour status' for livelihood have also been looked into in this study.

They had collected data on a range of personal characteristics of workers, their histories and socio-economic and cultural aspects through a survey in Coimbatore in 1987. The data were subjected to cluster analysis which included variables such as broad
occupational class, types of business, payment system, size of enterprises, whether enterprise was registered, type of contract, permanent or temporary work, regular or occasional work and whether a trade union was present or not.

In an effort to categories workers into various status groups in the labour market, they found that a number of variables including personal characteristics, education, parents' occupation, social background, and nature of migration of an individual determined his/her labour market status. Specially, male workers were found in large numbers (i.e., relative to female workers) in firms using capital intensive methods of production. The proportion of old workers (i.e., 35 years and above) was relatively higher in protected regular wage works whereas the proportion of young workers was high in unprotected regular employment. This finding implies that a process of 'informalisation' is under way in Indian labour market, with smaller number of entrants to labour market, who over time, are able to enter protected employment.

The incidence of both 'marginal self-employment' and of 'unprotected irregular wage work' was higher among female workers, implying that women are more vulnerable than men in Indian labour market.

A large number of migrants from urban city centers to Coimbatore were found in the protected regular wage work and the incidence of migration from rural areas was higher in more vulnerable groups of unprotected regular short-term wage work and in marginal self-employment. All these reflect the process of migration of more educated and well qualified people from other urban areas to specific occupations in Coimbatore (this was so because some factories in the city had a policy of recruitment of relatively more educated people from outside the city) and less educated rural people into more marginal occupations. The point here is that patterns of migration do determine the
relative labour status of individuals in India. Moreover, individuals from backward (status of individuals) castes and rural areas were found strongly represented amongst unprotected regular wage workers.

They further found a definite predictable relationship between the level of education attained and labour market status of an individual. Individuals in unprotected regular long-term wage employments were better educated than those in unprotected regular short term employments. The most vulnerable groups of workers had no education at all.

Analysis of mechanisms of job access revealed the particularistic nature of Indian urban labour markets and the consequent stratification and segmentation. Thus provides ideas on the process by which jobs are rationed and distributed among different demographic groups having varying personal characteristics, including education and socio-economic background.

Information about the availability of jobs and selection processes of various industrial units were equally important in determining one's access to job. Even in this case, education is not so much important in determining job access. Personal and community contact were very strong, particularly for the in-migrants to have access to particular kinds of jobs. Interestingly for the same kind of jobs the educational work experience requirements were higher for the female workers than for the male workers. Also, access to prior on-the-job training and capital were significant factors in access to better paid work.

Mobility across labour status boundaries was extremely limited in Coimbatore labour market. The interaction between the 'inherited' characteristics such as gender, caste, place of origin etc., and the 'acquired' characteristics such as education, experience, etc., was important in determining mobility in the labour market. Father's education was not strong
enough to influence labour market mobility. The influence of one's own education was a positive factor influencing his/her upward occupational mobility. Thus, as an 'acquired' characteristics, education lends itself for policy interventions in enhancing the capacity of urban workers to secure better employment.

It was also found that labour supply was greatly determined by the opportunities available to people of different backgrounds and their personal characteristics. Specially, apart from age and sex, economic and social factors like employment opportunities, average level of earnings of individuals, educational attainment and cultural values influenced the rate of labour force participation. The participation rate in Coimbatore was significantly influenced by levels of educational attainment.

A study by Acharya and Jose (1991) forms part of a larger research programme of the ILO - ARTEP for assessing the urban labour markets of developing countries. Its specific purpose was to analyse the structure of employment and pattern of longitudinal job mobility among workers belonging to low income households in the city of Bombay. The study was based on a sample survey among workers who mostly worked in the unorganised labour market. It forms as equal to an earlier survey conducted among workers spread over 30 low income settlements in six municipal wards in the city. A total of 468 men and 723 women were chosen for detailed investigation which covered various facets of the present and past jobs and access to the labour market. Care has been taken to focus on the gender specificity in all aspects of the analysis since the attributes of the two sexes in the labour market are quite different. The major findings of the survey are summarised below:
It identified four status groups of the labour force namely: 1) regular workers, 2) contract workers, 3) casual workers and 4) self employed workers. Such a classification also broadly conforms to a taxonomy of urban workers in developing countries attempted by Rodgers (1989).

On an average, men change jobs once in 10 years while those among women do it every 14 years. The data showed that over time, along with change of jobs there was corresponding increase in earnings of the workers. A comparison between job-changes and non-changes showed that the latter began at higher levels but the former caught up overtime through job mobility.

A multi variate regression analysis was used to explain the earnings behavior of workers in a cross-section of the labour force. There were three broad variants identified: i, the rated value or premium attached to positions in the labour market; ii, human capital endowments of the workers and iii, the access to physical capital and markets. Separate regressions were fitted for wage employees and the self-employed. The model was largely vindicated by the data.

This study dealt at length with differences in the terms and conditions of employment between the protected and unprotected segments of the labour market. It is important to note that the average earnings of workers in the protected sector were not extraordinarily high or entirely out of tune with those of their counterparts in the unorganised sector. Workers were lured into the above sector more on account of the safety and support that can be derived from-employment therein. For instance, the prospect of being covered by protective labour legislation has been a major factor influencing their mobility.
Khandker (1992) estimated the Occupational Choice, Earnings, Mobility and Labour Supply behavior of men and women among low income households who live in urban slums of Bombay. The study was based on a random sample survey of 2192 workers who lived in the recognised slum areas of Bombay. This study covered three categories of labour viz., protected wage, unprotected wage and self-employment as heterogeneous which represent three different forms of market segmentation according to the type of labour contract and job vulnerability as suggested by Rodgers (1989).

Based on appropriate test, this study found the structural differences that exist among these three sectors of employment. A chow test when performed in the wage regression to test whether a single wage equation represents the entire labour market indicated that there were structural differences in the wages of protected, unprotected and self-employed workers. A likelihood ratios test of sectoral job allocation shows that workers were assigned non-randomly to each sector of employment based on worker characteristics. However, a sector selection bias test shows that the non-random sectoral allocation does not affect workers wage. This means that workers do not have full access to this sectors where their expected wages are high. This finding therefore, suggest the presence of LMS. To sum up, the evidence reviewed here, though fragmentary in nature, it shows that Indian Labour Market is segmented on various lines. The following conclusions can be drawn from the Indian labour market studies:

i. Almost all the studies show that the influence of ascriptive social characteristics, commonly linked to rural class structure on the process of recruitment of labour into different types of employment is very high.

ii. It is not only that entry into different types of employment is clearly channeled by the principles of particularism, but also that mobility between different sector of the market is also clearly constrained. Though the data on mobility is limited in quantity they give clear indication of compartmentalisation in the Indian labour market (even of segmentation in a strict sense).
Thus, though the labour economists agree that the Indian labour market is segmented, no one has provided any systematic empirical evidence of the existence of segmented labour markets (Kamalakantha Biswal, 1995). Moreover, some economists say that because of the peculiar nature of the Indian labour market it is very difficult to answer the question as to who is a secondary worker in the Indian Labour Market? In sum, though these provide some evidence of the existence of segmented labour market in India, the evidence is not enough to generalise anything about the Indian labour market as a whole.

2.3.5. CONCLUDING OBSERVATION

A comparative analysis of empirical studies in both developed and developing countries reveals that most of the researchers of Industrialising countries use the US-type occupational classifications to segment the labour market. Moreover, the size of the secondary segment in the industrialising country studies is relatively large compared to that of developed countries. Probably the secondary segment in these studies incorporates a large percentage of 'primary-subordinate' workers.

In the Latin American studies secondary jobs in urban areas show a significant correlation between formal schooling and earnings and on the job experience and earnings. This finding goes against the segmented labour market hypothesis that human capital characteristics are not rewarded in the secondary segment. Thus, these findings raise serious questions as to the definition of secondary labour markets in the developing countries, i.e. who is a secondary worker?

In all, in the developing country studies, segments are much more defined by human capital criteria (by educational characteristics of workers) than the developed country studies Biswal, 1995) in part, this may the result of the greater disparities of schooling in the labour force of lower income countries. It may be inferred that in the
developed countries relatively greater equity in education in the labour force leads to
greater influence of the demand side of the labour market (i.e., segmentation into
different labour markets on non-human capital criteria).

Moreover, income differences between different segments in the developing country
studies are much greater than in the developed country studies, especially in the US.
Thus, even though education is a more important variable in explaining income differences
within segments in lower income countries, the inter-segments income differences are much
larger. In these countries formal schooling and experience are probably less important in
explaining inter-segments income differences than in developed countries.

The education and work experience may be rewarded in all segments in the urban
labour markets of low income countries, thereby supporting the human capital view of such
markets. Moreover, education differences may be the most common characteristic
differentiating various segments. However, this implies that the income difference between
different occupation segments may be so large that, in these countries, equalising education
and training has a limited effect on equalising earnings between different segments. Demand
side variables therefore, retain their importance in determining who gets what income.