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COMPETITION AND SEGMENTATION:  
AN ANALYSIS OF WAGE DETERMINATION AND  
LABOUR ADJUSTMENTS IN  
MANUFACTURING INDUSTRY

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## PREFACE

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GRAHAMSTOWN

FEBRUARY 1986

## INTRODUCTION

"... we may predispose ourselves to misunderstand important aspects of unemployment if we insist on modelling the buying and selling of labour within a set of background assumptions whose main merit is that they are very well adapted to models of the buying and selling of cloth"  
(Solow, 1980 : 3)

Tramps and the idle rich notwithstanding, work is a primary activity for humanity. Every society be it feudal, capitalist or collectivist organises labour to produce goods and services. The way in which this organisation takes place differs however according to the type of society, more specifically to the way in which production is organised. A distinguishing feature of a capitalist or market economy is that decisions about the allocation of resources, including labour, are made on the basis of prices generated by voluntary exchanges between competing economic agents.

At first glance the labour market appears to be no different from any other market. In its pristine, traditional formulation the competing participants are employers on the demand side and workers on the supply side whose interaction in the market place determines the pricing and allocation of labour. Following Pigou (1933) if this interaction is characterised by "thorough-going competition" between workers on the one hand and employers on the other then the only possible equilibrium position is a market-clearing one at full employment.

However, this is not the end of the matter. Firstly, because labour is

inextricably attached to the human form it constitutes a unique factor of production such that workers cannot be bought and sold or disassociated from their services. This inseparability of labour services from their owners has resulted in a host of institutions and legislative enactments that apply specifically to the employment relationship but do not exist in other markets. Secondly, labour markets are seldom characterised by individual competing agents. In contrast, the participants are usually firms and groups of firms on the one side, and individual workers, organised trade unions, and informally organised labour pools on the other; in other words, an assemblage of groups and individuals not necessarily always in "thorough-going competition" among and between each other. Thirdly, labour is not a well-defined homogenous factor of production. Not only do abilities, skills and experience differ across workers but even within particular skill categories workers often have bonds with certain localities, industries and even to individual employers.

The result of these three factors is that non-monetary issues are much more important in the labour market than they are for instance in the product and capital markets. Quite apart from keeping people occupied and alive the labour market bestows social status and moulds self-esteem. More precisely, the objectives of the participants in the labour market differ perhaps from the ones we normally impute to economic agents in the sense that they might not always feel themselves bound by the conventional economic constraints of demand and supply, but rather by social conventions whose source is not entirely individualistic.

The effect of social conventions or principles of customary behaviour may well act to discourage "thorough-going competition" in a slack labour market. Two typical situations spring to mind. In the first place unemployed workers seldom attempt to displace their employed counterparts by offering their labour services at a lower wage and, secondly, an excess supply of labour rarely evokes aggressive wage-cutting on the part of employers.

Such behaviour is likely to manifest itself in a series of flaws in the pricing and allocation of labour taking the market solution some distance from the contract curve. On the one hand this distance could be explained in terms of "imperfections" in a labour market usually converging around market-clearing equilibrium. On the other hand we could be viewing a market that is mostly in disequilibrium, with transactions taking place at non-market-clearing wages, the logical corollary of which is not full employment, but rather a situation of involuntary unemployment (Solow, 1980 : 2-3).

This tension between market efficiency and market failure is the principal concern of this thesis. It is borne out of a concern that the wage structure may not be receiving strong enough signals to encourage it to change in the right direction, or that a number of constraining factors render it unresponsive to the signals that it does receive.

The thesis itself proceeds according to the following outline.

Chapter One is concerned with the neoclassical theory of the labour market. Three particular models are surveyed all of which attempt to explain wage differentials and labour adjustments within a competitive equilibrium framework. The basic model of the labour market which rests upon the marginal productivity theory of labour demand, the utility-maximising approach to labour supply and the competitive theory of market equilibrium is dealt with first. This is followed by an outline of human capital theory which emphasises the crucial role played by education and training in determining individual earnings. Finally, attention is focused on disequilibrium wage models of adjustment which account for wage dispersion in terms of the amount and quality of information available to transactors in the labour market.

Chapter Two turns attention to a group of hypotheses that fall under the general rubric of labour market segmentation theories. These theories which were developed in opposition to the competitive theories of the labour market emphasise the competition between jobs rather than the wage competition predicted by their neoclassical counterparts. They are dealt with under two main headings: institutional and technological theories, and radical theories. Following an outline of these models attention is focused on efficiency wage models which, it is argued, provide the most coherent framework for an understanding of wage differentials and labour adjustments.

Chapter Three provides a brief outline of the structure of the South African labour market. The purpose of this outline is to consider some of the pre- and extra-market forces that affect the status of

distinctive groups of workers both before they enter the labour market and when within the labour market itself. Particular attention is paid to racially discriminatory legislation on both the supply and demand sides of the market that has acted to constrain the geographical and vertical mobility of defined categories of workers. It is argued that these pre- and extra-market forces have segmented the South African labour market both along racial lines and among and between African workers themselves.

Against this background of degrees of segmentation in the broader South African labour market Chapter Four turns inwards to a consideration of the recruitment and wage determination procedures of 90 manufacturing firms in three different local labour market areas. A variety of factors that affect wage and labour adjustments across regions, between industries and within particular firms are considered.

The conclusion attempts to pull together the various threads of the arguments and to consider the relevance of the findings for economic theory.

## CHAPTER ONE

### THE BASIC MODEL OF THE LABOUR MARKET

#### 1.1 Introduction

The basic model which represents the core of traditional neoclassical labour economics rests upon three theoretical foundations: the marginal productivity theory of labour demand; the utility-maximising approach to labour supply; and, the competitive theory of labour equilibrium.

##### 1.1.1 Marginal productivity theory

The demand side of the labour market, and of wage theory, is explained by the doctrine of marginal productivity which is attributed to the nearly simultaneous, but quite independent discoveries in the early 1870s' of William Jevons, Carl Menger, J B Clarke and Leon Walras.

In its simplest form the theory is built upon a number of important assumptions. Firstly, firms are assumed to operate in competitive factor and product markets with the result that they face a perfectly elastic labour supply curve. Secondly, firms are assumed to be profit maximisers, to possess perfect information regarding the characteristics of all current and potential employees, and to face a known, stable product demand. Thirdly, technology is given, and embodied in a production function where the factors are imperfect substitutes for one another. Fourthly, workers at any skill level are assumed to be perfectly homogenous.

Marginal productivity theory can be applied to the demand for any factor of production. The demand for labour is considered to be a derived demand since it is derived from the conditions in a particular labour market as well as from the conditions prevailing in the market for this labour's produce. It follows from this that the firms' demand for labour is determined by the combination of a technological relationship, summarised by the production function, and a market relationship, produced by the firms' product in the output market.

The production function describes a technological relationship between inputs of factors of production and the outputs produced. If all factor inputs except labour are held constant the marginal physical productivity of labour (MPP) is obtained from the production function. The market relationship for the firm's output, on the other hand, gives the price per unit of production ( $P$ ), and the concomitant marginal revenue (MR).

A firm operating under competitive conditions can sell as much of its output as it can produce at price  $P$  since it faces a perfectly elastic demand curve. Under these conditions  $P$  equals MR, and this constant price  $P$  is then multiplied by the marginal physical productivity of labour (MPP) in order to arrive at the value of marginal product (VMP). In perfect competition VMP equals the marginal revenue product (MRP). The VMP and VAP curves take exactly the same shape as the MP and AP curves.

Now, a profit maximising firm will continue adding to its labour inputs as long as the gain associated with the employment of an additional

unit of labour, the marginal revenue of labour (MRL, which is equal to VMP in perfect competition) exceeds the cost of the additional unit, the marginal cost of labour (MCL). Labour will be employed up to the point where  $MRL=MCL$ . Since under perfectly competitive conditions the going wage (W) is constant at any given moment in time,  $MCL=W$ . Under such competitive conditions the profit-maximising equilibrium will be defined by

$$W=VMP \quad (1)$$

According to Clarke (1902), this principle, with some additional embellishments, constituted a theory of wages. Marshall strongly disagreed:

"...There is no valid ground for any such pretension....Demand and supply exert equally important influences on wages; neither has a claim to predominance; any more than has either blade of a scissors, or either pier of an arch... but the doctrine throws into clear light the action of one of the causes that govern wages." (Marshall, 1966 : 518, 538)

It is this view that prevails today. The equalisation of wages and marginal products is only the principle by which the firm decides its employment. It is not a theory of wages since the wage is given to the firm under the assumption of pure competition in the labour market (King, 1972:20). Only when it is brought into juxtaposition with the theory of labour supply does a theory of wage and employment determination emerge.

Now, VMP will equal MRP only when the firm is a perfect competitor in the market for its product. In general MRP will be less than VMP,

since, assuming a negatively-sloped product demand curve, MRP will be less than price. Consequently, it is only in the special case where the firm is a perfect competitor in both the labour and product markets that the wage will equal the VMP.

Whatever the type of product market competition the firm's demand curve for labour (its' MRP function) will slope downwards and such a firm will almost certainly employ less labour as the wage rates increases. This will be the case for two reasons. Firstly, the "law of diminishing returns" will continue to hold ensuring a reduction in MPP as more labour is added to a given amount of capital. Secondly, the negative relationship between wages and employment still holds because it rests on two kinds of substitution (King, 1980:80). Assume an increase in the wage rate: in production relatively cheaper capital will replace relatively more expensive labour; and in consumption, purchasers will switch to relatively cheaper commodities. Thus, only in the special case of rigidly fixed technical coefficients of production and a perfectly inelastic product demand curve will the MRP curve not be negatively-sloped.

In the case of a monopsonist there are complications since, according to Rees (1973 : 76), such a firm has no demand curve for labour, in the sense of a simple functional relation in which the quantity demanded depends on the wage. This is so because the number of labourers demanded depends not only on the height of the supply curve at any employment but also on its elasticity, and the effect of a change in the elasticity of labour supply is to alter the MCL associated with each wage rate, thereby changing the equilibrium level of employment

with each wage rate.

### 1.1.2 Labour supply

The supply of labour in the basic model arises out of decisions taken in a purely individual context, without reference to the family as a whole - a simplification which will be dropped later. It is assumed that work and leisure are the only ways of spending ones' time. Thus, utility-maximising individuals will distribute the time available to them between work and leisure, and it is reasonable to assume that relative prices will play some part in this decision. A number of additional assumptions are crucial to the formulation of labour supply decisions. One is that workers have stable preferences governing substitution between goods and leisure, and another, that they know every detail concerning job opportunities open to them. Furthermore, the jobs at any given level of skill are assumed to be identical in all respects and to offer exactly the same wage.

Under these assumptions indifference analysis can be used to show how a rational decision-maker will respond to changes in the opportunities facing him/her. The indifference curves show constant levels of utility or satisfaction obtained from different combinations of work and leisure. The opportunity cost of leisure is the wages foregone, and the slope of the line from 0 to  $w_0$  represents a constant hourly wage rate.

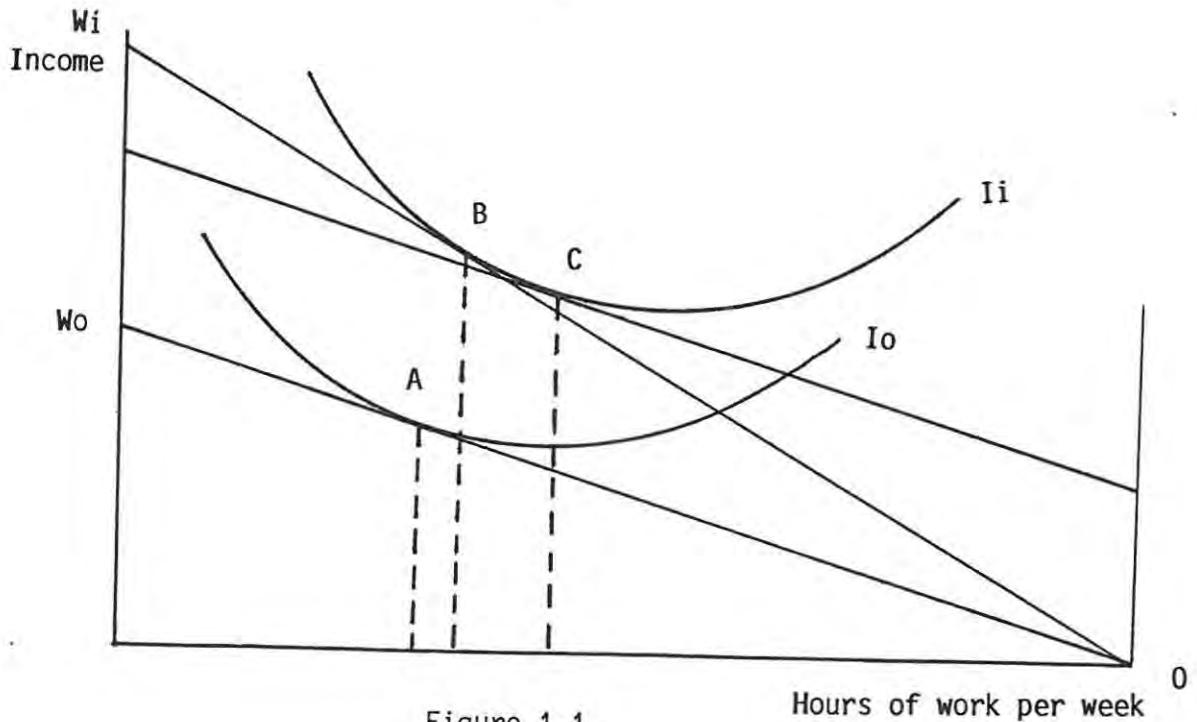


Figure 1.1

Assume the individual maximises her/his utility at A, where  $OW_0$  is tangent to  $I_0$  at 45 hours of work a week. Now a rise in the wage rate will increase the forgone earnings price of leisure time. Accordingly, the effect of this change in the relative price of these two goods can be divided up into two parts: on the one hand, a worker will substitute towards work and consume more goods at the expense of leisure; and, on the other hand, the increase in the wage rate will have an income effect which, if the worker regards leisure as a normal good, will increase the consumption of leisure.

In diagram 1.1 if the wage rate rises to  $OW_1$ , the new optimum is at B, where  $OW_1$  is tangent to the higher indifference curve  $I_1$  and the number of hours supplied is reduced to 40. Following the Hicks method, the change in hours caused by a wage increase can be decomposed into an income effect and a substitution effect. This is done by drawing the line parallel to  $OW_0$  that is tangent to  $I_1$  at C. The horizontal

distance from A to C is the income effect of the wage change on hours of work, and the distance from C to B, moving to the left, is the substitution effect. Thus, in our example the income effect predominates, but there is no reason why the substitution effect should not do so with a slightly different utility function. "Which is the stronger effect is an empirical question and not one which can be settled by a priori argument" (King, 1972 : 25).

Thus, in this simple model a dominant substitution effect produces a conventional upward sloping supply curve. If the income effect is dominant at some higher wage level the result is a backward-bending supply curve.

While the indifference technique has been widely used in analysis of hours of work and, in particular, overtime work, it does have a limited usefulness (King, 1973:27). The scope of this thesis precludes taking this much further but two important points bear mention. On the one hand, these limitations are highlighted when labour supply decisions are made on a family, rather than on a purely individual basis. On the other hand, the crude division of time into work and leisure is questionable, since leisure is certainly not the only substitute for paid employment. Nevertheless, in spite of these problems, indifference analysis does provide a coherent analysis of individual labour supply in the short run.

### 1.1.3 The competitive theory of market equilibrium

So it is that we now have a basic theory of labour demand, and one of supply, in fact two separate and independent straps that need to be buckled together to form a coherent belt of theory in the form of a testable model of wage and employment determination. That buckle comes in the shape of the competitive theory of market equilibrium which is based on the assumption that competitive market clearing forces prevail in the labour market.

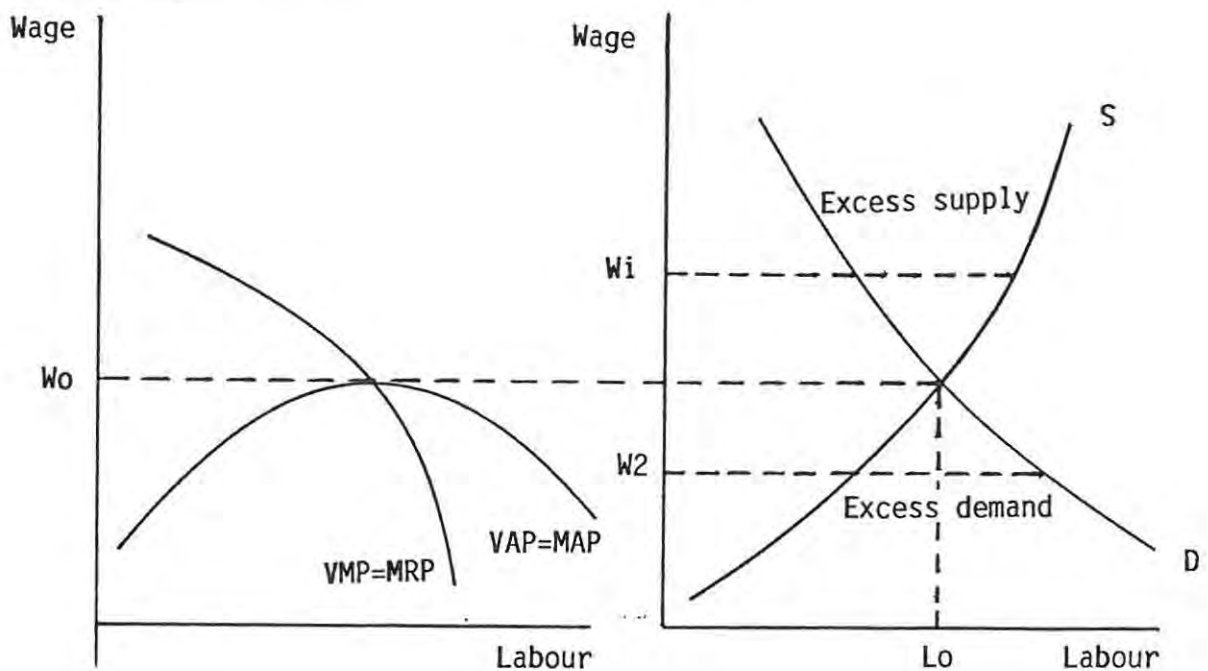


Figure 1.2

The labour market is thus treated no differently from any other market. The aggregate demand and supply curves, each of which is merely a horizontal summation across the appropriate curves for individual workers or firms, are simply superimposed on one another. The point of intersection thus defines the equilibrium level of employment in any labour market.

The market is said to be cleared at wage rate  $W_0$  in Figure 1.2 because the amount of labour workers desire to sell matches the amount employers desire to purchase. At  $W_1$ , workers are frustrated in the sense that they wish to sell more labour than firms are willing to buy, and at  $W_2$ , firms are frustrated in their attempts to purchase labour. The intersection of supply and demand is a labour market equilibrium because it represents a satisfactory transaction for both groups. Equilibrium is thus achieved and maintained by the pressure of excess demand and supply.

Wages must be equal everywhere in the market and equal to the MRP (=VMP) at the equilibrium employment level. Every firm is thus subject to market forces for each type of labour it employs. There is no distinction between the internal wage structure of any firm and the market wage structure since the two are identical. Finally, all deviations from equilibrium are considered to be temporary and transitional.

In terms of the basic model wage equalities between labour markets will lead workers to leave employment in relatively low-wage markets and seek employment in relatively high wage markets. This migration pattern promotes equality of wages since only when there is equal pay in alternative markets is there no incentive to relocate. An important implication of this pattern of worker mobility is that it leads to economic efficiency: the maximisation of production with society's available resources.

However, if all labour markets were in perfectly competitive long-run equilibrium, and if all labour were homogeneous, there would not necessarily be complete equality of pay but rather of the "net advantages" in all jobs. This view is consistent with Alfred Marshall who asserted that wages alone were insufficient to explain the rewards of labour.

"Every occupation involves other disadvantages besides the fatigue of the work required in it, and every occupation offers other advantages besides the receipt of money wages. The true reward which an occupation offers to labour has to be calculated by deducing the money value of all its disadvantages from that of its advantages: and we may describe this true reward as the net advantages of the occupation" (Marshall, 1966 : 777).

These non-pecuniary aspects of work could include the degree of responsibility required, the health hazards and potential danger of the work, the social prestige, and pleasantness or otherwise of the work. (A potentially significant source of inequality between jobs, the amount of training they require, is discussed in Section 2.2). However, this picture of equalisation of net advantages is widely considered to be unrealistic. "A person might prefer to be a policeman rather than a porter, but fail to pass the physical examination; he might prefer to be a surgeon rather than a butcher, but lack the money required to support him through medical school" (Atkinson, 1975 : 79).

For the basic model then, non-pecuniary advantages and disadvantages apart, there is no reason for any dispersion in the level of pay. In general wage differentials can only result either from market imperfections or from the heterogeneity of labour.

However, as a model of wage determination the basic model, despite providing useful insights into the workings of the labour market, is characterised, *inter alia*, by one rather crucial inadequacy. This inadequacy derives from the model's treatment of education (and training) like any other consumption good. It assumes that educational decisions are formulated in terms of the utility derived during the process of learning etc. and that the benefits of education are exhausted immediately. It thus ignores the significant impact of education upon labour rewards, and consequently provides an unsatisfactory explanation of the process of wage determination by failing to provide a coherent model of occupational choice.

It was this limitation, in particular, that led to the development of human capital theory, which is presently regarded as the most general neoclassical framework for the analysis of pay structure. It combines marginal productivity theory with the economic analysis of the use of time, in an attempt to demonstrate the crucial role of human investment in determining individual earnings.

## 1.2 Human Capital Theory

In the years leading up to 1960 the traditional view amongst economists held that the demand for post-compulsory education was simply a demand for a particular consumption good. Although the distinguished names of Adam Smith and Irving Fischer rank among those who saw human beings as approximations of capital in some important respects, the application of capital to human beings was considered by the mainstream of thought to be both inappropriate and impractical (Schultz, 1960 : 3).

The birth of modern human capital theory was heralded in 1960 by Theodore Schultz in his Presidential Address to the American Economic Association when he asserted that:

"Much of what we call consumption constitutes investment in human capital. Direct expenditures on education, health and internal migration to take advantage of better job opportunities are clear examples. Earnings forgone by mature students attending school and by workers acquiring on the job training are equally clear examples. Yet nowhere do these enter into our national accounts. The use of leisure time to improve skills and knowledge is widespread and it too is unrecorded. In these and similar ways the quality of human effort can be greatly improved and its productivity enhanced. I shall contend that such investment in human capital accounts for most of the impressive rise in the real earnings per worker." (Schultz, 1961 : 1)

This was a pioneering essay. On the one hand, it contains the crucial theoretical contention that the skills and knowledge acquired by people are a form of capital, and on the other, it makes the important empirical assertion that the growth of human capital could well be the most distinctive feature of economic growth such that the deficiency of human capital in many underdeveloped countries may well account for their relative lack of growth.

The concept of human capital, as the name suggests, refers to an application of traditional capital theory to labour. This is achieved by drawing on the essential characteristics which labour skills share with physical capital (such as plant and machinery) (Joll et al, 1983 : 50). Firstly, skills take time to acquire; secondly, the pecuniary and non-pecuniary rewards of possessing skills are often only realized over long periods of time; thirdly, under-utilisation, failing

memory and age tend to debilitate skills; and fourthly, since skills are largely a product of the technical knowledge of the time, they obsolesce with technological change.

Despite these common features there are, however, important differences between physical and human capital. In the absence of slavery human capital can only be hired by firms, not purchased and owned like physical capital. This prevents entrepreneurship, particularly by employers, since the lack of ownership or long-term binding contracts means that returns to any human capital investment cannot be appropriated. This distinction depends, as we shall see later, to a large extent on the nature of the skills in question. The second difference between the two forms of capital is that the acquisition of skill does not necessarily require any capital outlay. This is certainly the case where skills are acquired by practice and imitation during the production process.

Despite these differences, it still holds that labour skills are analogous to physical capital in some important respects which gives rise to the term human capital. The outcome of this is the "hard core" of the human capital research programme which assumes that people spend on themselves, not to reap present utility, but principally to maximise future benefits. Thus, the purchase of health care, time allocated to job search, the decision to migrate, and the voluntary acquisition of education and training may be viewed as investments, whether undertaken by society or its individual members (Becker, 1964).

Before developing a human capital model of wage determination it is important to analyse the decisions of individuals regarding investment in education which is used as a proxy for the inputs required to acquire a specific skill.

### 1.2.1 A simple human capital model

The procurement of skill normally requires a sacrifice on the part of the person making the acquisition. This sacrifice can take the form of expenditure (on education, training etc) and earnings forgone during the acquisition period. Skills benefit employers in the form of an increase in the MPP of the labour force, but the skill will only be procured if its reward is at least commensurate with the sacrifice. Thus, the acquisition of any skill is considered to be an investment in human capital, the return to which is usually a higher wage than that of someone who has made a smaller investment.

In order to determine the amount invested in human capital it is important, firstly, to determine the profitability or rate of return on the investment. Any individual maximising lifetime utility will appraise the investment by comparing the benefits of further education with the costs. Since these costs and benefits will extend over a number of years it is essential to take account of their distribution through time. Accordingly, allowance must be made for an individual's rate of time preference (or, the marginal rate of substitution between consumption in two periods) by discounting future costs and benefits more heavily the further into the future they accrue.

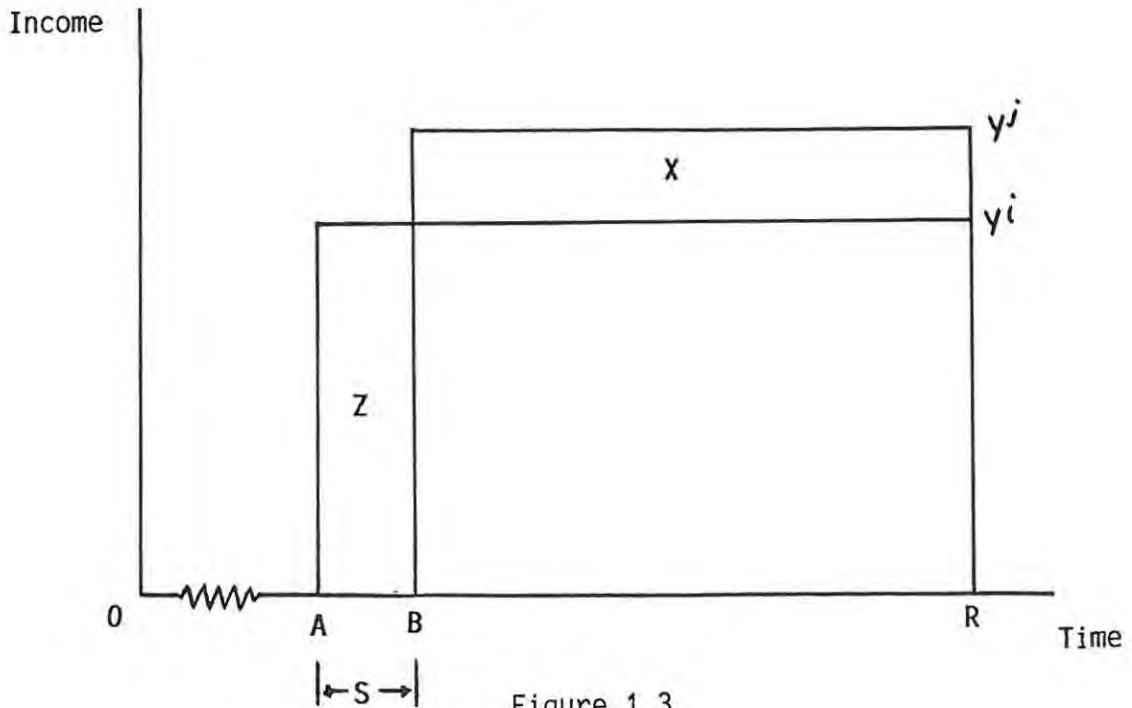


Figure 1.3

Following Joll et al (1983) any individual faced with a choice presented in Figure 1.3 will, in year A ( $t=0$ ) face running costs of  $C_0$  and foregone earnings of  $Y_0^i$ . Running costs of  $C_1$  and foregone earnings of  $Y_1^i$  will be faced in the following year ( $t=1$ ). Assuming that both the running and indirect costs, in the form of foregone earnings, remain the same in each year the individual investor will regard the costs as less onerous in each successive year of education. Specifically, costs of  $C_1 + Y_1^i$  next year are equivalent to  $C_1 + Y_1^i/1 + \delta$  this year, where  $1 + \delta$  is the rate of time preference.

Thus the present value of the costs incurred over the  $S$  years of the education programme ( $S=3$ ) leading up to education level  $j$  (Figure 1.3) is given by the present value of costs (PVC)

$$PVC = K + C_0 + Y_0^i + \frac{C_1 + Y_1^i}{(1 + \delta)} + \frac{C_2 + Y_2^i}{(1 + \delta)^2} \quad (1.1)$$

$$PVC = K + \sum_{t=0}^{t=S-1} \frac{C_t}{(1+d)^t} + \sum_{t=0}^{t=S-1} \frac{Y_t^i}{(1+d)^t} \quad (1.2)$$

where K represents direct capital costs, which are tuition fees net of grants, assumed to be paid in a lump sum at the beginning of the course.

The benefits of education begin in year A ( $t=s$ ). The individual is assumed to earn  $(Y_s^j - Y_s^i)$  more than would have been earned without the education. Any sum received in year B (or  $A(t=3)$ ) is clearly worth less than if it had been received in year A. Specifically the present value at A of the sum received in year B is equal to

$$\frac{Y_s^j - Y_s^i}{(1+d)^s}$$

This can be extended to give the present value of the benefits of the educational investment

$$PVB = \sum_{t=S}^{t=S+n-1} \frac{Y_t^j - Y_t^i}{(1+d)^t} \quad (1.3)$$

If the present value of the benefits of the educational programme exceeds the corresponding costs of the programme then the investment up to level j is worthwhile; that is if

$$\sum_{t=S}^{t=S+n-1} \frac{Y_t^j - Y_t^i}{(1+d)^t} > K + \sum_{t=0}^{t=S-1} \frac{C_t}{(1+d)^t} + \sum_{t=0}^{t=S-1} \frac{Y_t^i}{(1+d)^t} \quad (1.4)$$

Thus, by comparing the present value of benefits with the present value of costs the individual can make a systematic decision regarding the time pattern of the costs and benefits of the investment.

Assuming that the indirect costs each year of the educational investment will be  $(Y_t^i - Y_t^j)$  and that  $Y_t^j=0$  during the programme Joll et al (1983:54) produce a more general model in which the investment is worthwhile if the net present value (NPV)(=PVB - PVC)is positive; ie if

$$\sum_{t=S}^{t=S+n-1} \frac{Y_t^j - Y_t^i}{(1 + \delta)^t} - K - \sum_{t=0}^{t=S-1} \frac{C_t}{(1 + \delta)^t} > 0 \quad (1.5)$$

Alternatively, an educational investment can be appraised by calculating the internal rate of return to the investment. This method uses the same discounting approach as the present value method, but instead of discounting by the rate of time preference in order to determine whether NPV is positive or negative equation (1.6) below is solved to find the rate of discount which makes the NPV equal to zero:

$$NPV = \sum_{t=S}^{t=S+n-1} \frac{Y_t^j - Y_t^i}{(1 + \rho)^t} - K - \sum_{t=0}^{t=S-1} \frac{C_t}{(1 + \rho)^t} > 0 \quad (1.6)$$

The resulting discount rate is the internal rate of return on the educational investment leading up to level j. If it exceeds the individual's rate of time preference, then the investment is worthwhile. The internal rate of return is analogous to the marginal efficiency of capital for a non-human investment (Joll et al; 1983 : 55).

In this simple human capital model the net present value and internal rate of return are equally satisfactory decision criteria. The model will not be extended to include the existence of money markets, the availability of alternative programmes for reaching educational level  $j$  etc; since the object of this section, to simply identify the relevant criteria used to make a human capital investment decision has hopefully been fulfilled.

### 1.2.2 The human capital model of wage determination

In the preceding section the human capital model was used to analyse the decisions of individuals to invest in education. Since the return on human capital investment takes the form of increased earnings it would appear that human capital theory helps us to understand the distribution of income among individuals by providing a theory of individual wage determination.

In order to explain earnings differentials human capital theory in its simplest form makes strong assumptions about the nature of the labour market. In the first place it is assumed to be competitive and perfectly functioning, so that a person has complete freedom, unrestricted by any barriers, in his/her choice of occupation. Secondly, everyone faces the same opportunities. There are no environmental inequalities such as differences in physical skills, intelligence, or in home background, and everyone has access to the capital market on the same terms.

If these assumptions are satisfied, then the occupations requiring a longer period of education have to provide a correspondingly higher level of earnings if they are to be attractive. In order to illustrate this more clearly a number of simplifying assumptions are necessary:

- (1) All education is undertaken prior to entering the labour market, and no consumption benefits are derived from education;
- (2) all wages are known with certainty and are assumed to be constant over time;
- (3) everyone works for the same number of years after completing education, and remains in the same job until retirement;
- (4) all jobs are alike in every feature, differing only in the amounts of human capital that they might require.

It follows that all earnings differentials can be ascribed to occupations that require different levels of education. Since those who have invested in education have foregone earnings during the investment period human capital theory suggests that they earn more once they begin to work. Thus, following Joll et al (1983).

$$W_j = f(E_j) \quad (1.7)$$

where  $W_j$  represents the wage associated with the education,  $E_j$ , undertaken by individual  $j$ .

According to Joll et al (1983:251), "This equation expresses the fundamental hypothesis of the human capital theory of wage determination: that wage differentials between individuals are determined by their differing amounts of education."

In the human capital model each years' education brings an incremental rate of return,  $r_s$ , which is assumed to be constant for each additional year of education. Where  $W_0$  is the annual earnings of someone with no optional education the following equation indicates a simple relationship between the wage of an individual,  $W$ , and the length of time spent in education,  $S$ :

$$W = W_0(1 + r_s)^S \quad (1.8)$$

Taking logs, and expresing the relationship in continuous terms, it becomes

$$\log W = \log W_0 + r_s S \quad (1.9)$$

This schooling model thus simply relates wages to one variable,  $S$ , by means of one parameter,  $r_s$ , and a simple exponential function. It generates a number of testable predictions about the determination of individuals' wages, but in simply relating wages to years of education it fails to take account of human capital investments in the form of on-the-job training (OJT).

Joll et al (1983) have constructed a simple post-schooling model containing only two variables - years of schooling and years of experience - which is largely based on the model developed by Mincer (1984). While avoiding many of the complexitiies of the Mincer model, which are superfluous to the brief of this thesis, this model still yields testable predictions in respect of the age-earnings profiles and distribution of wages across individuals.

In this model, unlike the schooling variant, there is a gap between human capital earnings power and actual market earnings. This is so since some fraction,  $K_j$ , of an individual's work time in the  $j$ th year of work experience is devoted to investment, but, while adding to earning power, as in the schooling model, the time invested in OJT detracts from current earnings. The human capital earnings power is referred to as  $Y$ , and actual market earnings as  $W$ . The gap between  $Y$  and  $W$  then represents the investment in OJT.

Specifically, the earnings power over time of an individual who enters the labour market with  $Y_S (= W_S)$  is derived as follows:

Year of experience, $j$	Amount invested	Return on investment	Earning power accumulated at end of year $j$
1	$k_1 Y_S$	$r_r k_1 Y_S$	$Y_1 = Y_S + r_r k_1 Y_S = Y_2 (1 + r_r k_1)$
2	$k_2 Y_1$	$r_r k_2 Y_1$	$Y_2 = Y_1 + r_r k_2 Y_1$ $= Y_S (1 + r_r k_1) (1 + r_r k_2)$
$T$	$k_1 Y_{T-1}$	$r_r k^T Y^{T-1}$	$Y^T = Y^S (1 + r_r k^1) \dots (1 + r_r k^T)$

The earnings power accumulated at the end of  $j$  years work experience can be represented by

$$Y^j = Y^S (1 + r^T k^1) (1 + r^T k^2) \dots (1 + r^T k^j) \quad (1.10)$$

where  $r^T$  equals the rate of return to  $T$  years of training.

This human capital earning power equation, while more complex than the schooling equation, is still remarkably simple in that it contains only two variables - years of schooling  $S$ , and years of experience  $j$ . Since it explains wages in terms of experience the model generates

empirically testable predictions; firstly, regarding the determination of individual's earnings over their whole working lifetimes; secondly, regarding the distribution of wages across individuals; and thirdly, regarding the wage structure across occupations and industries (Joll et al, 1983 : 255-8).

In respect of an individual's age-earnings profile the most important predictions of the model are that the profile is linearly related to years of schooling and will rise continuously as long as training is taking place. Accordingly, with regard to the distribution of wages across individuals the model predicts that the critical determinants of any wage dispersion are the distribution of years of schooling and the amount of training undergone. The dispersion and skewness of wages will also be affected, *inter alia*, by factors such as the mean level of training involved in the work experience, variations in the incremental rate of return and a positive correlation between schooling and earning.

Finally, this human capital model of wage determination predicts that wage differences across occupations are merely a reflection of differing amounts of education and training required for those occupations. While changes in product demand and productivity will affect occupational differences in the short run only alterations in the technology associated with particular occupations or in the education/training programmes that they require, which alter their costs, will alter the long-run occupational structure. Thus, from a model of individual wage determination into a model that determines occupational wage structures this model can also predict industry wage

structures if it is feasible to consider them as a weighted average of occupational wages.

### 2.2.3 General and specific training

The Joll earning power function, even in its simplest form, yields interesting predictions but ignores the important distinction between general and specific human capital made by Becker (1964). While Joll along with Mincer (1974) may be correct in assuming that the returns to general human capital dominate the returns to specific capital for the typical worker it is both useful and illuminating to consider this important distinction.

Becker's pioneering work begins with a lengthy analysis of on-the-job training "not because it is more important than other kinds of human capital - although its importance is often underrated - but because it clearly illustrates the effect of human capital on earnings employment and other economic variables" (Becker, 1964 : 8).

A profit-maximising firm will be in equilibrium in a give time period (t) where the marginal product yielded ( $MP^t$ ) equals wages ( $W^t$ )

$$MP^t = W^t \quad (1.11)$$

In a firm where on-the-job training takes place marginal expenditures need not equal marginal receipts which in turn need not equal the maximum possible marginal productivity in each time period. On-the-job training therefore provides the connection between present and future receipts and expenditures.

Assuming that training is only given in the initial period, expenditures during this period would consist of wages plus the outlay on training and in all subsequent periods would only equal wages. Receipts per unit during all periods would equal marginal products and equation (1.11) can now be rewritten as

$$MP_0 = \sum_{t=1}^{n-1} \frac{MP^t}{(1+i)_t} = W^0 + k + \sum_{t=1}^{n-1} \frac{W^t}{(1+i)_t} \quad (1.12)$$

where  $k$  measures the outlay on training.

Becker then defines a new term

$$G = \sum_{t=1}^{n-1} \frac{MP^t - W^t}{(1+i)_t} \quad (1.13)$$

enabling him to rewrite (1.12) as

$$MP^0 + G = W^0 + k \quad (1.14)$$

However,  $k$  represents an incomplete measurement of training costs since it ignores the fact that time spent on training might have been used to produce current output.

This produces a new equation

$$MP^0_1 + G = W^0 + C \quad (1.15)$$

where  $MP^0_1$  represents what could have been produced, and  $C$  is the opportunity cost of time spent on training. As before,  $G$  measures the excess of future receipts over future earnings.

The significance of this equation is that the marginal product will

only equal wages in the initial period when the return equals costs, or  $G$  equals  $C$ . With this relationship in mind Becker moves on to make the crucial distinction between general and specific training.

(a) General training

General skills increase the workers' productive capability (their future marginal productivity) in all firms. In other words "perfectly general training" does not bring a return to firms in competitive labour markets since the attendant productivity increase is perfectly transferable to all other firms. Thus, workers, rather than firms, have an incentive to bear the full cost of training since the transferability of their subsequent skills will ensure that they will secure the profit from the return. This means that  $G$  is now equal to zero and equation 1.15 now becomes:

$$w^0 = MP^0 - k^0 \quad (1.16)$$

in terms of actual marginal product.

Accordingly, there is no incentive for the employer to bear the risk of paying the trainee in excess of his/her current net worth to the firm, which is  $MP^0 - k^0$ , during the period of general training. Any firm providing general training would, in order to remain in equilibrium, require that the marginal productivity of the trained labour exceed the wage paid to them in the training period so that if these "generally trained" employees are then bid away by other firms the training firm will not incur a loss. The crucial consequence of this analysis then is that trained persons will receive lower wages during the training

period than during subsequent periods, since in the training period they bear the full costs of training and afterwards experience the benefit of the return on their investment.

(b) Specific training

The above reasoning, however, does not apply in the case of training which is specific to the employing firm. In this case the notion of the worker as the entrepreneur for his/her own skills is inappropriate. Skills which are specific to a certain firm cannot be appropriated by a competitor, which has the effect of binding the worker to the firm in question. The extent to which the employer benefits will depend on the degree of monopolistic power, the degree of specificity of the training in question, and the duration of job tenure. The implication of this is a strong disincentive for workers to finance skill-specific training themselves since it will always be difficult to recoup costs in the event of discharge; and conversely, there is a powerful incentive for the firm to finance the training, since the dependence of the workers on the firm constrains their mobility such that they are likely to remain with the firm long enough for it to achieve a positive return. This "dependency" relationship may well result in workers receiving a wage lower than their marginal product. The gap between the wage and the marginal product represents a monopsony rent for the firm in the sense that the firm is the only effective buyer of these specific skills.

Besides the factors referred to above the amount of specific training

that firms provide will also depend on their variability of the firms' product demand and the expected level of staff turnover. Nevertheless, it seems reasonable to assume that a firm has a stronger incentive to finance specific rather than general skills. However, Becker recognises the extreme nature of the distinction he makes, and finally considers training with characteristics both general and specific to a certain firm and produces the equation

$$MP_1 + aC = W + C \quad (1.17)$$

where  $a$  represents the fraction of total returns collected by firms. (It is assumed that  $G=C$ ).

A major implication of this analysis is that specifically trained employees will command a higher wage than they can elsewhere. Since firms are concerned about the turnover of employees with specific training they are encouraged to pay these employees a premium above wages elsewhere. This premium would then have the effect of reducing the turnover of specifically trained employees thus allowing the firm to recoup most of its training costs.

On the other hand, employees with specific training are not highly transferable in the labour market which reduces their incentive to quit, thus reducing their rate of turnover. Accordingly, the decision by specifically trained employees not to move in the face of improved earnings elsewhere might be a perfectly rational one (Becker, 1964 : 28). This lack of mobility will be most pronounced in firms and occupations where specific training is important pointing to a potentially significant cause of occupational and industrial wage

differentials.

#### 1.2.4 Some concluding comments on human capital theory

The principal contribution of human capital theory has surely been to include education within the mainstream of economic enquiry. In so doing, the notion of human capital not only furnishes economic theory with a means of incorporating schooling and workplace training into the analysis of economic growth, but is also highly amenable to an analysis of health care, migration costs, the time allocated to job search, and non-educational learning (Becker, 1980). Moreover, and most crucially, human capital theory has provided us with additional tools to explore the nature and extent of economic inequality.

In considering human capital theory in relation to growth Donaldson (1985) notes that Becker (1980) is careful not to jump to exaggerated conclusions concerning the contribution of education to growth, and to the narrowing of wage differentials:

In the United States during much of the last eighty years, a narrowing of wage ratios has gone hand in hand with an increasing relative supply of skill, an association that is usually said to result from the effect of an autonomous increase in the supply of skills - brought about by the spread of free education or the rise of incomes - or the return to skill, as measured by wage ratios. An alternative interpretation suggested by the analysis here is that the spread of, and the increased investment in other kinds of human capital were in large part induced by technological progress (and perhaps other changes) through the effect on the rate of return, as measured by wage differences and costs. (Becker, 1980 : 76)

Donaldson (1985 : 64) notes further that Becker's comment should induce

caution in respect of the use of rates of return for assessing the contribution of education to economic growth, and should also be "read as a warning not to expect the expansion of education in itself to be growth-inducing in developing countries".

However, the purpose of this section has been to describe the role of human capital theory in the analysis of earnings differentials and economic inequality. At first sight it appeared to promise a model of wage determination in the guise of a theory of occupational choice where occupational (earnings) differentials depend on the degree of training required, in terms both of formal education and of on-the-job training, and are just sufficient to compensate for the costs of this training, taking into account length of working life, uncertainty of earnings, unemployment and non-pecuniary benefits (Atkinson, 1975 : 82). In general then the occupations with higher earnings are those that require more training.

At the level of theory Mark Blaug (1976), in his exhaustive survey of the human capital approach, notes two problems with its coherence as a suitable model of occupational choice. In the first place he sees difficulty in separating off-the-job-in-plant "general" and "specific" training from either on-the-job-learning by-doing or on-the-job-doing-under-supervision (Blaug, 1976 : 837). Secondly, he is unconvinced that in the case of learning-by-doing individuals are able to exercise any choice as to how much of this learning they wish to do. This leads him to doubt "that all intraoccupational, and even interoccupational movements can be reduced to the action of sowing and reaping the advantages of labour training widely defined so as to include not just

formal in-plant training and learning under supervision but also learning by experience" (Blaug, 1976 : 837).

At the empirical level the important task is to examine the magnitude of the differential required to compensate for longer training. Atkinson (1975 : 82) notes an early attempt to do this by Friedman and Kuznets (1945) who observed the average incomes of professional and non-professional workers in the same community who had been in the labour force for the same number of years and concluded that "the actual difference between the incomes of...(these) workers seems decidedly larger than the difference that would compensate for the extra capital investment required" (1945:84). More recently Psacharopolous and Hinchcliffe (1973) found that the private rates of return to successive years of formal schooling are not equalised at the margin but, in fact, decline with successively higher levels of schooling making it almost impossible to disentangle the effects of investment in schooling from the effects of post-school investment. Furthermore a study by Hansen (1967) showed that rates of return to training as an engineer in the United States ranged from 10 percent in government service to 19 percent in research and development, with an average of 17 percent (Atkinson, 1975 : 84).

This theoretical and empirical evidence, *inter alia* and Mincer's (1974) generally unconvincing re-interpretations led Blaug to claim that "Enough has now been said to suggest that the human capital explanation of labour training founders on the failure to provide a testable theory of occupational choice" (Blaug, 1976 : 839). If this view is accepted

then the human capital explanation of occupational pay differentials is equally questionable.

Moving from occupational differentials to the distribution of earnings as a whole the human capital model, while having greater explanatory power than a host of statistical models that employ many variables on an *ad hoc* basis, is able to explain part, but far from all, of the identified earnings dispersion. In this respect the most notable empirical evidence is provided by Mincer (1974) who shows that schooling accounts for only a quarter of earnings dispersion, an explanation which is consistent with observations of considerable earnings variation among those with similar levels of education and experience.

Human capital theory has also been criticised for ignoring the important issues of; firstly, the differing access to the capital market that individuals might encounter; and secondly, differing abilities across persons, in the sense that a more able person will receive a higher marginal net return than a less able person from any educational path. Both factors are considered to partly account for variations in earnings.

Becker (1980) attempts to provide a framework for explaining earnings differentials in excess of those predicted by the simple human capital model by incorporating these two factors. He achieves this by considering two variations on the simple model, an "egalitarian" and an "elite" approach. In the former, where everyone has more or less the same capacity to benefit from investment in human capital, inequality

in earnings is explained through inequity of opportunities for human investment (for example, luck, family wealth, subsidies, access to funds). In the "elite" approach supply conditions are identical and demand conditions alone vary among persons. In other words everyone faces equal opportunities but investments and earnings differ primarily because of differences in ability, and thus in peoples' capacity to benefit from investment in human capital.

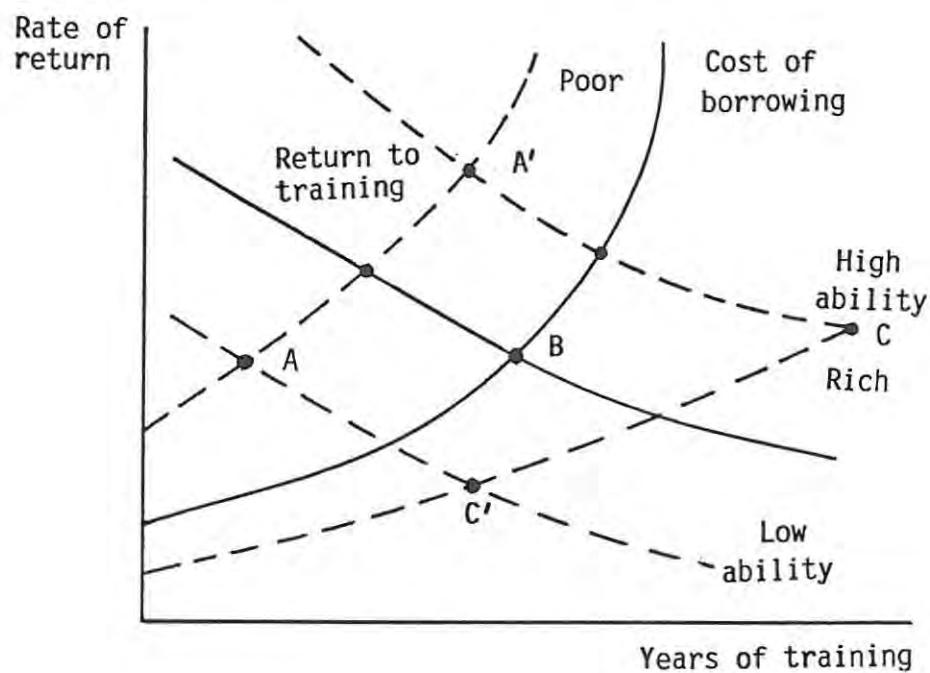


Figure 1.4

The combined effect of unequal opportunity ("egalitarian" approach) and unequal abilities is shown in Figure 1.4 where the nature of the observed relationship depends on the relationship between ability and, say, access to borrowing (Atkinson, 1975 : 90). A positive correlation would produce an observed pattern marked by ABC in the diagram with the wealthy/high ability group being concentrated in occupations requiring considerably more training. On the other hand a

negative correlation would produce a pattern of  $A_1BC_1$ , with smaller differences in the rate of return. In general both sources of inequality will operate but empirical evidence from Hanoch(1967) and Psacharopolous (1973) suggest that inequality of opportunity may be more important than differences in ability.

It is now evident that the resource allocation implications of human capital model depend on the existence of direct causal links running from education to productivity and from productivity to earnings. Joll et al (1983 : 64) argue that the link between education and productivity could be impaired if education was used as a screening device. The argument here is that employers when hiring generally face difficulty in accurately predicting the future performance of job applicants. This could tempt them to treat educational qualifications as a screening device to distinguish new workers in terms of personality traits rather than cognitive skills. The second link, that between productivity and earnings will only function effectively in competitive, profit-maximising firms and may be distorted by internal labour market operations, discrimination and trade union entry restrictions. Such distortions will thus impair the extent to which disequilibrium wage differences are translated into educational enrolments and occupational supply changes, and rates of return will no longer represent valid indicators of efficiency in resource allocation.

The simple human capital model has also been criticised for its sole concern with the link between years of training and earnings. In addition to adding links from the socio-economic background of the

family and ability to years of training some argue that there are other links to be considered. Bowles and Gintis (1973) provide statistical evidence of a relationship between IQ and earnings which derives from the common association of both of these variables with family background and the level of training. (The direct link between measured IQ and economic success is held to be relatively unimportant (Griliches and Mason, 1972)). It was also Bowles and Gintis (1975) along with Dore (1970) who argued that the central weakness of human capital theory is its neglect of class as a category of analysis. This issue is considered in Chapter 2.

On the other hand Jencks (1972) argues that all these factors only explain a small proportion of the variation in earnings. He argues that the crucial role is played by sheer luck such as "chance acquaintances who steer you to one line of work rather than another, the range of jobs that happen to be available in a particular community when you are job hunting . . . whether bad weather destroys your strawberry crop, whether the new super-highway has an exit near to your restaurant" (Jencks, 1972 : 227 qtd. Atkinson, 1975 : 96).

However exaggerated these factors might be, aside from the fact that the labour market does not necessarily operate in a smooth, perfectly competitive fashion, they do "have important implications for the assessment of equity, since to the extent that lifetime net advantages are not equalized, we do have inequality of opportunity" (Atkinson, 1975 : 86). Thus, while there is no denying the crucial contribution of human capital theory in attributing part of earnings differentials

to the return to training it certainly does not account for all earnings inequality. This may be due to some of the factors mentioned above or perhaps in part to the pervasion of imperfect information in the economic system. It is to this that we now turn.

### 1.3 Disequilibrium Wage Adjustment Models

In the conventional micro-theory of the labour market the task of constructing models in a world characterized by certainty is not necessarily a complex one. The principal task, save for problems involved with proving the existence and uniqueness of equilibria, concerns the independent derivation of the supply and demand sides of the market respectively. Once the aggregate supply and demand curves have been constructed the market model is arrived at by superimposing the two curves. The price (wage) at which the two curves cross is the equilibrium price (wage), in the sense that aggregate demand and supply are equal at that price (wage) .

Given that this is the content of market models under conditions of certainty it is important to make two important notes (Hey, 1979:171). The first concerns claims that if any wage (or price) is not in the equilibrium position then the forces that are present in the market will move the wage towards equilibrium . Secondly, the concept of "equilibrium" used here has an intuitive appeal that differs from the dynamic, continuing "equilibrium state" familiar to mathematicians and physicists. Hey is unambiguously clear on both these points:

"the theory of perfectly competitive markets has

nothing at all to say about price (and wage) movements (either in or out of equilibrium...) Thus the theory can say nothing at all about whether the so-called equilibrium price is an equilibrium in the usual sense of the word. In order to say something it is necessary to be able to specify about how the price adjusts (when out of equilibrium). But, of course, the theory cannot say anything about how the price adjusts, since it says nothing at all about how the price is set in the first place." (Hey, 1979 : 171)

The early literature which dealt with the adjustment to an equilibrium position seemed content merely to take a final equilibrium position and obtain sufficient conditions, in the form of mathematical restrictions on the set of excess demand functions for the stability of that equilibrium. The origins of this "mechanical" approach to adjustment can be traced back to Samuelson (1948) and his extension of Walras's idea of tatonnement - a solution obtained by trial and error.

The principal criticism of this approach within the neo-classical school is that it ignores the process of individual decision-making when markets are out of equilibrium. By its reliance on mathematical restrictions the approach fails to demonstrate how reasonable, economic behaviour by optimizing individuals may lead to the very restrictions needed for the stability of the neo-classical equilibrium (Pissarides, 1976 : 3). The broad thrust of this criticism can be traced back to Koopmans (1957), among others. He criticized mathematical models in dynamic economics, on the one hand for ignoring and distorting important features of reality and, on the other hand, for being so formulated that the tools of reasoning have tended to suggest the assumptions, rather than give the most logical and economical expression to the assumptions (Koopmans, 1957 : 182).

Hicks, too, shared reservations that this "mechanical" approach to adjustment did not refer back to the economic problem, and he seemed to pre-empt recent wage adjustment models when he noted: "But for the understanding of the economic system we need something more, something which does refer back in the last resort, to the behaviour of people and the motives of their conduct " (Hicks, 1965 : 223). Thus, it is obvious that the theory of perfectly competitive labour markets is neither a theory of wage determination nor a theory about wage adjustment. It is simply, and exclusively, a theory of equilibrium price where all labourers and employers are wage-takers, and clearly, "there is no-one left over whose job it is to make a decision on price" (Arrow, 1959:43). This highlights one of the most notable limitations of price and wage theory - the failure of the theory to offer a plausible economic rationalization of the price (and wage) adjustment process. It is to this problem that recent models of disequilibrium wage adjustment specifically address themselves.

The significance of these models is their assumption that participants in the labour market act on the basis of sketchy and incomplete information. Until their advent, and even in their wake, these models have received skeptical notices, well summed up in the words of a colleague of Michael Rothschild (1973 : 1284)

"The friction caused by disequilibrium and lack of information accounts for variations in the fifth or sixth decimal place. Your stories are interesting but have no conceivable bearing on any question of practical interest"

However, Rothschild himself thought this an incorrect argument. So too did the earlier studies of Phelps (1967), Friedman (1968), and Alchian

(1970), who attempted to explain the existence of temporary dynamic disequilibria in an imperfectly informed labour market. Their reasoning is based on the familiar natural rate hypothesis (Friedman, 1968) : an increase in aggregate demands makes it profitable for firms to reduce vacancies and offer higher money wages than before. Due to the lack of information unemployed workers will consider these higher money wage offers as an improvement, in real terms, on the previous offers. Thinking they have found better wages the unemployed will accept the new offers bringing a reduction in unemployment. But after a while these newly employed people will realize that prices have also risen making for real wages as low as when they refused to be employed. When expectations about future prices catch up with higher money wages, newly employed workers will quit their jobs and unemployment will return to its original level.

These disequilibrium dynamics only take place in the short-run. In the long-run supply considerations are seen to win over and real variables reach their full employment levels, which are determined only by pure, real factors such as labour productivity, individual trade-offs between work and leisure, the rate of growth of the labour force and information about the structure of the economy. The system thus ends up with only one natural level of unemployment.

This explanation has been significantly improved and developed by Phelps et al (1970), Eaton and Watts (1977), Lucas and Prescott (1974) and Wilde (1977). However, the most thorough exposition of "labour market adjustment" is contained in the book of that title by Pissarides

(1976). This exposition has been chosen as a case-study of disequilibrium wage adjustment models for two principal reasons. Firstly, it successfully avoids the analytical and mathematical complexities of most of the other important models which leads them to derive numerical solutions (Eaton and Watts, 1977) and secondly, it improves on the alternative expositions by considering long-run extensions of the short-run model.

### 1.3.1 The Pissarides model of wage adjustment

The model considers the adjustment of a static economy, where the total amount of resources available for production, the technology, and the preferences of individual agents are all fixed.

The novel feature of this model is the absence of a central organisation in the labour market, such as a Walrasian auctioneer, which can set unique wage rates for labour of similar skill, and which can ensure that the supply and demand for labour are realized at the ruling wage. In order to isolate the effects of disequilibrium in one market on the functioning of others it is assumed that only the labour market is not in (Walrasian) equilibrium. All other markets are completely centralized and are in supply-and-demand equilibrium at every point in time.

The trading arrangement in the labour market represents a variant of the sequential model of job search (Alchian, 1970). At every point in time those firms requiring labour services offer a wage rate to potential labourers who consider these offers and reach a decision by

surveying the wage rates of other firms. The firm makes its employment decision by considering the efficiency of each worker in relation to its wage offer and to the efficiency of others in the market. An agreement between the two parties will produce an exchange, while a disagreement will see the worker turning to another firm as the original firm responds with a second offer.

If a worker finds it optimal to enter firms, enquire about their wage offer, and move on to another firm it is likely that such a rational worker will take advantage of the wage variability produced by the search-and-offer process and extend his search before accepting the highest wage offer. On the other hand, this search behaviour is bound to provide a signal to firms that they have a degree of monopsony power in the sense that the higher its wage offer the less the number of workers that will walk away.

Thus, the trading arrangement is largely determined by the imperfect nature of the information continuously being conveyed to both sides of the labour market, and characterized by the monopsony power of firms on the demand side and the mobility power of workers on the supply side. Thus the central question to which the model addresses itself: "Will wage variability persist when workers and firms take advantage of this power they have" (Pissarides, 1979 : 199).

Pissarides postulates that in a "flexwage" world, where the firm is willing to vary its wage offer as frequently as prices, and so use the wage to control the supply of labour to itself, optimal entrepreneurial

and worker behaviour will ensure the persistence of wage variability given a distribution of reservation wages on the supply side and a distribution of wage offers on the demand side where reservation wages are those based on most experience.

There are a number of important factors exogenous to the trading agreement that ensure variable wage offers for the same type of labour. The first of these factors is the existence of alternative recruitment policies ranging from the fixwage extreme to the flexwage. If a firm is free to choose to operate in a fixwage or a flexwage environment, or in any position between the two, the firm will ultimately choose a wage policy which yields the highest expected profit to itself. This assumes that there is not a unique wage that maximizes profits for all firms. If the extent of wage flexibility does not influence the flow of labour to a firm, the firm may vary its recruitment standard to achieve maximum returns. Since different wage policies may yield the same profit it seems reasonable that the firm will choose policies that are optimal yet differ in the degree of wage flexibility leading to a variation of wage offers between firms.

Secondly, since the technology chosen by the firm is part of the long-run decision so firms may choose differing technologies. Differences in the technological arrangements of firms will insure that some workers are more efficient with some firms than with others, thus effectively producing variations in wages. Imagine two contrasting technologies: the first, technology A, is operated by skills readily available in the market and the second, technology B, a more efficient technology than the first, requires training expenditure to produce new skills.

Technology B will produce a higher marginal output than A but only at the costly prospect of retraining labour to suit the technology in the event of labour turnover. In this context the firm faces 3 choices: (1) technology A with its lower levels of output; (2) technology B offering the same wage rate as in (1) but spending the profit from the higher level of output on training new skills; and (3) technology B but spending the profit on increased wage offers to reduce labour turnover. The alternatives only differ in the way in which expenditure is distributed and since profit-maximizing firms are assumed to be indifferent as to the distribution of expenditure the choice of technologies is likely to differ among firms. Consequently, the greater the alternative technologies, the greater the possible variations in wages.

Thirdly, following the theory of net advantages, wage variations can be caused by differences in the non-pecuniary characteristics of jobs. Most jobs have non-pecuniary characteristics which are subjective to the holder of the job. For the net advantage of each job to be equalized among all workers it would require that all non-pecuniary characteristics are equally valued among all workers. Since workers' preferences among these characteristics are likely to differ there can be no unique wage rate that compensates for the non-pecuniary features of a job. Thus, the net advantage is likely to differ among jobs which in turn produces a variation in wage rates between jobs.

In addition to these sources of wage variability which are independent of the trading arrangement there exist a number of important sources of

wage variability peculiar to the trading arrangement.

Pissarides refers to the first as "history" denoting the experience of workers and firms during search. If there is an initial distribution of reservation wages, it is likely that firms' past experiences will differ, in the sense that a given wage offer might be acceptable to some workers. This might result in a high proportion of refusals preventing firms from filling all their vacancies at the same time. Given optimal firm behaviour we can expect that those firms unable to fill their vacancies will increase their respective offers over time. Since the experiences of firms will diverge in a random fashion, depending on how early in the period they are searched by a worker with a low reservation wage, their wage offers will also diverge.

Secondly, the length of the short run will affect wage variability between firms insofar as it specifies the dynamic search sequence that determines optimal wage policy. The length of the short run is determined partly by the quantity of capital required by the firm and partly by the firm's policy before and after the installation of capital in respect of the choice of production technique and its optimal replacement time.

A third source of wage variability peculiar to the trading arrangement stems from the imperfect information available in the market. Since there is no Walrasian auctioneer to convey full information about the market firms will be imperfectly informed about the flow of labour at any given wage. This variation in information across firms will result in a variety of optimal initial wages across firms which will

persist as long as differences in information persist during bilateral exchange.

Thus, in a "flexwage" market there will be a variety of wage offers across firms if there is a variety a reservation wages across workers. On the other hand the sequential maximisation procedure produces a distribution of wages shifting through time. Because search procedure is continually changing, the optimal wage strategy of the employers will manifest similar behaviour through time, with the optimal behaviour of the workers depending on the employers and that of employers on the workers. Thus, "It is no longer possible to analyze the two sides of the market separately, and then "bolt them together" to get a market model. The behaviour of the two sides must be considered simultanenously"(Hey, 1979 : 173).

This model of wage adjustment has now established that the distribution of wage offers and the effect of the sequential nature of job search produce a variety of reservation wages at any point in time. However, there are additional factors worth noting that cause workers to adopt different reservation wages from the outset.

The first of these is the individuals' attitude to risk. It is expected that in an uncertain environment risk-averters will choose a lower reservation wage in order to avoid remaining idle for long periods, whereas risk-lovers will choose a higher reservation wage, with firms obviously preferring a high proportion of risk-averters. Secondly, the length of an individuals' search horizon will affect his reservation

wage. Thus any search horizon is determined, *inter alia*, by the individual's age and the policy adopted by the individual. *Ceteris paribus*, a higher search horizon implies a higher wage.

Thirdly, the existence of a decentralized market will lead to differing reservation wages. Since each worker has different information about the policy of other searchers and firms, not all workers will be aware of all the opportunities available in the labour market. Under these conditions of imperfect information, the existence of a positive cost of search - direct monetary cost and income forgone during search - implies that no worker will find it optimal to search all firms before accepting a job offer. Moreover, it would be irrational for individuals to search all firms since the market information is continuously being outdated as a result of individuals continuously changing their reservation wages and firms their wage offers.

"Thus in the flexwage system there is a distribution of wage offers interacting with a distribution of reservation jobs, and optimal firm and worker behaviour implies that none of the distributions will collapse to a single point" (Pissarides: 206).

In contrast to the flexwage system the fixwage equivalent, where the firm varies its recruitment criteria instead of its wage, is characterised by a distribution of recruitment standards which effectively replace the distribution of wage offers, while the distribution of reservation wages remains the same as before. The same factors that support a distribution of wage offers in the flexwage system support a distribution of recruitment standards in the fixwage system. Thus, given differences across workers in terms of their

efficiency and reservation wages, differences in recruitment standards across firms can be expected to persist. Finally, in the words of Pissarides:

"... there will be variations of wage rates across firms, and so there will be a fairly rigid distribution of wage offers interacting with a flexible distribution of reservation wages, alongside a flexible distribution of recruitment standards interacting with a rigid distribution of efficiency levels" (Pissarides: 107).

This trading arrangement, then, stripped of its central auctioneer and pervaded by imperfect information, where all agents behave in an optimal fashion but are forced to rely on their own experience, will produce a distribution of wage offers that interacts over time with a distribution of job acceptance levels.

### 1.3.2. Long run extensions

Pissarides considers the long-run from the point of view of both workers and firms. In the case of workers investments in human capital are incorporated into the model in order to explain the long-run decisions of these participants in the labour market. Against this background it is assumed that once a particular skill has been acquired individuals will rarely retrain into another skill thereby restricting themselves to a particular set of job offers within a broad occupational group over their respective lifetimes. The labour market can thus be viewed as consisting of a number of independent skill markets, each of which represents the trading place of a particular set of buyers and sellers.

The individual will choose a preferred skill for which the difference between the expected returns from optimal search and the cost of training is a maximum, and variability is preserved by the interaction of human capital with the offer-acceptance process of the trading arrangement.

In respect of firms the long-run decision concerns the choice of capital and an appropriate technique of production. As is the case with the choice of human capital by the individual, the choice of physical capital by the firm depends on the expected returns from a optimal policy in the short-run. The firm will behave as it usually does in a neoclassical world when production co-efficients are variable by employing capital up to the point where the addition of capital to open up one more vacancy adds at least as much to revenue as it adds to costs. However, since the firm can only acquire additional labour through a time consuming offer-acceptance process it will be biased towards choosing that amount of capital which is sufficient to employ its current labour force. Only factors that lead to an increase in the returns from capital, and so to an increase in investment will lead to an increase in the returns from optimal recruitment, and thus an increase in the number of vacancies. The two most likely factors are, firstly, an increase in the price of output and, secondly, an increase in the supply of labour to the firm in the sense of workers being willing to accept the firm's offer.

Once again, this time on the demand side, the trading arrangement sustains wage variability. Thus, assuming the absence of equilibrium

and analysing individual behavior along the principles set out by equilibrium economics the Pissarides model produces an inherently consistent dynamic system where "the question of the convergence of 'the equilibrium' model is obsolete, or at best of secondary importance" (Pissarides, 1976 : 247).

In the words of Eaton and Watts (1977: 34)

"Thus it is the random component of job search (which implies that labour supply relationships are stochastic) that is critical in these models. It accounts for the existence of job vacancies; it accounts for the speculative nature of vacancy creation; it accounts for wage dispersion".

Clearly, these disequilibrium wage adjustment models represent considerable progress in terms of providing a theoretical explanation for the failure of wages to converge on a unique market clearing value. In addition some of the models have shown that even in a stationary state, the amount of unemployment entirely attributable to voluntary search can be very high. Eaton and Watts (1977), for example, derive numerical solutions which produce an (equilibrium) unemployment rate of 32 percent. Even if this figure is exaggerated it would nevertheless appear that Michael Rothschild's colleague is at fault. Clearly, the "variations" are not in the "fifth or sixth decimal place".

Despite this progress these models are not without their critics. Rothschild (1973), in a progress report on developments in the area of price and wage adjustment models, chose to direct his initial criticism at Stigler's theory of search (1961, 1962) which provides part of the basis for these models. Rothschild's concern is that Stigler's

argument depends on customer (employee) search behaviour which somehow influences sellers' behavior without providing a model of how this happens.

This criticism is then extended to the models of Mortenson(1970), Phelps (1970), and Lucas and Rapping (1970) "who do attempt to explain the behaviour of both sides of the labor market, (but) they do not explain the variety of job seekers in the market. This makes me very skeptical of propositions about the causes and effects of altering wage variability (real and perceived) which flow from these models" (Rothschild, 1973 : 1289).

Hey's judgement is however less strident:

"...the disequilibrium stories told by these writers represents a movement in the right direction. To complete the picture, a fuller treatment of involuntary unemployment...and its intergration with models of voluntary unemployment are required. Indeed, an examination of labour markets on their own is bound to provide only a partial explanation: what is needed is an integration of labour market and produce market models" (Hey, 1979 : 192).

#### 1.4 Conclusion

In essence this chapter has been concerned with the neoclassical approach to the analysis of labour markets; in particular, the way in which this corpus of theory explains wage determination, and accounts for inequalities in pay.

We began with the basic model of the labour market which argues that if

all labour markets are in perfectly competitive long run equilibrium, and if all labour is homogeneous, then there will be complete equality, not necessarily of pay, but certainly of the "net advantages" in all jobs. In terms of this model then, wage differentials result only from the heterogeneity of labour or from market imperfections.

The next step was to consider human capital theory. It represents the most general neoclassical framework for the analysis of pay structure, and combines marginal productivity theory with the economic analysis of the use of time in an attempt to demonstrate the crucial role of human investment in determining individual earnings, and, by implication, the differences in average pay levels between workers endowed with different levels of human capital. For the strict human capital theorist earnings only depend on the nature of the skills supplied by the individual worker. The job, the firm, the industry, and for that matter, the region in which the skills are performed are irrelevant to the size of the workers pay packet, at least in long-run equilibrium. This neoclassical "competitive hypothesis" accordingly explains long-run equilibrium differentials in pay between industries in terms of the skill composition of their respective labour forces.

Human capital theorists thus conclude that educational policy, rather than direct intervention in the labour market, is the most efficient means of reducing pay differentials. It was noted that this is not, however, a universally accepted thesis. Some argue that education *per se* has no direct effect on pay, and it is rather the access to training opportunities that governs an individual's earnings. Education, if it produces anything at all, produces screening

credentials, not marketable skills.

Despite this dissenting view many theorists have remained faithful to neoclassical theory. However, in the light of recent, substantial empirical evidence that occupational wage levels vary significantly between firms within spatially well defined labour markets some neoclassical economists have turned to modifications of the orthodox model, in order to explain these variations. Unconvinced that the theory of perfectly competitive labour markets is either a theory of wage determination or a theory about wage adjustment they have developed models within which variations in wage rates are rationalised in terms of the imperfect information available to transactors.

While these models have claimed success in achieving consistency with observed wage outcomes they have not escaped the notice and criticism of the dissenting "institutionalists". They argue that these models reveal little or nothing of the institutional and behavioural processes which give rise to a particular set of wage offers. In addition the disequilibrium adjustment analysis casts employers in a passive role where they merely respond to constraints that arise within the labour market. "It certainly does not attempt to explain the behaviour of real firms, and hence we would argue that is unable to provide a convincing account of wage determination" (Nolan and Brown, 1983 : 272).

Thus, with a little conceptual boldness, we now turn to some "alternative" models that attempt to explain "real" firms in a "real"

world, and, in particular the dispersion of earnings within the local labour market, for workers in the same occupation, in the same industry, in the same locality.

## CHAPTER TWO

### THEORIES OF LABOUR MARKET SEGMENTATION

#### 2.1. Introduction

Orthodox economic theory, in so far as it is founded upon markets that are competitive and clear, assumes that individual workers can make unrestricted choices, based on their personal tastes and preferences among a wide range of employment options in the labour market. To the degree that institutions such as unions or monopoly producers are recognized in this process, they are incorporated as imperfections and aberrations which distort but do not displace the basic tenets of the theory.

Segmentation theories, on the other hand, see the operation of institutions as the primary influence in the development of several, rather distinct segments within the labour market. Jobs within each segment differ from each other according to wages, promotion opportunities, returns to education and training, and employment security. Against this background these theories focus, not on individual workers facing a range of free choices, but 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.

This chapter intends to examine both the origins of the idea of segmentation in the labour market and the most important models that

fall within this broad category.

## 2.2. The origins of segmentation theory

The idea of segmentation as the root cause of inequality and low wages in the labour market goes back a long way in the history of economic thought. Its earliest versions can be traced back to the 19th Century, to John Stuart Mill and James Cairnes and their notion of non-competing groups. In essence they argue that, for a variety of reasons ranging from inadequate information about occupations, through the preference of employers for people with "suitable" social backgrounds, to the inability of some groups to acquire the necessary qualifications, there is stratification in society which results in "non-competition" between groups (Mill, 1848; Cairnes, 1874).

In response to Adam Smith's explanation of wage differentials in terms of differing "net advantages" (which is not substantially different from modern orthodox theory (Cain, 1976 : 1225)), Mill states an eloquent case:

"These inequalities of remuneration, which are supposed to compensate for the disagreeable circumstances of particular employments, would under certain conditions be natural consequences of perfectly free competition.....But it is altogether a false view of the state of facts to present this as a relation which generally exists between agreeable and disagreeable employments.....The undesirable laborers must take what they can get. The more revolting the occupation, the more certain it is to receive the minimum of remuneration because it devolves upon the most helpless and degraded, on those who from squalid poverty, or from want of skill and education, are rejected from all other employments." (Mill, 1848 : 372)

Drawing on this thesis that labourers are often crowded into secondary

occupations, not out of their own choice, but rather out of dire necessity coupled with the existence of natural and artificial monopolies, Mill proposes a labour market divided by the advantages of social rank and the restrictive practices of the guilds:

"So complete, indeed, has hitherto been the separation, so strongly marked the line of demarcation, between different grades of laborers, as to be almost equivalent to a hereditary distinction of caste; each employment being chiefly recruited from the children of those already employed in it; or in employments of the same rank with it in social estimation, or from the children of persons who, if originally from a lower rank, have succeeded in raising themselves by their exertions. (Mill, 1848 : 377)

Segmentation theories also draw from the institutionalist school who reacted, inter alia, against the uni-dimensional and linear models of the classical and neoclassical schools. Thorstein Veblen and John Commons, in particular, reacted against the conception of the narrow "economic man" and turned instead to models that included sociological, psychological and historical data in their analysis of economic growth and change.

Elements of the segmented labour market (SLM) challenge to orthodox theory can also be located in Keynesian economics and the structuralist debate of the 1960's and 1970's. Cain identifies the joint emphasis of both the Keynesian and SLM schools on the importance of wage and price rigidities (1976:1228). In addition it seems that the most important similarity between the two approaches lies in their expansive macro policy prescriptions to attain full employment. Links with the structuralists (Killingsworth, 1963; Myrdal, 1963), on the other hand,

lie, firstly, in their agreement that the problems of poverty and unemployment are attributable to structural shocks and imbalances, and secondly, in their lack of faith in the market mechanism to redress the imbalances and produce stability (Cain, 1976 : 1228).

Modern theories of labour market segmentation, however, seem to draw on two principal sources for their inspiration: firstly, the neoinstitutionalists of the 1950's, particularly Clark Kerr and John Dunlop; and secondly, the historical materialist framework provided by Marxist economics. Both of these sources will receive due attention later in this chapter.

Against this brief historical background recent work in the area of structured labour markets effectively divides into two categories. The first, sometimes referred to as theories of "low level equilibrium traps", extends the notion of non-competing groups by incorporating the effects of discrimination into the model. Discrimination is seen to set up further barriers to the mobility of disadvantaged groups through the operation of "feedback" and "backwash" effects (Spence, 1973; Myrdal, 1944) locking them into a vicious, self-perpetuating cycle or low level equilibrium trap. These theories adopt the methodology of competitive theory by situating the causes of inequality beyond the parameters of the economic system. Thus background characteristics such as social class, race or sex are considered to be the principal vehicles of inequality. The role of the labour market is held to be absolutely neutral, merely reproducing at the end of any market period the qualities and circumstances brought by participants at the beginning of the period.

The second category comprises that group of theories falling under the general rubric of labour market segmentation (LMS) theories. This category contains within it a number of divergent approaches all of which attempt to identify a relationship between the market and social inequality. To this end they run against the grain of conventional methodology by situating the origins of inequality within the economic system itself, rather than simply focusing on factors exogenous to the system.

The distinction between these two categories corresponds rather neatly with the important distinction between "pre-market segmentation" and "in-market segmentation". It is ultimately upon the relative importance of these two variants that the dispute between the segmentationist and orthodox approaches hinges (Ryan, 1981:6). Pre-market segmentation, as the name suggests, is related to the differentiation that is fostered by social class, race and sex, and enhanced by schooling and formal training, before access is made to the labour market itself. In-market segmentation, on the other hand, refers to the differentiation of opportunities within the labour market. This differentiation takes the form of a range of access routes to employment opportunities resulting in individuals of similar productive potential experiencing markedly different employment conditions. Thus, according to the pre-market variant, the market cannot be blamed for inequality and low pay since it merely replicates the inequality that it inherited, without being, in any way, party to its creation. Internal segmentation theory, on the other hand denies the market such neutrality of status by crediting it

with an active role in the generation of inequality, low wages and unemployment.

Three separate and quite distinct approaches have emerged within the "in-market" segmentation school: job competition theory, dual labour market theories and radical theories. These approaches differ in a number of crucial respects. On a descriptive level they differ in the number and type of distinct segments that are supposed to exist within in the labour market, while at the analytical level there is considerable disagreement as to the origins of such stratification (Cain, 1976 : 1221).

Both job competition theory and dual labour market theories attribute the emergence of segmentation to divergent technological and institutional developments in the economy. Radical theories, on the other hand, extend the dual labour market concept into a historical materialist framework and emphasize the need of capitalists' to control the labour force as the crucial determinant of stratification. Despite their many and diverse facets, Rubery among others contend that these approaches, principally through the development of the concept of an "internal labour market", have seriously challenged the validity of the orthodox theory of wage determination (Rubery, 1978 : 18).

### 2.3 Technological Theories of the Labour Market

It is generally agreed that modern theories of labour market segmentation were ushered in by the "neo-institutionalist" labour economists of the 1950's. In particular, it is the seminal ideas of

Clark Kerr and John Dunlop that provided both the tools and the framework out of which the later, more coherent theories of segmentation were to develop.

Kerr's most important contribution was to introduce the distinction between "structured" and "unstructured" labour markets where the former is characterised by strong, binding attachments between employers and employees, while in the latter the relationship between the two parties is simply governed by the existing wage rate. The structured market which is the focus of Kerr's work, is said to consist of two components, an internal market and an external market. The internal market is an administrative unit within which a set of institutional rules govern the pricing and allocation of labour. Jobs within this market are 'balkanized' in such a way that workers only compete with each other to a limited extent. According to Dunlop (1957) this balkanisation is effected through the division of the internal wage structure into groups of jobs or job 'clusters' which can be defined as any job classification with common 'wage making' characteristics such as training, skills or promotion patterns. The external market, on the other hand, simply consists of clusters of workers seeking jobs and is connected to the internal market by various 'ports of entry' which are simply the limited avenues of access to the internal market. Jobs not at these points of access are governed by institutional rules in the form of union agreements, custom and tradition. In the absence of the "thorough-going" competition associated with structureless markets it is these rules which determine the structure of pay and nature of mobility in the internal market. These institutional rules by reducing

mobility also lessen economic pressures to the point where "wage rates are less effective in allocating labour (just as the movement of labour is less potent in setting wage rates) than they are in less structured markets" (Kerr, 1954 : 307).

An important characteristic of market forces in the Dunlop approach is the existence of 'wage contours' which normally consist of any stable group of firms linked by similar product markets, local labour markets or similar labour market organisations. Normally a wage contour will contain several 'key bargains' which will be set by the largest firm, the price leader or the firm with leadership in the field of labour relations.

For Dunlop the anatomy of each firm wage structure is such that each job cluster consists of a number of wage rates. However, market forces are considered to operate, not on each wage rate within the firm, but on selective 'key' rates which then transmit adjustments to other rates within the cluster. These 'key' rates are the channels of impact between external, market developments and the internal wage structure.

The significance of Dunlop's theory is not only that job clusters and wage contours replace single rates as the focus of wage theory but that these concepts "seek to relate the internal and the external wage structure; they focus on the mechanics by which the internal structure through job clusters are influenced by external developments in the wage contour." (Dunlop, 1957 : 37)

At the same time as borrowing extensively from neo-institutionalist and structuralist theories specific elements of the SLM theories are to be found in conventional neo-classical economics, in particular, in Walter Oi's (1962) notion of labour as a quasi-fixed factor of production. The significance of Oi's contribution was to make allowance for labour costs that are fixed in the short run thereby dispensing with the assumptions that the employment relationship is purely impersonal and that adjustments in the level of employment occur smoothly. It is assumed, along similar lines to Becker's treatment of firm-specific training, that the costs of training are borne by the firm instead of the worker thereby representing an investment by the firm in the worker. In this case marginal revenue productivity (MRP) must exceed the marginal cost of labour (MCL) by what Oi terms the "periodic rent" which is defined as "the surplus that must be produced by each worker in order to amortize the initial fixed employment costs over the expected period of employment realizing a rate of return of  $r$  percent (the discount rate) on this investment" (Oi, 1962 : 122).

One consequence of this fixity is that short-run changes in employment are likely to be somewhat muffled. Where these fixed costs are significant fluctuations in product demand, leading to changes in MRP will not generate immediate changes in the numbers employed. Only favourable movements in product demand that are long-term will induce an increase in employment. In the event of short-term improvements the firm will tend to rely on its existing labour force and on such measures as overtime working. Similarly a decline in product demand and in MRP in the short-run will only result in dismissals if it is large enough to reduce MRP below MCL, and cancel out the periodic rent

altogether.

Under these conditions the firm is no longer indifferent, for example, between an hour of labour performed by one of its existing workers and an hour performed by a new recruit. Unless the premium for overtime working is large the former will always be preferred. Thus, not only is the degree of fixity reflected in occupational wage differentials but it has crucial implications for the nature of unemployment insofar as it indicates reasons for the higher average level and greater volatility of unemployment among less-skilled workers. Since the costs of employing, training and replacing such workers are relatively low, so they are the first to be dismissed in a recession and the last to be re-employed in an upturn. The significance of Oi's work for labour market segmentation is that the degree of fixity will vary across skill categories and industries resulting in some groups of workers being more mobile than others thus contributing to differentiation between workers. It's implications are discussed more fully in Section 2.3.2.

### 2.3.1 Job competition theory

This theory, perhaps the closest of these alternative theories of the labour market to the orthodox model, is largely associated with the work of Lester Thurow (1972). As the nomenclature suggests it is the competition for jobs rather than the wage competition posited by orthodox theory that is the driving force in the labour market.

The theory seems to derive its inspiration from a number of "defects"

that Thurow identifies in orthodox theory. Firstly, he notes that while the distribution of education has moved in the direction of greater equality over the post-war period, the distribution of income has not shown the same tendency, a discrepancy also revealed by black/white income gaps in America in the 1950's and 1960's. Secondly, the existence of sluggish adjustments in wages, and the seeming inability of unemployment to lower wages leads him to doubt the efficacy of wage competition; and thirdly, "perhaps the most devastating problem with the simple wage competition view is that it cannot explain the existence of unemployment" (Thurow, 1972 : 3).

It is on the basis of these reservations that Thurow believes that the labour market is characterised less by wage competition than by job competition; "that is to say, instead of people looking for jobs, there are jobs for people - for "suitable" people." (Thurow, 1972 : 5). This quote introduces the first, and most important element of the model - that the number and types of jobs are technologically determined and largely unaffected by the human capital endowments and the wage offers of workers. Accordingly, skills acquired in formal training programmes or in specialized education play a minor role in the process of occupational choice since most skills are acquired informally through on-the-job training. Thurow supports this contention by citing a survey which found that 60 percent of American workers acquired all their job skills through informal on-the-job training while 12 percent listed formal training and specialized education as most helpful in the acquisition of their current job skills. On this basis it is argued that the labour market acts not to match the demand and supply of different job skills but, rather, to match trainable

individuals with specific job ladders (Thurow, 1972 : 8). This emphasis of the importance of technology and on-the-job training in the formation of the job market severely undermines the role of the supply side in the process of occupational choice and wage determination.

On the other hand, the demand side of the market, characterised as it is not by the conventional wage mechanism but by the the job structure in the economy, has a crucial role to play. Wage rates are consequently determined by social custom, feelings of relative deprivation, notions of fairness, and bargaining that do not adjust to ensure that the wage plus training cost in a job equals the marginal product of the job (Knight, 1981 : 191).

In a labour market characterised by job competition, an individual's income is determined, not by his endowment of human capital but by the distribution of job opportunities across the economy and by his relative position in the labour queue. Employers rank workers on a continuum from the best potential worker to the worst one with those who promise the lowest training costs occupying the most favourable positions in the labour queue. Since employers rarely have direct and unambiguous evidence of the specific training costs associated with specific workers they resort to screening devices to hire workers, on the assumption that those displaying "positive" background characteristics will naturally incur lower training costs. Usually the most accessible characteristics such as age, sex, educational attainment, previous skills and employment history are relied upon.

A third, important element of job competition theory is the complete

absence of direct wage competition from the system and the restriction of job competition to entry-level jobs. Competition for jobs anywhere other than that at the bottom of the ladder would have the effect of breaking down the informal, on-the-job transmission of knowledge and skills since workers would be dissuaded from sharing their knowledge and skills if in doing so they were effectively training a potential competitor for their job. However, by recognizing the existence of strong seniority provisions which reduce the danger of wages being bid down, and by assuming that the system only provides for training in the event of specific job vacancies, the model obviates the possibility of such competition taking place.

Thus, the distribution of jobs and hence the distribution of income in the job competition model is determined by technological considerations interacting with the sociology of wage determination and by the extent to which training costs are distributed between employer and employees. In such an economy where the primary function of the labour market is to allocate individuals to on-the-job training ladders and where most learning occurs in work related contexts, the wage and job competition that are the essence of efficiency in simple neoclassical models may prove to be rather inefficient mechanisms for the allocation of resources. The impact of education is a case in point. Since labour is distributed across non-competitive lifetime income ladders an equalisation of the distribution of education will certainly succeed in narrowing the dispersion in the labour queue. However, in terms of the model, the labour queue will still be distributed across a technologically rigid distribution of jobs thereby severely lessening

any impact on the distribution of income. Thus, while education may alter the supply of labour, it will have very little impact on the distribution of job opportunities and hence on the demand for labour.

Thurow notes that observed changes over the post-war period are in accordance with his model of job competition. He cites data showing that for the 20 year period from 1949 to 1969 the distribution of education for the American adult male labour force moved in favour of high school and, in particular, college education. While the human capital, wage competition model would predict a substantial equalisation of earnings on the basis of this evidence, Thurow contends that the data is considerably more supportive of a job competition model (Thurow and Lucas, 1972).

It is perhaps important to note that the model denies neither the economic nor the non-economic benefits of education. It accepts that education can (1) directly increase the productivity of labour; (2) can, to a limited extent lead to changes in the distribution of income; and (3) lead to economic mobility. However, it emphasizes that because of the existence of a substantial element of job competition in an economy the impact of education and formal training on the distribution of income cannot simply be determined by rate of return calculations between different levels of education.

On this basis it is posited that programmes to estimate the economic returns are misdirected (Thurow and Lucas, 1972). Two points are pertinent. Firstly, such programmes should be focussing on calculating the impact of education on training costs rather than attempting to

calculate accurate normalised income differentials; and, secondly, the model indicates that education may become a defensive necessity to private individuals even if there are no net social returns to be had. This will occur if the supply of labour increases and individuals respond by improving their education simply to defend their current and expected income position and job.

### 2.3.2 Dual labour market theories

Associated with Doeringer and Piore (1971), Bluestone (1971) and Vietorisz and Harrison (1973) among others, these theories are perhaps the most oft-cited of the SLM challenge to orthodox theory. Their major contribution is twofold. On the one hand they give more content to the notion of internal labour markets by exploring more fully their origins and the mechanisms operating within them. On the other hand considerable attention is paid to those jobs and workers excluded from these sheltered markets and confined to the competitive secondary sector.

Central to the Doeringer/Piore thesis is a model the assumption of which is that jobs are organised into two institutionally and technologically disparate segments identified as the primary and secondary sectors. The former refers to the presence of internal labour markets within the firm, where an internal labour market is defined as "an administrative unit, such as a manufacturing plant, within which the pricing and allocation of labour is governed by a set of administrative rules and procedures." (Doeringer and Piore, 1971:1).

Pricing and allocation in the secondary market, on the other hand, are controlled by supply and demand.

According to the theory, internal labour markets develop because skills are becoming more firm specific with the result that on-the-job training and experience are playing an increasingly important role in raising workers' productivity. On-the-job training and skill-specificity are closely related since the more specific the skill the more likely that training will occur during the process of production. The dual effect of specific skills and on-the-job training will be to encourage the development of a more stable labour force. Analogous to Becker, it is assumed that employers, rather than the workers, will make the investment in the training which will encourage them to reduce turnover so as to reap the benefits of that training.

The hallmark of on-the-job training is its informality. In many ways it appears to occur by osmosis as the worker observes others and gradually assimilates their methods and work practices. In this case it can be argued that on-the-job training, principally because it is a joint output of the production process, is an efficient form of training. Moreover, to the extent that skill specificity leads to unrecorded knowledge, on-the-job training may be the only efficient way of transmitting skills from one worker to another. Thus, in respect of certain technologies the necessity of on-the-job training is also likely to encourage increasingly specialized and specific innovations and inventions.

The resultant stability of employment gives rise to a third factor

crucial to the generation of internal labour markets, i.e. that of custom:

"Custom at the workplace is an unwritten set of rules based largely upon past practice or precedent." (Doeringer and Piore, 1971 : 23).

Where employment relationships are stable and long-term work rules can become customary through pure repetition such that they acquire a quasi-ethical status within the work group, violations of which are usually regarded as punishable.

Internal labour markets are thus considered to be beneficial to both employers and employees. On account of the investment made by employers in on-the-job training and the high costs associated with replacing specific employees, labour in such cases assumes the role of a quasi-fixed factor of production with higher attendant turnover costs. Since stability is the most salient feature of internal labour markets they will tend to be favoured by employers with potentially prohibitive turnover costs. This will induce employers to offer wages higher than the equivalent opportunity wage in the external market as well as provide attractive prospects for advancement in the form of well-defined ladders of career promotion. Following Kerr these promotion ladders are largely protected from external market competition by rigid seniority rules which determine progress up the ladder, and by restricting external candidates to a limited number of "ports of entry". Thus, while internal labour markets will have the effect of enhancing the job security of employees their value to the firm is measured by reduced levels of turnover and improved technical efficiencies in recruitment, screening and training. Furthermore,

employees will be discouraged from quitting due to the lack of the transferability of their skills among other firms.

This highlights the role of non-economic determinants, in the form of sociological and institutional forces, in the process of wage setting (Piore, 1973). As before, the role of these forces derives from an appreciation of the nature of on-the-job training and its importance in the development of skills. Where such training is pervasive the labour process "is best understood in terms of what sociologists call 'socialization' ie. the adaption of the individual to the norms and the role patterns of the work group." (Piore, 1973:378). These norms are engendered where conformity to the group ethic is required or where learning by imitation takes place often producing interdependent utility functions among those who have regular and frequent contact at the workplace. Generated by past practice and a stable work situation these norms and "notions of fairness" are most often reflected by a fixed structure of relative wages. This structure "achieves its larger economic significance from the fact that the commitment to it is intrinsic in the process through which the supply of labour is generated and, hence, it is difficult to generate a set of competitive pressures which will undermine it." (Piore, 1973 : 379).

In addition to these sociological forces various institutional forces, in the form of collective bargaining contracts and the administered wage and salary structures of many white-collar organisations also act to shape the wage-employment relationship. It is asserted that such wage structures are economically compelling since a skilled labour

force will only allow a firm to operate with a wage structure which is characterised by 'equity' and 'fairness' in respect of wage differentials. Such a wage structure is likely to become established and any conflict between a customary wage structure and competitive pressures will be greatly reduced by the underlying socialisation processes involved. Thus custom and institutions tend to impart a rigidity to the rules governing wage relationships and internal allocation procedures thereby accounting for much of the long-term stability in the firm and the maintenance of the ILM over time.

A firm facing variations in the external market, such as a changing rate of turnover or job applications, can adjust to these changes through a number of instruments. The two instruments most readily recognized by orthodox theory are the level of wage rates and the number of workers employed in various jobs. However, according to Doeringer and Piore, the presence of internal labour markets highlights at least eleven additional instruments of adjustment. They divide them into two groups: the "more constrained instruments" which are specific to the internal allocative structure, and the "less highly constrained instruments" which refer to the means of adjustment between the internal and the external labour markets. The former consist of adjustments to both wage and nonwage compensation, changes in the internal allocative rules and changes in the job structure. The "less constrained instruments" comprise adjustments in the form of subcontracting and overtime, changes in the recruitment procedures such as hiring standards and screening mechanisms, and alterations in the amount and type of training offered.

The crucial implication of these adjustment mechanisms is that wages will often be unresponsive to changes in the supply of, and demand for labour principally because of the sociological character of the training process and of institutional demands at the workplace which effectively discourage the type of competition among workers which normally lead to competitive pay adjustments.

In addition, the job structure within enterprises is considered to be relatively unresponsive to changes in wages and productivity because the economics of job design is dominated by variables such as the degree of product standardization and the scale of production. It is argued that the determination of job content is constrained by the fixed nature of capital equipment which inhibits adjustment and limits the elasticity of substitution among various types of labour. The upshot of these rigidities is that firms "mold men to jobs, not jobs to men" (Doeringer and Piore, 1971 : 131) and consequently respond very sluggishly to the relative scarcities of different categories of labour.

Accordingly, internal labour markets are considered to be the critical units within which decisions are made with respect to employment, wage determination and training. In so far as they insulate workers from competitive pressures they could well be restrictive and costly. However, as long as the interests of workers coincide with those of their employers the forces determining internal labour markets reinforce one another. Thus, internal labour markets are seen to provide a more efficient form of market organisation than competitive labour markets wherever fixed labour costs and economies of

recruitments, screening and training are present.

Nevertheless, Doeringer and Piore do recognize that such protected markets might well develop into highly inefficient and costly administrative units. This could arise if the workforce has considerable power to enhance job security and enforce equitable treatment within the plant such that procedures come into conflict with the employers' desire for efficiency: the stronger the bargaining power of individual workers and unions the higher the likelihood of inefficiency emerging. Moreover, internal markets which were efficient at their inception may become less so over time, especially when customary forces harden to the extent that they fly in the face of changing economic forces. Ultimately the outcome will depend on the ability of the internal market to continue supporting inefficiency without being destroyed by more efficient competitors. This, in turn, will depend, *inter alia*, on the type of product market within which the firm is operating. Firms operating in oligopolistic markets, affording them much greater control and certainty in their product and factor markets, will be in a much stronger position to absorb inefficiencies especially in the short run. Such firms could be said to be operating according to X-efficiency.

However, the existence of internal labour markets represents but one half of the dual labour market thesis. The other half is represented by the residual, competitive secondary sector which is different in every respect from the primary sector and its characteristic internal labour markets. According to Doeringer and Piore, "Jobs in the primary

market possess several of the following characteristics : high wages, good working conditions, employment stability, chances of advancement, equity, and due process in the administration of work rules. Jobs in the secondary market, in contrast, tend to have low wages and fringe benefits, poor working conditions, high labour turnover, little chance of advancement, and often arbitrary and capricious supervision." (Doeringer and Piore, 1971 : 165)

Central to the dual labour market thesis is the understanding that jobs are not secondary simply because of the marginality of the workers. Attention should rather be paid, it is argued, to the problem of job search and of the acquired level of aspirations, of expectations and of orientations to work. Thus, individuals who are confined to a particular sector of the labour market will acquire histories and attitudes which reflect their jobs, rather than their innate abilities or human capital endowments, marking them off from workers in another sector. (Barron and Norris, 1976:50). However, a number of factors operate and interact with each other such that there are simultaneous processes at work in the determination of secondary labour markets. On the one hand, the secondary sector might be prevented from establishing internal labour market conditions conducive to employment stability because they are characterized by labour-intensive technologies and a lack of market power which, in turn, restrict their ability (and their need) to pay high wages. On the other hand, the attitudes and demographic traits of the labour force may combine with the undesirable work conditions to discourage or inhibit stable job attachment.

According to this line of reasoning low pay and employment instability in the secondary sector is determined, not only by the structural characteristics of the jobs involved, but also by the habits and attitudes of workers that are inimical to steady employment, a view that is akin to that school of thought that sees the poor as victims of a "culture of poverty". In this sense secondary workers are spawned by a pre-market status which is perpetuated by the "in-market" employment conditions they experience. Vietorisz and Harrison (1973) develop this theme and identify "positive feedback" and the problem of divergent technological development in the economy as the major determinants of stratification in the labour market. "Positive feedback" is contrasted with the "negative feedback" which tends to restore and maintain the stability of equilibrium in neoclassical market models. When the occupation of an advantageous position in the market gives the individual access to resources enabling him to secure and even improve his position in the market "positive feedback" has taken place. Similarly, someone in a disadvantageous position with a lack of access to resources can become inured to his situation and experience "positive feedback" in the opposite direction. Regardless of the direction, the feedback received from the market in response to the workers' efforts to secure his position leads to habitual responses over time and a perpetuation and entrenchment of market positions. This "positive feedback" is merely a type of "vicious circle" whereby technological change operating in tandem with differences in education, work norms, and firm-specific training reinforces the low-wage, low-mobility status of low-skill workers. In a sense it is the expression of the interaction of "pre - market" and "in - market" segmentation.

This runs counter to the orthodox view whereby tastes despite being one of the causal variables explaining achievements in the labour market remain viewed as exogenous to the market. "The contribution of the SLM theorists lies not in reiterating the importance of tastes in this role, but rather in pointing out how tastes may be endogenous and as a result of one's labour market achievements" (Cain, 1976:1223). Accordingly labour market segmentation is seen as endogenous within the economic system because it is "an instance of divergent development rather than of convergence to equilibrium" (Vietorisz and Harrison, 1973:367).

### 2.3.3 Policy implications of dual labour market and job competition theories

The most significant feature of these theories is their focus on the demand side of the labour market. Consequently, it is to this side of the market that the major policy proposals are directed. Lucas puts it succinctly:

"in particular, such theories as the dual market and job competition model focus attention upon the type of jobs to which disadvantaged workers are restricted, rather than the skills which such workers possess or lack. The policy implications of such models are entirely different from those of the human capital model. Rather than concentrating upon increasing the skills of certain groups, policy should be aimed at job distribution, according to these theories" (Lucas, 1972 : 74).

In its critique of orthodox policy the dual labour market approach centres on two main issues: the origins of short-term unemployment and training opportunities as a cause of unemployment (Doeringer and Piore, 1975 : 74). The unemployment difficulties of young people and ethnic

and racial minorities are directly related to the economic structure in the sense that these groups are crowded into the low-paying job market. Under favourable labour market conditions these groups might progress into 'better' jobs but when the market is slack their life styles and work routines are merely perpetuated by the adverse working conditions they experience daily in their jobs.

If this diagnosis of youth and minority unemployment is correct then Doeringer and Piore suggest public policy responses that will firstly, counteract the discrimination that has excluded these groups from primary sector jobs, and secondly, shift the distribution of jobs away from the secondary sector and into the primary sector. However, in order to expand the primary labour market and to facilitate the absorption of disadvantaged groups it is necessary to induce full employment in the economy. To this end expansive macroeconomic policies to provide full employment are often strongly advocated. In respect of negating discrimination in the primary sector it is necessary not only to strengthen competition and to raise the cost of discriminatory behaviour (Becker, 1971) but, most crucially, to institute affirmative political action in the form of compliance programs (Doeringer and Piore, 1975).

#### 2.4 Radical theories of the labour market

The third, and final, set of theories to fall within the segmentation research methodology is that of the radicals. These theories bear some similarity with the dual labour market (DLM) models, but essentially

differ in the sense that they attribute the origins of stratification, not to technological developments under capitalism, but to the imperatives of capitalists to exercise control over a potentially refractory labour force. The source of this difference between the two sets of theories is essentially located in the nature of their respective critiques of capitalism. While the DLM theorists draw almost exclusively on sociological analyses of institutional change, the radical critique, while not disregarding this view, is rooted, albeit at times loosely, in Marxian dialectical analysis and its emphasis of class conflict. According to Gordon:

"The radical paradigm draws heavily on a precedent Marxist tradition, but it has molded and recast classical Marxism in response to modern social and historical developments; much of the classical Marxist methodology has been retained while some of the substantive generalisations of nineteenth-century Marxism have been revised to fit current realities" (1972 : 53).

Many radical theorists accept that an individual's productivity is affected by the forces of competition, by supply and demand, and the market price of the product. But, ultimately, these conventional forces, and consequently the distribution of individual income, are considered to be subordinate to the social relations of production under capitalism.

In this light it would seem appropriate to dwell briefly on the central tenets of the Marxian paradigm. Thus, a capitalist system is said to exist where the mode of production, quite literally the way in which goods and services are produced, is characterised by wage labour and organised towards the accumulation of capital. In contrast to pre-

capitalist modes of production, the *raison d'être* of capitalist production is not to increase consumption, but rather to augment the existing stock of capital. In a capitalist society therefore, the purpose for which production is organized "is to use exchange-value to produce more exchange-value, and then to use the additional exchange-value to produce still more, and so on" (Cohen, 1978 : 181).

This orientation of production towards capital accumulation is seen to be a consequence of the particular form taken by the social relations of production under capitalism, rather than the result of capitalists' unquenchable thirst for wealth (Roux, 1984 : 12). Following Cohen (1978) the social relations of production are relations of ownership or effective control that exist between a group of persons and a set of productive forces, such as raw materials, machinery, land and labour power. Where the economic structure is the totality of a society's social relations of production, a class can be defined as any group of persons occupying similar objective positions, in the sense of interests and consciousness, in the economic structure.

The characteristic feature of the social relations of production under capitalism is the existence of two antagonistic classes: on the one side, a class of people, the capitalists, who exercise almost complete control over the means of production; and, on the other side, a class of people, the workers, with little or no control over the means of production, but with considerable control over their own labour power, in particular the power to transfer or alienate this labour power. This provides the basis of a capitalist labour market where workers are forced to sell their labour power in order to survive, and capitalists,

in turn, are obliged to buy this labour power in order to facilitate the accumulation of capital, and entrench their respective positions in the labour market.

The sale and purchase of labour power establishes a power relationship between the worker and capitalist where the former is subordinated to the latter by the separation of workers from the means of production, and concomitantly from the means of subsistence. This unequal relationship will persist as long as the worker is structurally more dependent on holding the job than the employer is on retaining the worker (Crouch, 1978 : 5).

Following Roux (1984 : 20) the labour market represents only one arena of the conflict between capital and labour. A second arena, and the one with which radical theorists are principally concerned, is the labour process;

"In its practical aspect the labor process is a set of activities that transform raw materials into useful objects with the assistance of instruments of production. This involves labor, the expenditure of effort, the translation of the capacity to work into actual work, of labor power into labor" (Burawoy, 1979 : 15).

In our survey of neoclassical theory the firm was characterised by the technical relations embodied in the production function, and the relationship between capitalist and worker, or employer and employee, by the payment of wages. According to Edwards (1979: 32) a crucial failing of neoclassical models is the extent to which they ignore the fundamental distinction between labour power and labour, a distinction

so centrally important to Marxian models of the organisation of work.

Labour power, can be defined as the capacity to perform productive work, while labour is the actual human effort required to produce potentially saleable output. In the labour market capitalists effectively purchase the right to control a certain amount of labour power. However, this labour power is only useful to capitalists to the extent to which they are able to translate it into productive labour. It is precisely this problem of translation that confronts capitalists at the point of production, and which " depends on such factors as the workers motivation, diligence, discipline, "loyalties", and work habits; on their informal organization to restrict output, punish "rate-busters", and resist speed-ups; on their collective organization, militance and class consciousness; and on the capitalists ability to erect organizational structures, establish rewards and punishments, and provide proper supervision to carry out production and counter workers efforts" (Edwards, 1979 : 33).

Given this antagonistic relationship it is important for their economic survival that capitalists attempt to control all facets of the employment relationship. This quest for control takes the form of individual and collective struggles: struggles by workers to increase their rewards and reduce their expenditure of effort, and struggles by capitalists to shape the elements and the terrain of the production process so as to enhance their control and undermine the capacity of workers to resist.

Despite the need of capitalists to control workers they also rely on them to co-operate in the process of production. This is especially the case where workers must employ their own initiative and conceptual abilities, where skills are not easily substitutable, and where workers exercise some control over elements of the production process. Hereby workers are endowed with a considerable source of power enhancing their ability to resist managerial directives and to disrupt production by withdrawing their co-operation and initiative.

Any significant degree of worker control over the production process creates the need for management not only to elicit the conscious participation of workers in maintaining and increasing output levels but, most crucially, to seek ways of legitimising their power over workers. This is normally achieved by providing workers with positive incentives and by organising and structuring social relations within the firm in order to motivate workers and to increase control over them.

Radical theorists argue that the strategies and structures that have emerged in response to these forces are best understood within a framework where labour markets are segmented according to systems of control. This segmentation is said to have arisen during the transition from competitive to monopoly capitalism (Reich et al, 1973), where the latter is distinguished from the former by the existence of giant firms and the erosion of competition within the factor and product markets.

It is against this background that radical theorists, and Richard Edwards in particular, provide a framework for analysis in which the labour market is stratified, in terms of the organisation of work and the continuing attempts of capitalists to exercise control over the labour force at the same time as improving industrial efficiency. Edward's distinction between three "idealtypes" market segments, each characterized by a different form of control, provides the most accessible and coherent radical model of wage determination and labour management. He extends the original dual labour market theory by arguing that the labour market is divided into three rather than two distinct segments - the "secondary" market, the "subordinate primary" market, and the "independent primary" market.

#### 2.4.1 The secondary market

Edward's secondary market is not unlike that described by the DLM theorists. In the first instance it consists of jobs that seldom require previous training or education beyond basic literacy. Few skills are acquired on these jobs which are basically unattractive and offer negligible scope for initiative and independent decisions. Here is one example:

"I operate the machine that dries up the river sand. The sand is conveyed into the machine by means of a conveyor belt. When the sand is in the machine I press a button and when it is dried up the guage will tell me. I will then press another button and the sand will be taken by conveyor belt to the sand tank and the moulding area". (Webster, 1982 : 4).

An outstanding feature of this segment is its lack of job security,

prospects for advancement, and of structures and institutions to protect workers' rights. As a result workers not only have little incentive to remain in a job for any length of time, explaining the high levels of secondary market turnover, but they continually face the ever present threat of immediate dismissal and replacement.

Witness Siphon, a Vosloorus Hostel dweller by night and Boksburg furnace worker by day who holds Section 10(1)(b) rights but is separated from his wife and family who live in KwaZulu:

"Our employers don't treat us like human beings, but animals, because they know that as soon as they expel you would lose a place of residence, because you would not be able to pay for the hostel fees without the money which they provide. And the Pass Office is going to be indifferent and will instruct you to go back where you come from. This is very painful". (Webster, 1982 : 6)

Yet another distinguishing feature of this market is its low pay. According to Edwards(1979:168) wages associated with secondary work range from two-thirds to four-fifths of primary market wages, while Webster finds that secondary job wages in South African foundries are below the household subsistence level. Edwards sums it up as containing "low paying jobs of casual labor... that provide little employment security or stability... dead-end jobs offering little opportunity for advancement... And since employers have little investment in matching workers and their jobs, they feel free to replace or dismiss workers as their labor needs change" (Edwards, 1979 : 170).

Thus, the system of control that underlies this market segment is referred to as "simple" control, the essence of which is the arbitrary power of supervisors to direct work and to discipline and reward workers. This form of control is associated with the phase of "initial proletarianisation" (Gordon et al, 1982) ushered in by the Industrial Revolution. These were capitalism's halcyon days of atomistic competition, when businesses were small and product markets highly competitive, where "the entire firm was, in a way, the capitalists own workshop" (Edwards, 1979 : 25). Since work forces, too, were mostly small there was little structure to the way entrepreneurs exercised power such that incentives and sanctions were often combined quite unsystematically and arbitrarily.

It is argued that the system of "simple" control survives today in the small business sector of the American economy (Edwards, 1979), and in the increasing incidence of "outwork" in European industries (Rubery et al, 1981). In South Africa, on the other hand, Webster (1982) sees the secondary sector as the domain of migrant workers. In the following chapter it will be suggested that simple control is also reflected in employment conditions in South Africa's so-called decentralisation points.

#### 2.4.2 The subordinate primary market

The emergence of the subordinate primary market can be traced to the advent of so-called monopoly capitalism and the fundamental changes it brought to the organisation of production. This transition to monopoly capitalism was characterised by the emergence of oligopolistic

corporations which "now released from short-run competitive pressures and in search of long-run stability, turned to the capture of strategic control over product and factor markets ... to the creation and exploitation of monopolistic control, rather than the allocational calculus of short-run profit-maximisation" (Reich et al, 1973: 361). It was these needs of monopoly capital, according to Marglin (1974), that accounted for the replacement of a "putting-out system" by the factory system which had the effect of eliminating many skilled craft occupations and creating large pools of semi-skilled jobs, in common working environments, characterised by standardised work requirements. And, as work forces grew larger and more homogenous so the personal, individualistic relations between workers and employers became outmoded.

Enter the "scientific management" of F. W. Taylor and Henry Ford! Taylor developed his principles of scientific management in response to the problem of "soldiering" according to which workers habitually choose to produce less than their optimal output. He suggested that soldiering could be eliminated by carefully structuring the workplace through a judicious process of job evaluation and selection of incentives. Henry Ford refined the Taylor's principles by applying this knowledge to the technology of the assembly line and succeeded within three months of its introduction to reduce the assembly time for a Model T to one-tenth of the the time formerly required. This remarkable increase in productivity was attributable, not only to the re-organisation of the internal division of labour, but also to the degree of control the assembly line exercised over the pace of work by

re-ordering job tasks, increasing routinisation and significantly reducing the skill requisites of the majority of workers (Roux, 1984 : 37).

These technological developments in altering the nature of the production process also contrived to restructure the relations of control in the labour process. Whereas formerly control was exercised through interpersonal contact and supervision, workers of the assembly lines were now subjected to forms of control that emanated from the technological aspects of production, the design of machines and the industrial architecture of the plant. Now "workers had to oppose the pace of the line, not the (direct) tyranny of their bosses. The line thus established a technically based and technologically repressive mechanism that kept workers at their tasks" (Edwards, 1979 : 118).

It is this technical control which characterises the subordinate primary market. In contrast to the secondary sector these jobs boast higher wages, greater job security and the relatively stable employment that comes with well-defined occupations and established paths for advancement. In addition, Edwards (1979: 171) maintains that the feature that most commonly, but not invariably, distinguishes jobs in this market from those casual jobs in the secondary market is the presence of unions, lending weight to Rubery's (1978) argument that worker organisation has played a crucial role in the formation and maintenance of structured labour markets. Webster (1982: 8) cites the example of the Iron Moulder's Society on the East Rand which restricted entry into moulding jobs as part of a defensive strategy in response to the dilution of the craft system. In addition, unions have been

instrumental in forcing the establishment of this segment by signing bilateral agreements instituting, *inter alia*, such measures as preferential hiring systems, grievance machinery and protection against arbitrary dismissals where they did not exist before.

On the other hand, however, subordinate primary jobs, despite the benefits of unionisation are characterised by all the negative qualities associated with Taylorism, Fordism and more specifically , with the assembly line where skills take little time to learn and are acquired on the job. As such these are the jobs of operatives - routinised, repetitive, skill-specific and machine paced offering the operative little scope for direct control over the job, and ultimately reliant on the union to press for changes in job content etc.

But, however effective technical control appeared to be it merely displaced rather than eliminated the fundamental conflict since in providing the solution to some problems it inadvertently created other, equally serious ones. The most significant of these arose out of the very conditions that spawned technical control in the first place - a relatively homogenous workforce subject to broadly similar technological conditions on the production line providing an environment propitious for the development of union organisation and the expression of collective struggles against capital. This placed effective limits on the efficacy of such a form of control and created the need for capital to devise a new system to deal with the weaknesses and contradictions inherent in technical control.

### 2.4.3 The independent primary market

That system, known as Bureaucratic Control , was developed in the post-1945 period, and is associated with the independent primary market. While simple control emanates from the personal relationships between employers and workers, and technical control from the technological structure of production, this new form of control is rooted in the social, organisational and institutional aspects of the modern bureaucratic firm, and characterised by an elaborate network of job definitions, promotion procedures, work rules and salary structures.

"Bureaucratic control impinges on the behavior of individual workers in part by providing strong and systematic incentives to obey company rules, to develop work habits of predictability and dependability, and to internalize the enterprise's goals and values. These are the new behavior requirements imposed on bureaucratic control's workers. Hard work and deference are no longer enough; now the "soulful" corporation demands the worker's soul, or at least the worker's identity". (Edwards, 1979 : 152)

By establishing the impersonal force of company policy as the basis for control the bureaucratic firm essentially establishes its own "rule of law"- the firm's law- which provides the framework for defining work tasks, evaluating workers' performance, and above all, for eliciting co-operation and enforcing compliance among employees. This is achieved, not only by punishing "bad" behaviour but also by rewarding "proper" behaviour in workers through the provision of positive incentives in the form of established career ladders, higher pay, more responsibility, the right to appeal to grievances, the relief from capricious supervision etc., all of which function as an elaborate system of bribes.

This view corresponds to some extent with the Doeringer/Piore

conception of an internal labour market where well defined job tasks, established wage differentials, promotion ladders and seniority bonuses induce long-term stability in the workforce, and a strong identification with the firm. Burawoy (1979), however, sees these features not only as part of a network of positive incentives but also as a manifestation of "hegemonic" control, which is control based on consent and legitimation, rather than the "domination" form of control based upon direct coercion and manipulation, and associated with Taylorism and Fordism. Whereas the latter had the effect of homogenising the labour force hegemonic control attempts to stratify the labour force by encouraging competition in the internal labour market. According to Burawoy bureaucratic relations foster this competition by "constituting workers as individuals - industrial citizens with attendant rights and obligations - rather than as members of a class" (1979: 119). Thus, in radical theory, the internal labour market not only expands the choices of workers but also serves the function of impeding collective action by fostering a spirit of competitive individualism among workers thereby creating the basis for "manufacturing consent".

Jobs in the independent primary market do bear some similarity with subordinate primary jobs in that they offer secure and stable employment largely unaffected by the disturbances of cyclical depressions, along with well-defined lines of career progression and relatively high rates of pay. However these jobs differ from those in the subordinate primary segment in a number of crucial respects. They involve general, rather firm- and industry-specific skills, usually

associated with the educational credentials obtained at high-school or tertiary educational institutions. These skills imply a high degree of mobility among firms and employment sectors and, most importantly, involve a high degree of self-paced, independent initiative as opposed to the highly-regulated, machine-paced work of the subordinate primary segment.

Three groups dominate this segment - clerical, technical and supervisory staff; craft-workers and artisans; and, lastly, professional and managerial staff. Len, a qualified moulder interviewed by Webster(1982: 11) defines his occupation:

"No man who is not a moulder can tell me what to do at a moulding job. A moulder has his own "boy" in the foundry, he has his own space. He keeps it tidy and keeps his tools there. The only person who can touch his tools is his "boy" and then only to clean and carry them".

Besides the latitude for initiative, the "space" that Len speaks of, jobs in this segment usually require relatively high levels of education or the completion of advanced training courses. These jobs then, in concert with human capital theory, accrue large returns to additional schooling and experience.

## 2.5 Efficiency Wage Models - A Tentative Synthesis

If there is involuntary unemployment in a market converging towards equilibrium, it is usually the case that firms, for some reason or other, wish to pay more than the market clearing wage. Both neoclassical theory and the various segmentation theories offer an

explanation for this phenomenon but neither is entirely satisfactory.

The response of neoclassical theory is contained in the "natural rate hypothesis" which, in its simplest form, denies the existence of involuntary unemployment (Friedman, 1968 and Gerson, 1981). Thus for the doctrinaire neoclassicist there is simply no problem to address. In terms of the segmentation theories, on the other hand, one would intuitively expect involuntary unemployment to exist especially since primary sector wages are assumed to be above market clearing levels while secondary firms, for demand-deficiency or other reasons, may be unable to take up the slack. However, none of the segmentation theories satisfactorily address this critical issue of why firms do not cut wages in an over-full labour market and thereby increase their profits.

However, variations of the efficiency wage hypothesis do offer a convincing explanation of why firms may find it unprofitable to cut wages in the presence of involuntary unemployment. The central thrust of these models (surveyed by Akerlof, 1984 and Yellen, 1984) is that labour productivity depends on the real wage paid by the firm. Thus, if wage cuts harm productivity they may cause an increase in labour costs. In other words "some firms willingly pay workers in excess of the market-clearing wage, and in return they expect workers to supply more effort than they would if equivalent jobs could be readily obtained (as is the case if wages are just at market clearing)" (Akerlof, 1984 : 79).

Let us consider Yellen's (1984) rudimentary model. An economy with identical, perfectly competitive firms is assumed, each firm having a production function of the form

$$Q = F(e(w)N)$$

where  $w$  is the real wage,  $N$  the number of employees and  $e$  the effort per worker. According to Yellen (1984 : 200) a profit maximising firm facing an unrestricted labour supply will offer a real wage  $w^*$ , which satisfies the condition that the elasticity of effort with respect to the wage is unity. This wage  $w^*$  is known as the efficiency wage and minimises labour cost per efficiency unit. Each firm will then be operating optimally if labour is hired up to the point where its marginal product  $e(w^*)F'(e(w^*)N^*)$  is equal to the real wage  $w^*$ .

Under these conditions the firm will be able to pursue its optimal policy as long as there is an excess labour supply in the aggregate market and  $w^*$  exceeds labour's reservation wage. Indeed, even though unemployed workers would prefer to work at  $w^*$  or a lower wage rather than remain without work, firms will not hire them since "any reduction in the wage paid would lower the productivity of all employees already on the job." The efficiency wage hypothesis thus provides an explanation for involuntary unemployment" (ibid).

Furthermore, such wage-setting behaviour is consistent with the dual labour market hypothesis and with radical theorist Michael Burawoy's (1979) work on conformism at the workplace. In the first place as long as primary sector firms set the wages they "prefer", the dual labour market hypothesis is surely itself an efficiency-wage theory of the labour market since primary firms are paying wages in

excess of market-clearing. Secondly, despite management's attempts to make workers conform to their authority workers may well develop customs and norms at variance with official work rules (Burawoy, 1979 and Edwards, 1979). Thus, in order to gain the loyalty of workers higher-than-market clearing wages are paid thus translating loyalty via effective management into high productivity (Akerlof, 1984 : 80). In both these cases high wages improve the workers' job satisfaction and, *ceteris paribus*, workers with higher pay will respond by improving output.

Under these circumstances, where workers have some discretion concerning their performance, the payment of a wage in excess of market clearing may be an effective way for firms to provide workers with an incentive to work (Calvo, 1979) and to reduce costly labour turnover (Stiglitz, 1974).

Moreover, the efficiency wage hypothesis can explain the existence of wage differentials among workers of identical characteristics as well as discrimination among observationally distinct groups (Yellen, 1984 : 200). In respect of the first, if the relationship between wages and productivity differs among firms, their efficiency wages will also differ, and in equilibrium, a distribution of wage offers for workers of identical characteristics will emerge. Secondly, if employers prefer men to women or Africans with permanent urban status to migrants, then with job rationing, they can indulge their taste for discrimination at zero cost.

Against this background it can be argued that employers are not merely

passive respondents in a changing labour market. In contrast they will continually attempt to restructure their wages in order to achieve greater co-operation, efficiency and productivity within the firm.

## 2.6 Concluding remarks

The intention of this chapter was to provide a broad outline of the principal theories that fall within the labour market segmentation research methodology. Despite its brevity this outline nevertheless highlights a number of interesting issues, most of which have been well covered by Glen Cain (1976) in his comprehensive survey of the challenge of these segmented labour market theories to orthodox theory and the modern neoclassical response. Some of his insights bear repetition, and a few others, perhaps, addition.

In contrast to human capital theory the most salient feature of the job competition, dual labour market and radical theories is their hypothesis that the fundamental differences in the labour market are located among the jobs workers hold rather than between workers themselves.

The foundation of Lester Thurow's theory of job competition is the presence of pervasive wage rigidity which produces competition between jobs rather wage competition. This leads Cain (1976: 1243) to pose a pertinent question: "What is the length of time that wages have to remain "fixed" in order to be considered "fixed" for the problem at hand?" (Cain, 1976: 1243) Orthodox economists recognise that wages are sticky downwards in the short run and accommodate this in their

macroeconomic policies, but wage rigidity for a firm does not necessarily imply wage rigidity in the market since some firms will be expanding, while others are contracting, and yet wage variability is likely to be sustained through differing non-wage factors between firms such as different technologies and on-the-job training requirements.

The most important contribution of Peter Doeringer and Michael Piore's dual labour market theory is to develop the ideal of the "internal labour market" which is characterised by the existence of technology and skills that induce job stability which is, in turn, buttressed by the provision of a range of incentives. The essence of this internal market is that the wage(plus the cost of training) will not necessarily equal the marginal product of the job. Wachter(1974) and Williamson(1975) disagree with this thesis and Williamson argues instead that if internal labour markets do exist it is because of "idiosyncratic" skills specific to a job, perhaps unique to an individual, that allows workers to operate in an opportunistic fashion. He argues that such behaviour can best be overcome through the combination of incentives and disincentives offered by internal labour markets making these constructs entirely consistent with cost-minimising behaviour. However, if the rules and procedures of these internal markets are manipulated by the opportunistic workers, and it seems logical that they should do so, then costs will not be minimised and the neoclassical tension between wages and employment need no longer apply.

The essence of the radicals' internal labour market, on the other hand,

is the presence of a specific control system which is distinct from the systems of control operative in other segments. It is precisely this preoccupation with systems of control, their reduction of the entire production process to the need of capitalist's to "divide and rule" the labour force that is the Achilles Heel of these theories. On the one hand the approach is seriously one-sided to the degree that it fails to recognise the role of worker organisation in the process of labour market stratification, and, on the other, it merely lumps all capitalists together, implicitly assuming an across-the-board commonality of interests and ignoring the important effects of competition between these capitalists. Instead they seem content to emphasise a simple chain of events which precipitates economic crises.

Thus whether it is efficiency wages, internal labour markets, systems of control, "crowding", or simply differences in education, training and net advantages that account for inequalities in pay they can surely only be satisfactorily explained by reference to the structure of specific labour markets themselves.

## CHAPTER 3

### THE STRUCTURE OF THE SOUTH AFRICAN LABOUR MARKET

"The general principle is that any law, statutory regulation, institutional action or prejudice which restricts mobility decreases potential productions and incomes, and increases the relative poverty of those discriminated against".  
(Van der Horst, 1984: 1)

#### 3.1 Introduction

The South African labour market, besides being essentially capitalist in nature, is characterised by three outstanding features (Nattrass, 1981 : 57). Firstly, Africans constitute the major proportion of the labour force. Secondly, the white workforce dominates those occupations requiring basic education and training skills. Finally, and indeed one might argue, almost inevitably, in view of the first two features, there is a substantial gap between the average wages earned by whites and those earned by Africans.

This suggests, that the South African labour market is one which is characterised by an extremely high level of segmentation. On the supply side this stratification has been effected by the racially selective official policy towards education and training and the important influence of influx control and the migrant labour system. The crucial factor on the demand side has been the network of legislation that has limited the access of particular groups of people to certain job categories and discrimination along sex and racial lines.

Within these categories there have been a multiplicity of pre- and extra-market forces, both of a statutory and non-statutory nature, that have cast the South African labour market into its present racial mould. Attention will now be focused on these social and political forces which have been imposed upon the domestic labour market rather than generated by the market itself. However, despite the primary concern of this chapter with pre- and extra-market factors there are certainly grounds for arguing that these factors come home to roost, as it were, in the transactions of the market exchanges themselves. To this end they unfold in the form of differing levels of firm- and job-specific skills and the entrenchment of various customary procedures and institutional arrangements. In this sense these extra-market forces are crucial to an understanding of the in-market segmentation and the incidence of closure that finally results.

However, it is important to note that while the concept of labour market segmentation is commonly used - as in chapter two - as a generic term capturing those theoretical models dismissive of the neoclassical framework the descriptive use of the notion in this chapter does not rest on any particular theoretical underpinnings.

### 3.2 Supply-side Stratification

This section will briefly consider three of the principal factors that have played a part in restricting and controlling the supply of labour in the South African economy. The first of these concerns the struggles around the racial allocation of land which was initially

instrumental in forcing Africans into wage-labour, and later in the development of influx control and the homeland system. In this respect attention will be focussed on the Land Acts of 1913 and 1936, the Stallard Commission which defined the pass system, and the role of the homelands in the differentiation of South Africa's labour supply. Secondly, the nature of the country's racially differentiated education system will be described along with some quantitative dimensions of this stratification. Finally, the laws restricting the rights of African workers to organise legally on a collective basis will be considered in the light of the racial development of trade unionism in South Africa. Thus, it will be argued that segmentation is effected, not only along racial lines, but also within the African labour market itself. ( It is important to note at this point that the ensuing analysis concerns itself exclusively with segmentation between Whites and Africans on the one hand, and that between Africans themselves on the other hand. The positions of Indians and Coloureds in the domestic labour market and the issue of segmentation between males and females have largely been ignored in order to keep the study within reasonable limits.)

### 3.2.1 The Land Issue and Influx Control

While it has been argued that the segmentation of labour markets began with the land conquests of the early 19th Century (Bundy, 1972) it is sufficient for the purposes of this brief survey to note that the process of segmentation began to take an explicit shape following the discovery of gold and diamonds in the latter part of the Century. It was these events together with the concomitant acceleration of South

Africa's nascent industrial sector that created, for the first time, the need for a large scale labouring class outside of agriculture.

This urgent and large-scale need for labour created a dual problem (Godsell, 1982 : 206). On the one hand it was necessary to coerce sufficient Africans off the land and out of peasant agriculture to provide the digging labour. On the other hand, it was necessary to ensure that this flow did not become a flood (Lacey, 1981). It was out of these two somewhat ambivalent needs that a two-pronged and coercive labour policy, parts of which are still in force today, was put into practice.

In order to solve the recruitment problem mining capital turned, not to the market mechanism, but to the state for assistance (Van der Horst, 1971 and Trapido, 1973). The latter was forthcoming first in the form of the Glen Grey Act passed in the Cape Parliament in 1894 which provided for new patterns of land ownership and imposed a 10/- "poll" tax on African landowners the aim of which was to force requisite numbers into the cash economy. However, this measure proved to be a failure and led the state to respond with the 1913 Native Land Act and the 1936 Native Trust and Land Act, probably the two most important pieces of legislation to affect the allocation of labour in South Africa to date (Bundy, 1972 and Van der Horst, 1971 ). The dual legacy of these two enactments was to outlaw "squatting" on white-owned land and to restrict African rights to hire, lease or own land to a mere 14 per cent of South Africa's land surface (Davenport, 1977). While the immediate effect of this legislation was to increase the supply of African labour to mining, industry and agriculture the

ultimate effect is clearly visible today in the form of South Africa's homelands.

If the conquest of land and its subsequent demarcation into separate racial areas provided the foundation stones of the present system of apartheid then surely influx control in the form of the "pass" laws is among its most central pillars. Historically these laws have been used to control the mobility of African labour in the interests of white employers and white prosperity and security (Welsh, 1982) as enunciated by the chairman of the Transvaal Local Government (Stallard) Commission in 1922:

"The Native should only be allowed to enter urban areas, which are essentially the white man's creation, when he is willing to enter and minister to the needs of the white man, and should depart therefrom when he ceases so to minister" (quoted in Steenkamp, 1982:18).

The essence of the "pass" laws is to restrict the freedom of movement of Africans in and around South Africa. For Africans to reside legally in urban areas in "white" South Africa they must qualify in terms of Section 10(1) of the Urban Areas Consolidation Act of 1945 as amended - most recently in June 1985 - which states that an African may not be in a prescribed area unless he or she:

- "(a) had been there and resided there continuously since birth; or
- (b) worked continuously for 10 years in any prescribed area for any employer; or lived continuously in any such area for a period not less than 10 years; or
- (c) was the wife, unmarried daughter, or son under 18 years of age of an African

- falling into classes (a) or (b), and ordinarily resided with him, and initially entered the area lawfully; or  
(d) had been granted a permit to remain by a labour bureau" (Omond, 1985: 111).

No accurate statistics exist on the distribution of people between the legally defined categories of urban Africans, but it is useful to note that 163 862 people were arrested for pass law violations in 1983 (Omond, 1985: 109).

Although influx control and the pass laws still exist today they were given new meaning following the 1948 general election that brought the National Party to power. Following a series of enactments their master-plan crystallised with the passing of the Bantu Homeland Citizen Act in 1970 in terms of which urban Africans in "white" South Africa were to be stripped of their South African citizenship and made into citizens of one of the African homelands.

While independence for these scattered and fragmented strips of land, with all their trappings of "self-determination" represents the ultimate goal of the Apartheid state it is the implications of this independence with which this section is principally concerned.

The debate around the nature of Apartheid and the principal functions of the homelands this century remains unresolved (see inter alia Bromberger, 1974; Johnstone, 1970; Legassick, 1974; Lipton, 1979; O'Dowd 1977; Wolpe, 1972). However, it is beyond the scope of this thesis to make judgments on this debate save to say that neither the liberal nor the "revisionist" position seems to have been vindicated

(Wilson,1975; Schneier,1983 and Helliker,1984). In addition it appears to be widely accepted at this juncture that whatever the motivating force behind the homeland system it has served to "cheapen" African labour and thereby facilitate the process of capital accumulation.

However, Cell (1982) and Greenberg and Giliomee (1985) now argue that the homelands no longer "cheapen" labour and facilitate accumulation in its narrow sense. Instead they contend that the balance has shifted away from economic viability to the management and legitimation of the racial order through the preservation of "traditional" tribal structures which have proved important to the strategy of collaboration and the administration of labour control. It is argued that the "homelands are the institutional underbelly of an emerging racial and class order that foster areas of privilege and, dialectically, areas of exclusion". (Greenberg and Giliomee, 1985 : 69)

The importance of an understanding of the homelands in present-day South Africa is not simply that the homeland labour markets operate on the fringes of the urban labour markets. Most importantly the homeland labour markets constitute part of a larger order that is increasingly stratified, increasingly characterised by State-fostered hierarchies of exclusion and inclusion, privilege and disadvantage.

It is among and between Africans that this particular form of stratification is fostered creating identifiable classes of labour within this racial category. These classes of labour can be divided into a clear, if not absolutely rigid taxonomy determined not only by

the relative access they enjoy to metropolitan areas ,but also the quality of employment and accommodation they can expect to attain there. In terms of Greenberg and Giliomee's (1985) analysis those with Section 10(1)(a), (b) and (c) rights are in the front of the queue, followed by those "legal" migrants with Section 10(1) (d) rights and the commuters who live by night in the homelands and work by day in South Africa's metropolitan areas such as Durban and Pretoria. Next in the pecking order are those without Section 10(1) rights who live illegally in the cities. They are followed at the back of the queue by those in the homelands some of whom have access to the labour recruitment system and others who don't.

At the top of this market hierachy are the "legals", those Section 10(1)(a), (b) or (c) workers with permanent urban residence rights. Via the institutional labour market they have access to the modern sector and, most importantly, to the better-paying, larger manufacturing firms. Their "permanence" also makes them considerably more attractive to employers, opening up opportunities for training and mobility. In addition, the use of housing policy as an instrument of influx control has been pursued for the past twenty-five years (Chaskalson and Duncan, 1984 : 12).Along these lines controls over the occupation by black persons of housing in urban areas were tightened in 1968 such that permits for family housing were only granted to men qualified to be in the urban area in terms of Section 10(1)(a) or (b).

Immediately below these "legals" are those migrants with Section 10(1)(d) rights which grants them temporary residence in the urban

areas. They are mainly employed in primary industry and in the lower-paying manufacturing sectors. An added advantage of this category is that they can legally claim Section 10(1)(d) rights if they have worked for one employer continuously for ten years, a change in their status that resulted from the historic "Rikhoto judgement" in the Appeal Court in May 1983 (Cooper et al, 1984 : 265). However, in respect of housing, they are restricted to seeking accommodation as backyard lodgers or in hostels or compounds (Chaskalson and Duncan, 1984 : 13).

In addition their conditions of employment can hardly be described as secure, as evidenced by the following two examples. Firstly, following a request by the South African Federation of Civil Engineering Contractors (SAFCEC) for permission to hire migrant workers on contracts providing for a days notice the government department concerned "replied to the effect that each employer was free to make his own arrangements concerning conditions including the notice period in contracts, providing that the contracts were for a year only." (Cooper et al, 1985 : 261). Then in October 1984 the industrial court, in a case between the Metal and Allied Workers Union (MAWU) and an Alberton company, Screentex handed down a ruling establishing that migrant workers have less job security than other workers (ibid).

Alongside, but perhaps slightly in front of these "legal" migrants in the labour queue stand the "commuters" who reside in homeland areas within commuting distance of their place of employment in white South Africa. The position of these "commuters" in the hierarchy is clearly enunciated by a labour officer of the Port Natal Administration Board.

"I don't need to tell you that labour is a commodity. The employer will go for an illegal worker who will come cheaper. Our responsibility is to protect the permanent residents.

There is exploitation. Of that you can be sure. In our own way we are trying to use the legal system to fight this exploitation". (Quoted in Greenberg and Giliomee, 1985 : 79).

It is this process of preferential treatment that sees "commuters" gaining access to jobs that never appear on the requisition forms of the labour bureaux in the far rural reaches of the homelands.

Moving towards the back of the queue we find hundreds of thousands of illegals who are, in general, restricted to the informal sector, seasonal and day labour and, for those fortunate enough, employment in the smaller, lower-paying firms. Besides running the risk of a fine between R30 (or 30 days) and R90 (or 90 days) very few of those charged are legally represented - only five out of three hundred and sixty nine in one survey conducted at the Johannesburg Commissioner's Courts (Cooper et al, 1983 : 284) - and none enjoy the protection afforded by trade union membership. Some spend time avoiding the extensive police dragnet while others live in emergent and established squatter communities like "Soweto-by the-Sea" outside Port Elizabeth or Crossroads in Cape Town. These illegals operate outside the information channels leading to those firms using statutory employment mechanisms, and for the most part are confined to casual and low-wage employers willing to risk a maximum fine of R2 000 for employing an "illegal".

Yet these illegals are not at the back of the queue. That disadvantage

is reserved for those left behind in the urban and remote rural homeland areas. Even these "miserables" can be divided up between those in districts where labour markets are "open", in the sense that there is regular requisitioning of labour, and those in districts inaccessible to the labour recruitment system (Greenberg and Giliomee, 1985). For those fortunate enough to live in areas where legal recruitment does take place there are sometimes opportunities for wage employment although these are usually within the lowest-paid, most undesirable sectors of the economy. Understandably the homelands offer little attraction to the higher-paying manufacturing sector as a source of labour to the extent that this sector has virtually stopped recruiting migrant workers since 1970 (Maasdorp and Gordon, 1978 : 16).

In addition, the "legal" labour market, already fragmented geographically and sectorally, also manifests stratification along gender lines. Since 1952 when the entire question of influx control was streamlined and passes were, for the first time, made compulsory for African women, there has been a severe tightening up on the restrictions which control their mobility and access to jobs. While there are certainly sectors where the female percentage of the workforce is increasing (Cock et al, 1984) government regulations have ensured that the requisitioning of labour for urban areas has been confined almost exclusively to men. Greenberg and Giliomee (1985 : 82) in their survey quote an Interior Department official in Lebowa who noted that "99,9 per cent of requisitions are for men"; and the Port Natal Administration Board requisitions women solely for nursing jobs and domestic service but "only after local labour is exhausted and only

in the immediate areas of Kwazulu".

Against this backdrop Greenberg and Giliomee (1985 : 82) eloquently sum up the homelands as:

"the underbelly of this policy (Apartheid). They are the repository for the spent and the redundant, but also much more. They accommodate the burgeoning surplus populations that make up the least stable and least remunerative work on the farms, mines and state projects; they are the well-spring for the "illegals", the growing class of marginal workers who "shoot straight", entering the informal and the illegal labour market on the fringes of the urban economy. . ."

### 3.2.2 Education and Training

It is now well established, as outlined in Chapter One, that human capital in the form of education and training makes a some contribution, even if to a lesser degree than sometimes predicted (Mincer,1974), to any explanation of earnings patterns and differentials. While the process of calculating both social and private rates of return to education is normally an exacting task, it is that much more complex in South Africa. The reason, of course, is that the quantity and quality of education and training in South Africa is strictly stratified along racial lines which has not only played an important role in the stratification of the country's occupational structure but also contributed to skill shortages experienced in recent times.

The racial inequality in the provision of education in South Africa has

been a major focus of attention since thousands of African pupils took to the streets of Soweto in June, 1976 to protest against the use of Afrikaans as the medium of instruction in schools and, more fundamentally, against what they referred to as their "gutter" education. That they were joined by tens of thousands of their fellow pupils across the country in the ensuing months; and, that a school-day has seldom passed since 1979 without scores of pupils boycotting their classes bears testimony to the selective manner in which human capital is generated in South Africa today.

This official policy needs to be viewed against the background of the Bantu Education Act of 1953, which was in turn founded upon the findings of the (Eiselen) Commission on Native Education (1949-51) and, in fact, on policies of longer standing. (Collins, 1980 and Molteno, 1984). It is, however, sufficient for the brief of this thesis to note that the principal tenets of the 1953 Act were conceived, in accordance with official government policy, to expedite social, economic and cultural development along racially separate paths. The thrust of this policy was enunciated by the then Minister of Native Affairs, H F Verwoerd, in the Assembly in 1953:

"Education must train and teach people in accordance with their opportunities in life. In terms of the government's plan for South Africa, there is no place for the Bantu in the European community above the level of certain forms of labour" (quoted in De Villiers, 1979: 68)

This policy was followed through the prosperous 1960s' and early 70's until the crisis of 1976. It was the events of that year that expedited

reform initiatives in the field of education which are largely framed around the recommendations of the HSRC (de Lange) Investigation into Education.

The guiding principle of the Investigation was to provide "Equal opportunities for education, including equal standards for every inhabitant, irrespective of race, colour, creed or sex. . ." (Horrell, 1982: 339). Despite the comprehensive recommendations of the Investigation, especially in respect of technical training, many of which were acclaimed by the liberal establishment, it has not escaped critical comment for attempting to secure the interests of the status quo (see inter alia, Buckland, 1985 and Chisholm, 1985).

However, in spite of the continued existence of four racially separate education departments and the presence of fiscal, institutional and ideological obstacles that remain considerable there are indications of a movement towards greater equity in the provision of education in South Africa. The following tables provide some quantitative dimensions of the provision of formal education in this country.

Table 3.1 : Estimated per pupil public spending - 1983/84

	Including Capital Expenditure	Excluding Capital Expenditure
-----		
African (in "white" areas and non-independent homelands)	R 234 45	R 166 63
Coloured	509 11	501 11
Indian	1 088 00	905 00
White	1 654 00	1 511 00

(Source: Cooper et al, 1985: 648)

Table 3.2 : Percentage growth in per pupil public spending 1981/2-1983/4

	1981/2 - 1982/3	1982/3 - 1983/4
African	21,9	16,4
Coloured	-4,1	41,6
Indian	24,8	9,2
White	19,4	13,4

(Source : Cooper et al, 1983, 1984 and 1985)

Table 3.1 paints a sombre picture of the degree of inequality in public expenditure on education in South Africa. An observation of the data shows that the state spends nine times more on each White pupil than on each African pupil, while the White : Coloured ratio is three to one. The evidence in Table 3.2 does however signify a trend towards greater equity. This trend is further corroborated by Table 3.3 which, besides indicating the clear lead of whites in every cohort, shows that their lead is diminishing. Simkins (1985: 8) though warns that "a high population growth rate will put limits on the rate of diminution . . . continuing (the) relative disadvantage of Black people in the urban labour market until well past the turn of the century".

Table 3.3 : Average years of education in urban areas, 1980

	Age	20 - 24	25 - 34	35 - 54	55 - 64	65+
Whites	- M	11,30	11,48	11,04	10,44	9,70
	- F	11,35	11,18	10,50	9,87	9,08
Coloureds	- M	7,59	7,33	6,59	5,34	3,58
	- F	7,41	6,95	6,06	4,79	3,49
Asians	- M	9,93	9,46	8,22	6,25	4,31
	- F	9,24	7,93	5,25	2,57	1,62
Africans	- M	6,31	5,58	4,62	3,51	2,61
	- F	7,09	6,37	5,15	3,40	2,20

(Source : Simkins, 1985 : 7)

In addition to a high population growth rate several other factors conspire to exacerbate this relative disadvantage. A perusal of Black matriculation results over the years is a case in point. The trend in this respect shows a marked decline in pass rates which is largely due to the rapid expansion of African education in the 1970's (Donaldson,1983:120). This situation generated a situation characterised by overcrowded classrooms, underqualified teachers, inadequate facilities and poor relationships between teachers, parents and pupils (Cooper et al, 1985 : 664).

One quantifiable aspect of this is contained in Table 3.4 which shows that African teachers face, on average, twice as many pupils in the classroom each day as their White colleagues. In addition, it is noteworthy that only 52 per cent of these teachers have qualifications higher than a Junior Certificate (Cooper et al, 1985 : 665). Conversely, 27 percent of teachers in Indian education have a university degree and 63,7 percent have a matric.

Table 3.4 : Average Pupil - Teacher Ratios

African	40,7	:	1
Coloured	26,0	:	1
Indian	23,0	:	1
White	18,9	:	1
Homelands	38,8	:	1

A significant statistic in terms of the focus of this thesis is that less than one per cent of African secondary pupils attended technical

schools in 1984 (Cooper et al,1984).While such a low enrolment is unlikely to expedite African occupational advancement this figure should however, be viewed in the light of the recent growth of industrial training opportunities, both in the form of in-service training programmes and those done informally on-the-job. While no data is, for obvious reasons, available for the latter it is noteworthy that, at the end of 1983, 529 training centres and 1 146 training schemes were registered with the Department of Manpower for tax exemption purposes imparting skills to 129 070 employees (Cooper et al, 1985 : 688). This is consistent with the work of Becker on "on-the-job" training and with that of Bowman (1965) and Foster (1965) on appropriate technical training in developing countries. However, Donaldson (1985 : 122-3) noting the abysmally low pass rates for Africans in established apprenticeship programmes and the fact that most of these new programmes are aimed at semi-skilled workers, adds a note of caution: "The appropriateness of the new programmes has to be viewed against the degree to which they institutionalise further patterns of occupational stratification, still largely along racial lines".

It is against this background of massive discrepancies along racial lines in respect of public spending, facilities and pupil-teacher ratios that Simkins (1980 : 8) concludes that "the chances of an African child born in the early 1980s' passing matriculation will stand at only 28 per cent of those of his White counterpart".

The significance of this disadvantage experienced by the African population is clear. In the first place the racial differentiation in

the provision of human capital has neatly segmented South Africa's labour supply. This pre-market segmentation has played a crucial role in crowding Africans into lower-skilled jobs at the bottom of the occupational structure. Concomitantly, their general lack of human capital skills has severely circumscribed African prospects for upward mobility and competitive wage bargaining in the labour market. Secondly, it can be argued that a disadvantage in respect of human capital skills has important implications for the unfettered flow of information in the labour market. Where a group's educational background militates against the reception of all, or some of the available information this must per force further weaken both employment and mobility prospects.

### 3.2.3 Trade Union Discrimination

Following the unionisation of white workers in the industrial sector during the first quarter of the century labour-management tensions reached a climax in what has become known as the 1922 Rand Rebellion. This conflict which culminated in a state of armed insurrection, was precipitated by the resistance of white workers to the burgeoning of African employment and advancement in industry. The consequences of this rebellion "were of great significance, and this period can rightly be seen as a formative moment for state labour policy" (Godsell, 1982 : 209).

The first response on the part of the state to this crisis was contained in the Industrial Conciliation Act of 1924 which

contained two crucial features. Firstly, the legal status of strikes was severely circumscribed by a number of state-imposed restrictions creating "a situation in which the state was the guarantor and the policeman of labour management agreements" (Godsell, 1982 : 209). However, if the historic agreement between White labour and management which ensued went some way to "burying the 1922 hatchet" then it was most firmly buried in the heads of the African working class. They were not considered "employees" in terms of the Act thereby relegating African trade unionism to an indeterminate second-class status (Greenberg, 1980 : 156). It was to be fifty years before state-sanctioned African unions dawned on the South African labour scene.

If, in general terms, the function of a trade union can be described as the protection and advancement of its members' material interests then there is little question following the 1924 legislation that it is the interests of the White worker that have been flagrantly favoured for the first three-quarters of this century. This has occurred via a series of statutory regulations that have shackled African worker representation and further segmented the labour market along racial lines. The two most important events in this regard are the 1953 Native Labour (Settlement of Disputes) Act - now retitled the Black Labour Regulation Act - and the 1956 Industrial Conciliation Act (Griffiths and Jones, 1980 : 152). Both these acts will be discussed along with the effects of "closed shop" agreements and the Wiehahn Commission Report.

The 1953 Act denied African workers the right to

negotiate at industry level in trade unions which enjoyed official recognition. The privilege of trade union bargaining at industry level was one reserved for White, Coloured and Indian workers only. Instead, a separate conciliation machinery was set up for Africans at shopfloor level which comprised either liaison or works committees to represent their interests, and act as channels of negotiation with their employer (Griffiths and Jones 1980 : 157). Both involved highly bureaucratic and cumbersome procedures. The former, half of whose members were elected by the employer to represent his/her interests and the other half by the workers, is permitted to negotiate and enter into legally binding agreements with respect to wages and working conditions. Works committees consist only of worker representatives functioning under the guidance of White "Bantu Labour Officers", and from which union representatives were excluded. Besides the unnecessary bureaucratisation and retardation of the conciliation machinery the most potent thrust of the 1953 Act was to reaffirm the wartime prohibition on strike action by Africans (Lodge, 1983 : 189).

The most important feature of the 1956 Industrial Conciliation Act was to grant the government the formal power to split up the existing mixed unions thus ending formal recognition of non-racial unions. Any union formed after its promulgation would only be registered if it was racially exclusive; not that this greatly affected African men, who as "pass-bearing" citizens were not included within the formal definition of an "employee", and thus had never been permitted to belong to a registered union (ibid).

The official reasoning behind these two pieces of legislation was entirely consonant with the government's aim of fostering racial separation and maximising white economic privilege as enunciated by du Toit (quoted in Griffiths and Jones, 1980 : 159) when he argues that Africans

"have not yet reached the stage where they can, without any harmful effects to themselves and the country, accept the functions and rights normally accorded to trade unions"

and

"no one can prevent these unions from becoming political machines. The stronger these unions become, the more dangerous the position will be for whites. . . it would only mean racial suicide".

Despite the considerable advantage that these two Acts afforded the White workforce their trade unions sought to entrench this advantage by further limiting African upward mobility through the use of "closed shop" agreements. These agreements which were permitted in terms of the 1956 Act can be described as the "closing" of designated occupational categories and employment opportunities to union members only (Pearce, 1983 : 66). In South African industry the consequence of such agreements has been to effectively bar "all black workers from performing every grade of job covered by the closed shop by virtue of the fact that blacks have been denied union membership" (Griffiths and Jones, 1980 : 182). In addition, employers who violate the agreement are subject to prosecution.

Griffiths and Jones (1980 : 183) cite the 1979 Fine Spamer Survey of 200 companies which revealed that fifty-eight per cent of the companies

complained that registered White trade unions restricted African job advancement; thirty-two per cent and twenty-seven percent complained of similar restrictions against Coloureds and Asians respectively. It was such evidence that led van der Horst (1979 : 125) to describe the closed shop as "one of the most powerful colour bars in South Africa". Following the advice of a minority report in the Wiehahn Commission, which reported closed shop clauses affecting twenty-two different industries in 1978/79, the Government White Paper prohibited any further such agreements from being negotiated.

The emasculation of African worker representation via the non-recognition of non-racial trade unions and the bannings of selected trade union activists saw the late sixties and early seventies characterised by a period of African industrial quiescence. However, in the first three months of 1973 the tide turned rather abruptly with a wave of 160 "illegal" strikes in and around Durban. An estimated 70 000 workers were involved at the peak (Godsell, 1982: 212).

Against a background of relative deprivation, a high sense among the workers of a community of interests, a largely favourable press and uncharacteristically marginal intervention by the state, management unilaterally capitulated to granting wage increases generally of the order of twenty to twenty-five per cent (Fischer, 1978 :111-3). A beachhead had been set up, and following the establishment in the Durban area of seven unions in 1973, with an estimated 50 000 members, the nascent independent African trade union movement was soon making inroads on the Witwatersrand and in the Western and Eastern Cape.

The attention of all parties was now focussed on the needs of black and, more specifically, African workers and in 1977 the (Wiehahn) Commission of Enquiry into Industrial Legislation was appointed (Godsell, 1982 :214). As noted earlier the Reports of the Commission recommended the abolition of job reservation and a reversal of state policy on the access of Africans to technical education and training. However, the most significant proposal, contained in Part One of the Report and released in May 1979, was its recommendation of extending state-recognised trade union rights to African workers, including the approximately half-million Africans working in South Africa who are of genuine foreign nationality. Acceptance of this recommendation by the state came in a number of stages marking the reversal of a policy followed consistently since 1924. (Godsell, 1980 : 214 -20).

The response of the independent African unions was one of cautious scepticism. After the government removed the prohibition of worker trade union rights, attention was diverted to the racial nature of, and controls imposed by, the registration process. The "registration debate" was a protracted and contentious affair both within the union movement itself, and between some groups of unions and the state. The Federation of South African Trade Unions (FOSATU) and the Council of Unions of South Africa (CUSA) finally opted for registration and entry into the official framework for collective bargaining with a number of unaffiliated unions deciding to remain outside the process. (South African Labour Bulletin, Vol 7, No 1/2 and No 3). The recent unification of these unregistered unions and FOSATU under the Congress of South African Trade Unions (COSATU) in December 1985 means that the

vast majority of non-racial unions are now operating within the official framework even though many have chosen to bypass the Industrial Council system (Budlender et al, 1984).

The import of this is twofold. On the one hand, the non-racial unions have moved out of their twilight existence to occupy a position of improved industrial, if not political strength relative to their racially composed counterparts in the Trade Union Congress of South Africa (TUCSA). This in turn has crucial ramifications for the nature of wage determination and labour management processes within manufacturing industry in South Africa which will be discussed in Section 3.5 below.

In conclusion, the argument that the various policies affecting geographical mobility, access to education and the development of labour unions have caused both racial segmentation and segmentation among the African labour force is, at the very least, conceptually persuasive.

#### Demand-Side Stratification

There are a number of major laws and institutional practices which have acted to circumscribe the demand for labour in South African manufacturing industry. Following Griffiths and Jones (1980) these laws and practices will be discussed in terms of the ways in which they have affected the vertical mobility of some groups of workers, particularly those that have explicitly protected white labour from

African competition. This will be followed by a brief discussion of sex discrimination and other factors that have led to discriminatory practices in the South African labour market.

### 3.3.1 Job Discrimination

The second of the state's response to the 1922 Rand Rebellion came from the Afrikaner National Party dominated Pact Government in the form of the 1925 Wage Act and the 1924 Mines and Works Act. The former, via the creation a State Wage Board and the implementation of minimum wages, effectively protected unskilled white workers against competition from cheaper African unskilled labour, while the latter gave legislative content to "job reservation", the crux of which reserved skilled positions in the mining industry exclusively for white and coloured workers" (Greenberg, 1980 : 180).

Since then a number of legislative enactments have restricted the vertical job mobility of blacks, and more particularly Africans, in South African manufacturing industry over the past thirty years. The more important of these are Section 77 of the 1956 Industrial Conciliation Act and the Physical Planning and Utilisation of Resources Act of 1967. The essence of each of these laws will now be discussed.

The main thrust of Section 77 of the 1956 Industrial Conciliation Act was to extend job reservation into manufacturing industry. This section empowered the Minister of Labour

"to instruct the Industrial Tribunal to make investigations into the desirability of reserving certain classes of work in certain areas for specified race groups, whenever it appeared to him that this was necessary in order to safeguard those racial groups in those occupations against undue inter-racial competition. (Griffiths and Jones, 1980 : 170).

It is reported that between 1956 and 1971 twenty-eight different job reservations were enacted covering, inter alia, the building, clothing, footwear, furniture and motor-assembly industries (Omond, 1985 : 85). However, numerous exemptions were granted to industry especially in the latter years, a flexibility that was regarded in some quarters as a clear indication of the failure of the system to protect the interests of white workers. Nevertheless, the Section did have the effect of creating uncertainty among employers. While the Minister of Labour revealed in 1975 that only 2,5 per cent of the country's labour force was affected by Section 77 determinations, this uncertainty coupled with the ignorance of many employers as to the basic requirements of the law probably raised this figure to much higher proportions (Griffiths and Jones, 1980 : 172).

Despite the fact that Section 77 was abolished in the form of the Industrial Conciliation Amendment Act of 1979 it can safely be assumed that this legislation, together with the job reservation clauses in the 1966 Group Areas Act played, at the very least, a contributory role in the creation of South Africa's racially stratified occupational structure.

The second important statutory regulation which was designed to limit African vertical job mobility in manufacturing industry is the Physical Planning and Utilisation of Resources Act of 1967 (now the Environment Planning Act) in terms of which the employment of Africans on land zoned for industrial purposes in thirty-seven metropolitan areas was subject to limitations. Designed to expedite the policy of industrial decentralisation the Act \*attempted to freeze the African labour force to the number then employed in all thirty-seven areas. Only industries which were capital-intensive were permitted to expand in the controlled areas with this "expansion" defined as any increase in the number of African employees. As a guideline, factories established in the controlled areas after 1 June 1973 could not employ more than two African workers to every white worker. Factories established before June 1973 might only expand if their ratio was 2,5 : 1 or less (Van der Horst, 1984 : 5). However, there is not much evidence to suggest that the Act succeeded in its aim. In its first nine years only one tenth of the applications for exemption from the provisions of the Act were refused and, although there are no data as to how many of the affected factories subsequently located to growth points official figures on employment creation suggest that few did (Maasdorp, 1982:241).

Another factor that had a limiting effect on the upward mobility of blacks in industry over the years was the official apprenticeship policy the aim of which was stated most clearly in the government White Paper on decentralisation in 1973. In terms of this White Paper, Africans seeking to become artisans were required to be apprenticed and to practice as artisans only in the black homelands. This policy was clearly related to the goal of creating viable economies in the

independent and self-governing homelands (Godsell, 1982 : 222). Along with the pipe-dream of homeland economic independence the racial approach to skills training has now been dropped following the recommendations of the Wiehahn and Riekert Commissions (Griffiths and Jones, 1980 : 191-2). However, the damage in terms of African skill acquisition is likely to take many years to be corrected as is evidenced by the fact that Africans comprised only 5,1 per cent of the total number of registered apprentices in 1982 (Van der Horst, 1984 : 1).

Other forms of statutory discrimination on the demand-side came in the form of the Wage Acts of 1925 and 1957 and the Factories, Machinery and Building Works Act of 1941. The thrust of the former was to set high statutory minimum wage levels in the belief that employers would exercise a "taste for discrimination" against Africans at these higher-than-market-value wages. Such behaviour by employers is, of course, inconsistent with the notion of profit-maximisation since unless economies of scale are implausibly large and there are considerable constraints to competition, no employer of Whites will long survive competition from non-prejudiced firms using cheaper African labour (Arrow, 1980:83). In this respect it might be true to say that these Acts could not have operated effectively, if they did at all, without the support of other legislation, particularly that favouring White trade unions.

The 1941 Act, on the other hand, helped to segment the labour force by preventing employers from using members of different racial groups in

an optimal way because of requirements for separate workplaces, canteens, toilets and restroom facilities. The Government White Paper on the Wiehahn Commission accepted that this separation amounted to sub-optimal utilisation of both physical and human capital and repealed the relevant sections of the Act (Van der Horst, 1984 : 7).

### 3.4 Customary Discrimination

In addition to this panoply of legislation one final potential cause of racial employment stratification deserves mention. Customary discrimination is defined by Griffiths and Jones (1980 : 185) as a situation where "some jobs are 'customarily' reserved for whites on the grounds that they have been the traditional preserve of this racial group". While such discrimination is consistent with one of the factors making for closed internal labour markets (Doeringer and Piore, 1971) the recent progress in black occupational advancement might suggest that its existence is not necessarily pervasive at the workplace. However, this progress has hardly been expeditious seldom placing white jobs in jeopardy, and it could be premature to make any conclusions in this regard until such a situation arises.

Nevertheless, the preceding analysis together with the ensuing empirical evidence certainly provide propitious conditions for the entrenchment of customary practices and institutional arrangements. Indeed, the existence of such practices and arrangements at the workplace is made all the more conceptually plausible in the light of the statutory separation of races in most spheres of South African life. They are likely to be augmented, not only by the existent racial

occupational differentiation, but also by internal labour market phenomena such as skill-specificity and rules affecting internal mobility. In addition, these practices could well entrench segmentation among the African workforce where employers practice selective recruitment by giving preference to Africans with permanent urban residence rights.

Thus, where customary discrimination exists it should not simply be attributed to the conventions attendant upon decades of racially discriminatory policy measures or to an independent "taste for discrimination", but also to factors making for internal segmentation. Against this background it is likely that discriminatory practices and arrangements could well outlive the legislation that spawned them in first place.

### 3.5 Some Supporting Evidence

The central hypothesis that has emerged from the preceding analysis is that the South African labour market is characterised on the one hand by a clear racial divide, and on the other by an African labour force that is itself characterised by various levels of segmentation. It still remains, however, to provide some empirical evidence of these two dimensions of stratification.

Let us begin with the racial divide:

Table 3.7 : Occupational distribution by race in manufacturing industry, 1981

	White %	Coloured %	Asian %	African %
Professional	85	4	4	6
Managerial	97	1	1	1
Clerical	55	13	13	19
Sales	78	5	5	13
Transport/service/production	8	15	5	68
Foremen/supervisors	51	15	6	28
Artisan	78	15	4	3
Labourer	-	13	1	85
Other	5	70	1	24
TOTAL	22	17	6	54

(Source: South Africa 1985, Official Yearbook of the RSA, p.510)

Table 3.8 : Percentage allocation of Africans to each occupational class, 1969-1979

	1969	1971	1973	1975	1977	1979
Managerial	0,39	0,43	0,43	0,51	0,46	0,32
Professional	1,89	2,09	2,59	3,10	2,53	2,57
Clerical/sales	6,29	6,85	7,49	7,98	9,17	9,09
Foremen/supervisors	0,48	0,47	0,56	0,87	1,15	1,61
Skilled	2,86	4,01	3,76	4,64	4,97	6,65
Semi-skilled	16,73	17,47	17,54	18,66	19,67	20,05
Unskilled	71,37	68,68	67,63	64,26	62,04	60,17

(Source: Schneier, 1983 : 30)

Table 3.7 shows clearly that labour skills in manufacturing industry are monopolised by the White workforce, a characteristic which simply mirrors the situation in the South African economy at large. This is entirely consistent with the first part of the hypothesis and especially with the quantitative dimensions of African education relative to that of whites and the array of legislation limiting African upward mobility.

Table 3.8 on the other hand provides a time-series perspective on African occupational mobility which manifests at least two distinct trends: In the first place the proportion of Africans employed in managerial positions increased between 1969 and 1975 but thereafter began to decline. Secondly, the proportion of Africans employed in all the other occupational classes, except the unskilled category, grew steadily over the period with the proportion in skilled occupations manifesting the most dramatic increase. It is worth noting that although the proportion of the African labour force employed in the unskilled category has declined this is largely due to the general decline in the overall proportion of all races employed in unskilled occupations (Schneier, 1985 : 31).

This account, however, does fail to show that Africans within occupational categories are more often than not in an economically weaker position than their white counterparts and are often lower down the hierarchy of authority than whites and thus receiving lower wages.

Table 3.9 : Ratio of average African wages to average White wages, manufacturing industry, 1972-1980

1972	1974	1976	1978	1980
1 : 5,9	1 : 5,1	1 : 4,5	1 : 4,3	1 : 4,2

(Source: South African Statistics, 1982)

Table 3.10 : Average yearly wages in manufacturing industry, 1972-1980

(Percentages in brackets)

	White	Coloured	Asian	African
-----				
1972	4 307 (58,9)	1 084 (14,8)	1 186 (16,3)	730 (9,9)
1974	5 390 (57,3)	1 426 (15,2)	1 525 (16,2)	1 056 (11,2)
1976	6 842 (55,4)	1 858 (15,0)	2 151 (17,4)	1 509 (12,2)
1978	8 386 (54,7)	2 313 (15,0)	2 687 (18,7)	1 943 (12,6)
1980	11 468 (54,8)	3 158 (15,1)	3 589 (17,2)	2 688 (12,8)

(Source : South African Statistics, 1982)

A further quantitative dimension of the racial stratification in manufacturing industry is provided by Table 3.9 from which it can be observed that the African share of wages in manufacturing is considerably lower than that of the White group. This is, of course, consistent with the human capital model outlined in Chapter One which predicts a close correlation between the level of education and training and the level of earnings.

Table 3.9, together with 3.10 does, however, show that African wages are increasing more rapidly than those of their white counterparts. This trend can be ascribed to a number of factors. In the first place we have observed that Africans are moving up the occupational ladder which, in turn, correlates well with their increasing education levels noted in Table 3.3. Secondly, the trend is consistent with the relaxation and/or abolishment of all of the racially discriminatory legislation limiting African upward mobility. Finally, the emergence of the independent African trade union movement in 1973 has unquestionably

played a significant role in forcing up African wages.

Table 3.11 : Industrial disputes, 1971-1981

	Number of work stoppages	Number of persons involved	
		White	Black
1971	69	255	4 196
1973	370	349	98 029
1975	276	193	23 295
1977	90	244	15 091
1979	101	5 741	17 323
1981	292	-	83 877

(South African Statistics, 1982)

While it is not possible to distinguish between the precise contributions of these three factors to the recent relative increase in African wages, Table 3.11 does help to corroborate the trade union effect especially since a significant number of the post-1973 strikes revolved around wage disputes, many of which were settled (Budlender et al, 1984). In this respect it is worth noting in Table 3.11 the dramatic increase in work stoppages since 1973 involving Africans, a trend which correlates well with the observed wage increases in Table 3.9.

The second part of the hypothesis, that of a differentiation between those with Section 10(1) (a), (b) and (c) rights ("insiders") on the one hand, and those contract workers with Section 10 (1) (d) rights on the other is well documented in the results of a recent survey conducted in Soweto and the Peninsula townships of Langa, Gugulethu and Nyanga (Schneier, 1983).

Table 3.12 : Comparative occupational structure of "insiders" and contract workers

	Soweto Households	Peninsula Households	Peninsula Hostels	National Studies (1979)
Managerial	0,8	0,4	0,3	0,4
Professional	5,6	5,8	0,6	2,8
Clerical/sal	28,8	21,0	9,4	9,8
Foremen/supervisors	7,0	4,4	-	3,0
Skilled	5,9	2,5	1,4	5,5
Semi-skilled	28,7	11,3	6,1	19,8
Unskilled	23,2	54,6	82,4	58,9
TOTAL	100,0	100,0	100,0	100,0

(Source: Schneier, 1983 : 99)

Table 3.12 shows quite clearly that household residents, the majority of whom are "insiders", in both Soweto and the Peninsula townships are not only more highly skilled than Africans employed outside agriculture and domestic service as a whole (National Studies 1979 column) but considerably more skilled than hostel dwellers (predominantly contract workers) in the Peninsula townships. This is apparent in the high concentration (82,4 per cent) of hostel dwellers in the unskilled occupational category compared with 30.9 percent, on average, in the Soweto and Peninsula households. Although this is the largest single employment category for Africans generally, a significantly higher proportion of "insiders" (34,5 per cent) in the survey are employed in occupations above the semi-skilled level as compared to contract workers (11,7 per cent).

While this does suggest a relatively strong association between legal status and job category, an association corroborated by an earlier

study by Graaff and Maree (1977), Schneier (1983 : 101) also provides evidence showing that "insiders" are more educated than contract workers. The median level of education for the former category in the survey falls in the Std 6 - Std 7 range while that for contract workers and "illegals" falls within the Std 3 - Std 5 range. On the basis of this evidence Schneier (1985 : 105) concludes that "legal status can be identified as one of the primary elements determining closure in the 'upper stratum' of African society". This is, of course, entirely consistent with the differential access of those two groups to the urban labour market in the taxonomy outlined above and, with the quality of housing, the kinds of jobs and the level of earning that they can expect.

However, in order for the hypothesis to hold this is not sufficient. It is also necessary to provide some quantitative dimensions of the metropolitan - homeland divide.

According to above taxonomy one would expect similar, if not larger differences between "insiders" and homeland labourers. Indeed, this view is, corroborated by the comprehensive volumes of the Surplus People's Project (1983), by various papers published by the Second Carnegie Enquiry into Poverty and Development in Southern Africa and by Table 3.13 below.

Table 3.13 : Proportion of African households receiving less than R15 000 per annum, 1975

	%	Average income (R)
All	74,3	1 152
Metropolitan Towns	38,3 49,2	2 017 1 709
Rural Homelands	94,9 83,8	670 925

(Source : Simkins, 1985 : 25)

An observation of this data reveals substantial regional differences among Africans in greater South Africa with metropolitan areas and towns in White South Africa in a considerably better position than White rural areas and the homelands as a whole. Following Simkins (1985 : 26) this difference reflects the compounding of a number of factors including "a slight edge in education, a small degree of protection, a lower unemployment ratio and a considerably lower dependency ratio (which) combine to make the position of cities and towns outside the homelands better than the homelands taken as a whole".

However, while this data is consistent with the hypothesis of an African labour force stratified such that urban Africans occupy a position of relative advantage and protection vis-a-vis their rural counterparts this is not the whole story. Simkins (1985) provides information derived from the Central Population Survey (CPS) which shows a remarkably small variation in African wages between metropolitan and homeland areas. In fact, for manufacturing industry homeland wages, both urban and rural, are only marginally lower than

those in metropolitan areas. Simkins (1985 : 20) notes that these small differentials correspond well with the small variation in educational levels between metropolitan and homelands areas (see Table 3.6) and suggests that this together with the positive industry mixes shared by both regions largely explains the lack of earning variation.

Accordingly, these findings suggest "that the hypothesis of a regionally unified African labour market may be largely consistent with the available information" (Simkins, 1985 : 21). This, of course, runs contrary to the theoretical position adopted in this chapter which is rendered plausible by "the existence of an influx and labour control apparatus which could be expected to divide the country up so that wage levels for a given grade (education/industry) of labour could be expected to vary across regions" (ibid).

However, the CPS data is presented in an aggregated form and certainly conflicts with the results of a survey conducted by the author among manufacturing industries in the metropolitan regions of Port Elizabeth and East London and the homeland decentralisation point of Dimbaza (see Appendix I). The average weekly wage for unskilled African males in the two metropolitan areas was R80 per week as against R33 per week in Dimbaza. While this is a substantial difference the wage survey in the metropolitan regions was slightly biased towards the larger firms which may well have had the effect of increasing the magnitude of the differential. Nevertheless, any inaccuracies that may have resulted should not be sufficient to invalidate the existence of a substantial variation in manufacturing earnings between these two sub-regions.

Three additional points in support of this variation bear mention. The first is that the CPS data is computed on place of residence rather than place of work with the result that a large proportion of those falling under homeland manufacturing work in the relatively high wage metropolitan areas in South Africa such as Pretoria, Durban and East London. This might well account for some of the difference between the CPS data and our Dimbaza figures. Secondly, firms in Dimbaza reported levels of labour turnover significantly higher than those in the two metropolitan regions and thirdly, there is no trade union activity in Dimbaza as opposed to the two metropolitan regions. These features, too, are consistent with a large wage differential between the metropolitan areas and Dimbaza.

The implication of this finding is not to invalidate the CPS data, or impeach Simkins' analysis which is largely buttressed by the work of Hindson (1986). However, while the hypothesis of a regionally unified labour market may be valid for South Africa in general this does not exclude the possibility of variation within a specific region, especially when one sub-region generally manifests atypical characteristics. This certainly seems to be the case in the regional labour market under focus here.

Thus, in conclusion, it is clear that the South African labour market has been and, albeit to a lesser extent, still is characterised by a variety of extra-market forces that have differentiated economic opportunities along racial lines. These social and political dimensions of labour allocation in South Africa provide the basis not only for a

rigorously differentiated pricing of labour but also for the view that African workers constitute a secondary sector whose pre-market status severely circumscribes work prospects.

However, this is not the end of the matter. In order to successfully address the competing theoretical hypotheses outlined in Chapters One and Two a consideration of labour markets, and in particular of the behaviour of manufacturing employers, is required. The question is whether the market, in its competitive formulation, merely replicates the inequality that it inherited, or whether its limitations and the behaviour of its principal actors render the market a less-than-neutral status. It is to this issue that we now turn.

## CHAPTER 4

### EMPLOYMENT CONDITIONS IN EASTERN CAPE MANUFACTURING INDUSTRY

#### 4.1 Introduction

The backdrop has now been sketched. On the one hand we have a number of competing theories that attempt to explain the behaviour of the firm in respect of the recruitment of workers and the determination of wages. On the other hand we have observed that manufacturing industries in South Africa operate in a somewhat unique context in which their behaviour has been constrained and circumscribed by a variety of largely state imposed extra-market forces.

The focus of this chapter will be on a sample of manufacturing industries in two metropolitan areas and one rural town in the broader Eastern Cape labour market. The primary aim is to investigate some of the labour market policies of plants in these areas and to consider how these policies are modified by the labour market environment in which the plants operate. In this context particular attention will be paid to the external recruitment procedures followed, and to the characteristics of wage structures and factors affecting their determination.

The important point is that management usually has a choice, albeit constrained, between a set of alternative policies in all the areas considered. It is only by investigating behaviour in a particular labour market context that we can discover the policies adopted and the factors that mould these policies.

The empirical data presented in this chapter is based on a survey of 90 manufacturing firms in the metropolitan centres of Port Elizabeth and East London and in the rural town of Dimbaza. The method of enquiry is described in some detail in Appendix I.

#### 4.2 Recruitment Methods and Internal Mobility

In the conventional, neo-classical model of the labour market an efficient allocation of resources is, amongst other things, predicated upon adequate channels of information between buyer and seller. The labour market is no exception to this rule in that easy access to information is required if the market is to clear. If information on job vacancies, wage levels and employment conditions is efficiently disseminated the model predicts a reduction in frictional unemployment and in the costs of search incurred by employees; and, lower recruitment and screening costs for the employer.

However, if information to employment seekers is limited in any way, thereby introducing a rigidity to the system, the ability of the labour market to clear is likely to be summarily frustrated. This could have severe implications for those seeking employment, since it follows that the more imperfect the knowledge of potential employees regarding the number, nature and location of vacancies, the more limited will be their access to opportunities in the job market. Thus, it is important to ascertain how information on job vacancies is communicated in the market.

To this end it is useful to divide information networks in the labour market into two groups: formal and informal. The formal networks include state employment agencies such as labour bureaux, private fee-charging employment agencies and newspaper advertisements. The informal methods include internal notice boards, word-of-mouth recommendations and the family-friendship network. (Rees, 1966 : 559)

Table 4.1 : External recruitment method by occupational category in Port Elizabeth, East London and Dimbaza manufacturing firms, 1984

	% Unskilled	% Semi-skilled	% Skilled
	-----		
Labour bureau	5,5	6,6	1,6
Family/friends	32,3	31,3	10,8
Queuing	28,4	19,2	7,0
Word-of-mouth	31,8	33,0	13,9
Advertisements	0,5	7,1	49,6
Agencies	1,5	2,7	17,0
	-----		
TOTAL	100,0	99,9	99,9

In reference to the survey area Table 4.1 indicates a marked differential use of recruitment methods across occupation levels. A strong emphasis on formal methods at the skilled level is revealed with 66,6 per cent of firms notifying their vacancies through newspaper advertisements and private employment agencies. This preference for formal channels at the skilled level is largely explained by the relative shortage of skilled labour in the regional economy which often forces firms to recruit beyond the boundaries of the local labour market area. On the other hand the large surplus of unskilled labour, and to a lesser extent of semi-skilled labour only provide the broad framework within which to understand the importance of informal

networks. The family-friendship network and word-of-mouth recommendations dominate recruitment at these levels principally because they are time-saving, more cost-efficient and effective.

However, there is another, equally important aspect to the area of informal recruitment methods. Indeed, one of the most striking features to emerge from this facet of the research is the current importance of the internal labour market (ILM) as a recruitment arena. This indicates that firms frequently recruit persons for jobs from within their own ranks, through the use of internal notice boards etc.

Table 4.2 : Percentage of firms that fill vacancies internally

Vacancies	Semi-skilled	Skilled	Supervisory	Clerical	Managerial
0 - 50	28,4	48,9	21,6	73,0	65,1
51 - 100	71,6	51,1	78,4	27,0	34,9
Total	100,0	100,0	100,0	100,0	100,0

Table 4.2 shows quite clearly that manufacturing employers in the survey area use their internal labour markets rather extensively as a primary source of recruits. This trend, is especially marked at the semi-skilled and supervisory levels where for both categories over 70 per cent of the firms (71,6 and 78,4 per cent respectively) report that over half of the vacancies are filled internally. Conversely, this trend is less marked in the clerical and managerial categories.

Why, then, do manufacturing firms rely on internal recruitment to such a significant extent? Eighty per cent of firms cited low screening costs as a major reason, while 82,3 per cent emphasised the familiarity

of existing employees with the firm's work and personnel procedures. This evidence squares with the contention that the internal market is cheaper than many other channels of recruitment in as much as it reduces screening costs and improves the quality of screening especially when the recommendation of shop-floor colleagues is used (Rees, 1966 : 562). In addition attitudes to work can be expected to improve when working in a unit with established companions and the ILM might well help to promote peaceful industrial relations by recognizing the workers' need for job security (Jenkins et al, 1983 : 264).

However, some interviewees themselves did reveal deeper underlying reasons for the use of these recruitment strategies. The most important of these is the firms' desire to recruit or retain employees, who, in addition to the appropriate skills, exhibit more "acceptable" personal characteristics. As one personnel manager put it: "Better the devil you know. The one you don't (know) may have the skill but might also have a disruptive influence on the factory floor". This view is substantiated by 65,5 per cent of the firms that identified "reliability" and "obedience" as among the more important criteria in selecting an employee for promotion or training. Most firms concurred that internal candidates, because of the continuous screening process, are much easier to evaluate with respect to "reliability", "obedience" and "suitability". However, some admitted that satisfying these particular criteria may result in relatively less-skilled employees being recruited or promoted and competitive pressures being ignored.

The importance of screening in respect of both internal and external

recruitment suggests a rather strong connection between the internal and external labour markets (Jenkins et al, 1983 and Manwaring, 1984). This connection is achieved through the previously mentioned informal recruitment procedures. Besides helping to reduce the level of uncertainty in the search process these informal methods provide a privileged source of information about potential candidates by involving the existing workforce in the recruitment and screening process. In as much as these methods frequently involve the communication of vacancies to the friends and relatives of the existing workforce, it can, perhaps best be viewed according to Jenkins et al (1983) as an extension of the ILM into the wider market. This leads Manwaring (1984 : 161) to develop the concept of the "extended internal labour market" which results from "the form of recruitment channels that most commonly link the external to the internal labour market, and act as a form of 'exchange mechanism' between the two forms of labour market".

Both Jenkins et al (1983) and Manwaring (1984) focus not only on the way in which people are recruited to jobs but also on the nature of the relationship between the firm and the community from which it recruits. They argue that by recruiting through the extended internal labour market employers are in fact operating a control strategy. Labour recruited internally, or informally via an intermediary already employed by the organisation, can to some extent be controlled by peer group pressure. Furthermore, by allowing the labour force to participate in recruitment, management is partially transferring the responsibility for discipline and control from line management to the workers themselves, thereby co-opting them into the managerial process.

Thus, informal recruitment procedures are seen to operate as a *quid pro quo* control strategy for management whereby the labour force has a hand in the recruitment process in return for a degree of shop-floor co-operation.

Evidence of the success of word-of-mouth recommendations and the family-friendship channels as a control strategy was however varied. Some personnel managers admitted that it was an effective means of gaining the co-operation and compliance of workers especially when established employees had recommended the recruitment of a friend or family member. However, others claimed to have had bad experiences with cliques and nepotism. One manager in particular made the interesting observation that such recruitment procedures could provide problems by facilitating a stronger identity of interests among employees and a possible increase in strike activity etc. In such instances the balance of control would clearly shift somewhat away from management.

However, the use of informal recruitment methods needs to be assessed from the perspective of the employee and potential employee as well as that of the firm.

In the first place the aforementioned evidence strongly supports the use of these recruitment procedures as highly effective and inexpensive methods of screening. To this end they are beneficial to employers. In addition their use by potential employees is consistent with the work of Stigler (1961). He argues that if employees maximise their utility by making an implicit valuation of the possible costs and benefits of

alternative methods of job search then it is likely that at some point, they will channel their efforts in the direction of the informal networks. In this sense then these networks eventually come to benefit employees as well and equilibrium is attained. In the words of Rees (1966 : 562):

" The informal sources also have important benefits to the applicant. He can obtain much more information from a friend who does the kind of work in which he is interested than from an ad in the newspaper or a counsellor at an agency, and he places more trust in it. He can ask the counsellor about the fairness of supervision in a factory but he cannot often get an informed or reliable answer . . . Finally, the presence of a friend in the plant may be an important 'fringe benefit', making the job more attractive to the worker at no cost to the employer".

However, this is not the end of the matter. In a labour market deeply stratified along racial lines and where regional African unemployment ranged from 25 per cent for men to 50 per cent for women (Gilmour and Roux, 1984) it is difficult to see how these recruitment channels generally facilitate the process of job-search. They could, in fact, have severe implications for some groups of job-seekers especially women, youths and those without permanent urban residence rights. The latter group, in particular, are likely to have limited access to the informal information networks of the market with the result that they may find themselves increasingly marginalized in an over-supplied labour market. It is similar conditions that led Jenkins et al (1983 : 266) to conclude that "employment vacancies seem to be becoming less visible and public, and, at the organisational level, the labour market may be viewed as a set of segments, each more or less opaque when viewed from the perspective of the outsider".

The import of this evidence is that informal channels, while seemingly efficient for employers, are not necessarily an efficient means of communicating information in a regional labour characterised by a surplus of certain categories of labour and a high degree of non-market imposed stratification. In fact, such recruitment procedures may well reduce the impact of competitive forces by exacerbating the serious divisions that exist among employees thus preventing the labour market from operating at maximum efficiency.

The extent to which competitive forces are impaired has inevitable implications for both human capital theory and for the disequilibrium wage adjustment models. In respect of the former informal recruitment methods, in as much as they reduce market scanning, may well lead to vacancies being filled by candidates that are strictly inappropriate in terms of skill and efficiency criteria. Secondly, in contrast to disequilibrium wage adjustment models these recruitment methods are likely to lead to an entrenched and segmented distribution of wage offers. When the entire set of wage offers are so difficult to identify it is improbable that wage outcomes will converge around equilibrium. Indeed where information is disseminated on such a selective basis the findings are more consistent with the dual labour hypothesis.

#### 4.3 The Determination and Structure of Pay

Few labour market problems are as important to the individual, to the economy or to society in general as the determination of pay. Since pay is usually the main element of family income and makes up about four-

fifths of national income it constitutes the main determinant of the inequality of personal income. Similarly, variations in the average level of pay are normally the main influence on variations in the general price level. Thus, an understanding of the factors that govern the determination and structure of pay should take us some way towards an understanding of inequality and inflation, and in formulating policies to combat these phenomena.

However, the scope of this section is somewhat less ambitious. The analysis will be restricted to a discussion of some of the forces that might account for differences in levels of pay across the three labour market areas under consideration, and in occupational wage differentials both between and within firms.

#### 4.3.1 Regional wage differentials

Tables 4.3, 4.4 and 4.5 which detail average wage rates by race, sex and skill in the three survey areas provide a starting point.<sup>3</sup> (It is worth re-iterating at this point that, for reasons outlined in Appendix I, the wage data should be treated with some reserve; yet any bias should not be sufficient to invalidate the main thrust of the various arguments).

Table 4.3 : Average monthly wage by race, skill and sex in Port Elizabeth manufacturing industry, 1984

	White		Coloured/Indian		African	
	M	F	M	F	M	F
Supervisory	1 317	840	1 168	-	811	-
Skilled	1 065	723	664	-	506	-
Semi-skilled	566	500	448	317	437	328
Unskilled	-	-	342	250	325	217

Table 4.4 : Average monthly wages by race, skill and sex in East London manufacturing industry, 1984

	White		Coloured/Indian		African	
	M	F	M	F	M	F
Supervisory	1 217	886	783	404	698	-
Skilled	1 155	839	740	392	607	-
Semi-skilled	574	388	376	320	387	320
Unskilled	-	-	309	285	320	244

Table 4.5 : Average monthly wages by race, sex and skill in Dimbaza manufacturing industry, 1984

	White		Coloured/Indian		African	
	M	F	M	F	M	F
Supervisory	1 268	-	-	-	350	259
Skilled	1 224	-	-	-	315	173
Semi-skilled	-	-	-	-	177	147
Unskilled	-	-	-	-	133	91

Taken together the most important feature of these three tables is the difference in occupational wages between Port Elizabeth and East London firms on the one hand and those in Dimbaza on the other. In each of the occupational categories wages in the two metropolitan areas are seldom

less than twice as great as those paid in Dimbaza. This is a substantial difference and one which might be explained by the fact that our occupational categories are too broad; implying that part of the regional and racial wage differences may be due to corresponding differences in specific occupations within these industries. Indeed, evidence gleaned from the interviews suggests that in the skilled occupational category the average level of skill is rather lower in Dimbaza than it is among Port Elizabeth and East London industries. Thus, the regional wage differentials may well be accounted for by variations in skill within occupations across the three research areas.

However, an observation of Tables 4.3, 4.4 and 4.5 shows that regional wage differences are as prominent at the considerably more homogeneous unskilled level where 'skill' differences are likely to be negligible. Bearing this in mind it is probable that regional wage differences across the more skilled occupations categories cannot be accounted for solely by skill differences within the categories.

This makes the large wage differences difficult to square with the competitive prediction that any observed regional wage differential will be counterbalanced by offsetting non-pecuniary factors. The sole non-pecuniary advantage enjoyed by Dimbaza labour is the proximity of their residential area to the industrial sites. In terms of disadvantages they generally face poor working conditions, an absolute lack of trade union protection, over-zealous management, few shops and high market prices. This combination of factors strongly dismisses any suggestion that Dimbaza workers enjoy a comparative advantage in non-pecuniary factors relative to their Port Elizabeth and East London

counterparts.

The most plausible explanations for this large regional differential are firmly rooted in the government's African resettlement policy (Surplus People's Project, Vol.2, 1983) and decentralisation strategy (Hirsch, 1984). The former policy which was responsible for the forced relocation of thousands of Africans into Dimbaza was subsequently followed by some industrial development in the town which took place largely because of the lucrative incentives that the state offered to industry to establish there, rather than as a result of any positive market forces. However, the extent of the industrial development could not compensate for the large-scale relocation of Africans that preceded it resulting in mainly labour intensive industries with low wage structures being established. Thus, it is against this background of relative poverty in respect of natural resources, technology, human capital and entrepreneurship that Dimbaza's low-wage structure must be viewed.

In addition to the above reason which is consistent with neoclassical theory the low-wage structure in Dimbaza should be considered in the light of the extremely high levels of labour turnover reported by managers in Dimbaza. This implies equally high levels of human capital "wastage" imposing costs on both employers and employees. One would not expect high or steadily increasing wages in such conditions especially when some firms do not seem prepared to offer higher wages to reduce turnover levels (Stiglitz, 1974).

Another important reason for the low wages in Dimbaza is the complete lack of trade union activity in the area. The South African Allied Workers Union has been banned from operating in the Ciskei and to date no other union has attempted to organise there. Only 33 per cent of firms reported a nominal degree of labour representation in the form of liaison/worker committees and where these existed they met very seldom and never for the purpose of discussing wages. In contrast, some form of collective bargaining in respect of wage setting is much more prevalent among Port Elizabeth and East London industries (see Table 4.15).

However, while wages in Dimbaza are significantly lower than in the two metropolitan areas, there is evidence of substantial occupational wage dispersion between industries in the same local labour area (see Table 4.8). This, in itself, suggests the existence of factors, not necessarily consistent with the competitive model, that are important in the determination of wages within industries. These factors affect not only inter-industry wage differentials but also the internal wage structures of industries.

#### 4.3.2 Inter-industry wage differentials

Table 4.6 : Monthly wage variation by race and skill for males in Port Elizabeth manufacturing industry, 1984

	White			Coloured/Indian			African		
	High	Mean	Low	High	Mean	Low	High	Mean	Low
Supervisory	2 044	1 317	440	2 044	1 168	440	2 044	811	340
Skilled	1 360	1 065	452	1 260	664	340	868	506	196
Semi-skilled	760	566	296	652	448	298	648	437	296
Unskilled	-	-	-	452	342	240	432	325	232

Table 4.7 : Monthly wage variation by race and skill for males in East London manufacturing industry, 1984

	White			Coloured/Indian			African		
	High	Mean	Low	High	Mean	Low	High	Mean	Low
Supervisory	1 840	1 217	404	920	783	404	960	698	404
Skilled	1 840	1 155	452	1 384	740	380	1 104	607	352
Semi-skilled	1 064	574	384	476	376	300	504	387	240
Unskilled	-	-	-	376	309	240	388	320	176

Table 4.8 : Monthly wage variation by race and skill for males in Dimbaza manufacturing industry, 1984

	White			Coloured/Indian			African		
	High	Mean	Low	High	Mean	Low	High	Mean	Low
Supervisory	1 400	1 268	1 080	-	-	-	536	350	156
Skilled	1 252	1 224	1 200	-	-	-	460	315	120
Semi-skilled	-	-	-	-	-	-	280	177	100
Unskilled	-	-	-	-	-	-	236	133	80

Tables 4.6, 4.7 and 4.8 which provide a measure of wage differentials

across plants by occupational group clearly reveal a wide spread of earnings in all three survey areas. While these tables simply provide a snap-shot at a particular point in time it has been shown elsewhere that the substantial inter-plant wage differentials observed are not merely transitory; that over long periods of time there is no tendency for wage differentials to disappear; and that there are industries which continue over time to be high and low wage-payers (Mackay et al, 1971).

In terms of the basic model of the labour market it may well be that non-pecuniary factors play a role in generating these wage differentials. However, non-pecuniary factors which influence job choice do not lend themselves easily to measurement since, besides being extremely numerous, their importance is likely to vary from job to job, from individual to individual and, even, from one period to the next. Despite these problems the view that the observed wage differentials are primarily due to off-setting non-pecuniary factors is not a compelling one since the industrial visits, even if on a purely impressionistic basis, strongly suggested that low-wage industries do not offer particularly attractive conditions of employment over and above the particular level of pay.

If the basic model is unable to account for these differentials a consideration of the influence of education and training which could well provide some guidelines as to the applicability of the human capital model.

Table 4.9 : Education levels required by Port Elizabeth, East London  
and Dimbaza manufacturing firms, 1984

	% Unskilled	% Semi-skilled	% Skilled	% Clerical
Education not important	56,6	35,3	4,7	-
Std 4-Std 6	33,4	38,8	10,6	6,3
Std 7-Std 8	4,4	21,2	43,5	45,6
Std 9 - Matric	1,1	1,1	10,6	43,0
NTC	-	-	22,4	-
Literacy	2,2	3,6	1,1	1,2
Numeracy	-	-	-	-
Other	2,3	-	7,0	3,9
Total	100,0	100,0	99,9	100,0

An observation of the evidence in Table 4.9 illustrates the increasing importance of education as one moves up the occupational ladder. This certainly does provide part-way evidence of the usefulness of the human capital model in explaining occupational attainment and hence wage determination in the sense that a higher level of skill implies a higher occupational status and a higher level of pay. However, formal education in the sense of schooling is not the only concern of human capital theory and, indeed, of manufacturing employers themselves. This is borne out by a consideration of Table 4.10 which reveals that on-the-job training is clearly the most important form of education required by manufacturing industry in the survey area.

Table 4.10 : Educational formats preferred by employers

	% Unskilled	% Semi-skilled	% Skilled
Schooling	2,2	2,2	4,4
On-the-job training	92,2	92,2	70,0
Internal training (formal)	5,5	5,5	7,8
External training (formal)	-	-	17,8
TOTAL	99,9	99,9	100,0

This preference for on-the-job training as opposed to other forms of training was more strongly accentuated among Dimbaza firms than those in East London and Port Elizabeth. This is to be expected, not only because of the greater sophistication of skill required in the more technologically developed metropolitan centres, but also since Dimbaza industries are characterised by a relative preponderance of unskilled and semi-skilled labour and the importance of on-the-job training decreases, while that of education increases, as one moves down the occupational ladder.

This accent on on-the-job training is, of course, entirely consistent with the extensions of Becker (1964) to his basic human capital model and with the earlier work of Arrow (1962) on "learning by doing". Thus, we have some evidence that the acquisition of human capital in the form of on-the-job training plays an important role in the determination of occupational status and hence the wage rates associated with these occupations.

Table 4.10 Selection criteria by skill level  
(% positive use)

	Unskilled	Semi-skilled	Skilled
Past experience vs none	51,7	75,0	89,0
Currently employed vs unemployed	28,8	31,1	32,4
Training vs no training	44,0	77,0	88,2
Employment card/record	68,6	84,1	91,5
Male vs female	62,6	59,7	60,2
Middle aged vs youth	52,4	50,6	50,0
Observable fitness	78,0	72,5	50,0
Section 10 vs migrant	46,9	46,8	47,6
Highest level of schooling	16,5	46,3	60,2
Technical vs academic schooling	58,5	75,6	81,7
Certificate vs none	13,3	58,2	61,5

However, this is not the end of the matter. While education and training may well go part of the way to explaining why wages increase with occupational status it is highly improbable that they alone can account for the sustained differences over time of occupational earnings across industries. The basic competitive model of the labour market offers at least two other explanations. In the first place, it is probable that the labour force differs across industry in quality and efficiency because of the application of different hiring standards and screening procedures.

This hypothesis is confirmed by Table 4.10 which illustrates the selection criteria followed by employers when faced with a choice between two or more candidates. The table, which contains the percentage of positive responses, reveals that the factors of sex, age, experience and type of education along with the critical legal factor of Section 10(1) (a) and (b) rights play an important role in determining a person's chance of selection. This leads Gilmour and Roux

(1984:35) to conclude that " where certification is used, given the reliance on on-the- job training (see Table 4.11 below), it seems that education as screening is valued more than education as human capital". This squares well with Blaug's (1976) slightly "jaundiced" view of the inability of the human capital model to adequately explain the link between education and earnings.

A correlation between the hiring standards of industries illustrated in Table 4.10 and their relative wage status was difficult to quantify, but the interviews nevertheless revealed that high-wage industries invariably employ stricter hiring standards .However, it is unlikely that differences in hiring standards can on their own adequately account for the large differentials observed.

Secondly, with regard to the competitive model it may well be that skill levels within any one occupational group, in any one industry vary substantially with skill levels in the same occupational group in another industry. There can be little doubt that our defined occupational categories are not, in fact, homogenous, so that we are not observing industry wage differentials for groups of the same skill, experience and productivity. But, when skills in one occupational group are similar across industries and significant wage differentials still persist then we must look elsewhere for an explanation.

In this instance, as in the case of the regional wage differentials, the unskilled level is a case in point. The occupational level defines itself. It consists of persons who perform work that requires little or no training other than common-sense and, in many cases, a strong,

healthy physique. In other words it can safely be assumed that there is little to differentiate between these employees in terms of their comparative levels of skill.

Why then, does the standard deviation of unskilled wages for Africans range from 13,1 in Dimbaza, to 14,3 in East London, to 14,8 in Port Elizabeth? These represent a significant degree of variation and do not correspond well with the predictions of the human capital model. Moreover, the large wage differentials observed in this relatively homogeneous category suggests that the significant differentials for more specific skill categories higher up the occupational ladder are not only due to skill heterogeneity.

Mackay et al (1971 : 84) identify the following elements that may be important in giving rise to wage differentials: imperfect knowledge on the part of employers and employees which would lend support to disequilibrium wage adjustment theories ; inertia on the part of employees; collusion between employers in the form of anti-pirating agreements; the existence of under-employment in the labour market; and, the application of seniority rules in filling job vacancies which discriminate in favour of employees against non-employees and make for the existence of internal labour markets.

Let us examine each of these in terms of the evidence generated by the survey. The evidence on recruitment procedures outlined in the previous section strongly suggests that the knowledge of employment conditions possessed by the labour force may be severely limited. Since most jobs

seem to be "advertised" via the informal networks of friends, families and word-of-mouth recommendation, it is highly likely that job-seekers will be unable to correctly evaluate the wage levels offered by different jobs and the importance of non-wage considerations.

However, the effect of this imperfect knowledge on the part of employees and prospective employees is unlikely to account for the substantial wage differentials on its own. Indeed, it needs to extend to employers as well such that managers are unable to assess the position of their firm in the general wage structure of the local labour market.

This aspect of manufacturing employers' knowledge was covered in the survey and the evidence is contained in Table 4.11.

Table 4.11 : Employers' impression of how their firms' occupational wages compare with the occupational wages of other firms in the same local area, Port Elizabeth, East London, Dimbaza, 1984

	Skilled	Semi-skilled	Unskilled
	-----		
% Much higher	10,0	11,1	12,2
% Higher	32,2	34,4	34,4
% Similar	46,7	40,0	37,8
% Lower	11,1	13,3	11,1
% Much lower	-	1,1	4,4
	-----		
TOTAL	100,0	99,9	99,9

The large proportion of firms in Table 4.11 indicating that their wages were either similar or higher than those of other firms in the same local area might imply the existence of a "lie-factor" in most responses, or that managers in fact have little detailed knowledge of

the level of earnings in other establishments in their local area. This was not the case, however, as most managers were generally able to identify high- and low-wage industries in their local labour market area implying an adequate degree of knowledge of their own relative position in the inter- industry wage structure. Thus, while imperfect knowledge is indeed an important feature of labour market behaviour and will give rise to wage differentials and net advantages in the short run there is surely enough evidence to suggest "that ignorance is not so pervasive that it alone can account for the substantial and persistent wage differentials found to exist in practice" (Mackay, et al, 1971 : 86). To this end disequilibrium wage adjustment models provide an inadequate basis to explain the full extent of the observed wage differentials.

The next two potential factors - inertia on the part of employees and collusion between employers in the form of anti-pirating agreements - can be dealt with swiftly. Both of these factors are consistent with the internal labour market hypothesis in the sense that they give rise to wage differentials by limiting labour mobility and giving employers a 'captive' labour force. In respect of the first, some degree of labour turnover although difficult to quantify ( Miller and Van der Merwe, 1982) was found to be present in most industries in spite of the recessionary conditions prevalent at the time the survey was conducted.<sup>4</sup> It is worth noting that extremely high turnover rates, sometimes of the order of 150 to 200 per cent per annum, were reported in Dimbaza which reflected a surprisingly wide degree of wage variation for such a small industrial area. So much for employee inertia! Indeed,

the existence of labour turnover in itself probably goes some way to rejecting the widespread existence of collusion on the part of employers to inhibit mobility between industries.

Nor is it plausible that underemployment in the labour market is a satisfactory explanation of wage differentials. The argument here is that earnings differentials will be narrower the tighter the employment conditions for any skill category, and vice versa. "It is true that underemployment has been regarded not as the initial cause of plant wage differentials but as a factor which perpetuates wage differentials which have arisen for other reasons. Hence underemployment is only a necessary and not a sufficient condition of differences in job attractiveness. It permits them to appear and continue but does not necessarily bring them into existence" (Mackay et al, 1971 : 91). However, following Mackay et al, the evidence that it is even a necessary condition appears unconvincing. This view is buttressed by the fact that occupational wage differentials are as substantial at the supervisory and skilled levels as they are at the unskilled and semi-skilled levels (see Appendix IX, Table 4). This does not square with the underemployment hypothesis given the decidedly slack labour market conditions at the latter levels and the tendency for demand at the former levels to outstrip supply.

Thus, we must reject the view that the prevailing wage differentials are primarily due to either some or all of these elements. They may well be present in some degree in all three survey areas but the available evidence does not suggest that they were the main cause of the substantial differentials observed.

Despite the above conclusion, the apparent persistence of the inter-industry wage differentials is only partly explicable in terms of competitive forces. The basic model of the labour holds few clues since, contrary to its predictions, our impressionistic evidence seems to favour better non-pecuniary conditions of employment in the higher wage industries. Secondly, educational differences within occupational groups only offer a partial explanation for the wage differentials because of their use as screening criteria. Likewise the incidence of imperfect information, differences in hiring standards and the underemployment hypothesis are not a sufficient explanation of the observed differentials and their reported stability over time.

This inevitably leads to the final element proposed by Mackay et al (1971 : 85) - the application of seniority rules in filling job vacancies which discriminate against non-employees and, more generally, the existence of technological and institutional forces that may limit the responsiveness of the internal wage structures of particular firms to external labour market conditions. Thus, we now turn inwards to a discussion of some pertinent features of individual firms.

#### 4.4 Internal labour markets

In terms of the neoclassical theory discussed in Chapter One, the wage differentials in any particular firm are primarily determined by the labour market environment in which the plant operates. The wage structure of any particular industry should reflect the balance, and changes in the balance, of economic forces determined by the demand for

and supply of labour. Within this framework wage differentials should reflect differences in the amount of human capital invested in training and education. In the absence of other offsetting factors this should result in skilled workers receiving higher average earnings than the unskilled. But this is not all, for we also expect the wage structure to be sufficiently fluid to respond to changing demand conditions such that a shortage (excess) of any particular occupational group will effect an increase (decrease) in their average earning relative to those of other occupational groups. The question is whether the internal wage structure does, in fact, behave in such a fashion?

Let us begin with the issue of discrimination in favour of employees against potential employees via the application of seniority rules in filling job vacancies. In general 79 per cent of firms across the survey area admitted to having a formal policy of internal promotion. In addition, on average over 80 per cent of firms admitted to preferring internal recruitment to the external variety as a hiring arena at the semi-skilled, skilled and supervisory levels. The relevant figures for the clerical, professional and managerial categories were marginally lower than 70 per cent. These preferences are to a large extent borne out by Table 4.2 which reveals the widespread use of internal recruitment.

Nevertheless, the high frequency of internal recruitment does not in itself make for coherent internal labour markets. Indeed, according to Doeringer and Piore (1971) the process of internalisation requires a correspondence between a number of factors, the most important of which are limited ports of entry on the occupational ladder, the

technological constraints imposed by on-the-job training and skill-specificity and the pervasion of customary rules and procedures at the workplace. Each of these issues will be dealt with in turn.

Seventy per cent of firms claimed to have either "very flexible" or "flexible" promotion channels with ports of entry existing at each important skill level even within defined occupational categories. This is not consistent with the Doeringer/Piore hypothesis but is to some extent contradicted by the evidence in Table 4.13.

Table 4.13 : Transferability of skills by occupational category(%)

	Unskilled	Semi-skilled	Skilled
<u>Within skill category</u>			
Transferable	78,4	58,4	58,6
Not very transferable	21,6	41,6	41,4
<u>To other firms</u>			
Transferable	71,8	49,4	64,7
Not very transferable	28,2	50,6	35,3

Table 4.13 illustrates that a significant proportion of skills are specific to either certain jobs or industries and consequently not easily transferable across occupations or industries. This is largely consistent with the thesis that the manufacturing sector is experiencing a progressive decline in the importance of general skills (Braverman, 1974), and with the evidence in Table 4.8 that on-the-job training is quite the most important method used to impart production skills. The implication of this form of training is that the more peculiar it is to individual firms and manufacturing sectors the more

closely the workers are tied to the firm and the greater the consequent stability of the workforce.

Certain categories of labour in our sample can thus be said to have lost the characteristic of variability assumed to them, and to labour generally, in the basic model of the labour market. Following Oi(1962) these specific categories of labour will then earn wages that do not correspond with their MRPs. Under these circumstances, the employment relationship, contrary to the basic model, is no longer an impersonal one and the firm is no longer indifferent between an hour of labour performed by the more fixed categories of labour and an hour of labour performed by those whose skills are relatively more transferable. Consequently, it is likely that differing degrees of fixity may in part explain wage differentials both within and between certain occupational categories of labour.

However, the data on transferability does require some qualification. It is likely that some managers overstated the degree of fixity, perhaps because the concept wasn't defined clearly enough in the interviews. This might help to explain the identification of over 20 per cent of unskilled workers being "not very transferable" in our sample - surely, an unlikely situation. Thus, while there are grounds for arguing the role of different degrees of skill-specificity and fixity in fostering intra-occupational wage differentials it would be rash to ascribe too much of the dispersion to these factors.

In addition, at the same time as imposing a constraint on worker mobility this trend places a complementary constraint on the ability of

employers to seek out the cheapest labour. The lower elasticities of substitution of the skill-specific categories increase their bargaining power since they are more costly in terms of training. It is the development of such situations of segmentation which led Edwards (1979), on the one hand, to explain the existence of control mechanisms within the firm and Doeringer and Piore on the other, to explain the existence of technological constraints which effect the evolution of customary procedures and institutional rules which, in turn, shield the incumbents of these skill categories from external market forces.

This leads us to a consideration of customary procedures, of social pressures, and rules and regulations that are likely to influence wage settlements at the plant level. Some, if not all of these factors can be described as broadly sociological in nature which has led some neo-classical economists to discard them for a variety of reasons (Watcher, 1974 and Cain, 1975). Perhaps the most damning attack comes from the pen of Truu (1983a) who argues, not only that economics is a distinctive science that cannot incorporate every imaginable facet of social experience but, that by considering such factors the economist is at methodological odds with neo-classical theory which is "not a theory of economic behaviour, but one of optimal resource allocation" (Truu, 1983b : 579). This is no place to enter into such a debate but it nevertheless bears mention that optimal resource allocation in neo-classical economics relies in part on the assumptions of profit-maximising firms and utility-maximising individuals, in short on the presence of a clearly defined *homo economicus*. Thus neo-classical economics may not be a theory of economic behaviour, but it is most

certainly founded on a notion of human behaviour. As far as this is true it is useful to consider the behaviour of the economic actors in the labour market and of the customs, rules and institutions they may generate since these may go some way to explaining the existence of the observed wage differentials.

In this respect the most useful point of departure is the relative stability, or otherwise, of occupational wage structures within firms. It is noteworthy that 95 per cent of firms reported "very stable" or "relatively stable" internal wage structures over the past few years despite the relative increase in unskilled and semi-skilled wages in the hierarchy. This stability is adequately explained by the large number of firms that generally make "across-the-board" wage changes leading to the long-term stability of wage differentials. In addition, a perusal of the questionnaires clearly reveals that where the earnings of one occupational category in a firm are relatively high, then all the other occupational categories in the firm tended to reflect high earnings relative to other units. This characteristic is especially notable among the high-wage motor manufacturers in the Eastern Cape. This latter feature may, of course, simply indicate the application of stricter selection procedures but together with the high incidence of "across-the-board" wage changes strongly suggests the operation of anomic forces within some industries.

Anomic forces in industry are normally articulated as notions of "equity" and "fairness" on the part of managers and appear critical to an understanding of the relative stability of occupational wage differentials (Wood, 1978). The importance of such "equitable

comparisons" for management is that any attempt to meet skill shortages by raising the wages of the under-supplied skill category is likely to give rise to wage demands from other groups. In this sense employment conditions ruling in the external market may well cause primary wage drift which then sets off secondary wage drift indicating an interconnected wage structure across the firm as a whole. The stronger these anomic forces are the more pronounced will be the tendency of plant wage structures to move bodily upwards through time and, the more rigid and inflexible these structures are likely to become.

Such a trend has obvious implications for competitive theory since it points to the failure, in certain circumstances, of the internal wage structure to respond to external labour market conditions, in particular to reflect changes in the demand for, and supply of different types of labour.

It is worth noting that these characteristics were less evident among the smaller firms interviewed. A number of these firms admitted flexible internal pay structures indicating greater managerial emphasis on individual productivities. This behaviour is to be expected of firms with little product market power leaving them more vulnerable to changes in the external market. However, this trend was not true for all small firms in the market. A packaging manufacturer in Dimbaza is a case in point. This particular firm is but one of a number across the country that share the same name and a common head-office in Johannesburg. The wage policy of the firm is to pay similar wages in all their plants regardless of location. The result then is a wage

structure significantly higher than most other firms in the area. While the hiring and training procedures adopted in this firm were, on the whole, more impressive than elsewhere in Dimbaza the fact that product market power does allow firms a greater degree of latitude in the determination of firm wage-structures should not be underestimated.

In contradistinction we noted some motor manufacturers in Port Elizabeth whose share of the product market and levels of profitability have been dropping in recent years. Nevertheless these firms are not only the largest employers in the area but also the distinctive wage-leaders. In addition, the reported stability of their wage structures strongly implies the existence of occupational comparisons based on equity criteria within their occupational wage structures. This is hardly consistent with competitive theory and should lead to such firms being competed out of the market. Yet "equitable comparisons" seem to persist in these firms as long as they continue to operate. How can this apparent contradiction be explained? At least three explanations spring to mind.

In the first place, there is pressure on managers to "keep the show going". In other words, management is more likely in certain circumstances to accede to the maintenance of equitable wage comparisons across occupations rather than to risk a disruption of production and further worsen their product market position in the short run. To this end it is logical that these firms should conform to a consistent and agreed system of wage payment. This leads directly to the second potential explanation; that of trade union organisation. The motor manufacturers in Port Elizabeth have all signed recognition

agreements with well-organised, independent African trade unions that have effected the most favourable wage settlements in the area. Once again firms are likely to accede to wage demands within certain limits in order to maintain continuity in production.

Finally, the motor-manufacturers in Port Elizabeth are all signatories to the Sullivan Code which outlines a set of principles according to which American firms operating in South Africa should conform. In itself, adherence to such a Code identifies the existence of an institutional arrangement within some firms that may be inconsistent with the operation of market forces. It is important to note, though, that such an institutional arrangement derives, to some extent, from external quarters rather than from product market considerations which are central in moulding the former two forces.

The import of such institutional arrangements is that once applied and in operation they become increasingly difficult to reverse. The upshot is likely to be a wage structure which does not at all points reflect the purely economic forces of demand and supply. This is not to say that economic forces are unimportant, merely that they operate, at times, within circumscribed limits.

However, the presence of institutional forces are not necessarily consistent with the Doeringer/Piore type internal labour market. Indeed Williamson (1977) argues that the operation of internal labour markets are consistent with cost-minimisation in that the existence of "idiosyncratic" skills may allow individuals or groups of workers to

behave "opportunistically", for example by shirking on the job and concealing a low level of effort. Such behaviour he argues can best be overcome by a combination of incentives and disincentives offered by the internal labour market (Williamson, 1977 : 154). The operation of internal labour markets thus represent "cost-minimisation" from the workers point of view and a form of X-efficiency from the firms point of view. But his analysis is extremely individualistic ignoring the possibility that workers themselves can play a role in the creation and entrenchment of such markets. Where this is the case these factors could also be cost-effective for the firm insofar as they prevent disruptions of production and improve employee efficiency. To this end internal labour markets are consistent with efficiency-wage models (Akerlof,1982 and Calvo and Wellisz,1979).

The next step then is to consider the role of worker organisation in the development of conditions and institutional rules that may foster internal labour market situations. According to Rubery (1978 : 18) both the technological and the radical segmentation theories lack general applicability because of "the almost exclusive attention paid to the actions and motivations of capitalists in developing a structured labour market, and the consequent neglect of the role of worker organisation in the process." It is argued that segmentation theorists fall into the conventional trap of regarding trade union development as an exogenous influence on labour market structure. Instead, if wage differentials and labour market structure are to be adequately understood then attention must be paid to the ways in which worker organisations attempt to control the competition generated by demand and supply in the labour market. For the purposes of this analysis a

worker's main concern under capitalism is to maintain and keep a job, and that of the trade union to obtain job security and higher wages, at times, it might be added "to the exclusion and possible detriment of those in the unorganised sector" (Rubery, 1978 : 34).

Table 4.14 : African worker representation in manufacturing firms by industrial area, 1984

	Port Elizabeth	East London	Dimbaza
Liaison/works committee	25,2	40,7	33,4
TUCSA union	27,3	30,6	-
Independent union	34,0	21,5	-
No representation	13,5	7,2	66,7
TOTAL	100,0	100,0	100,1

Table 4.14 illustrates that 61.3 per cent of industries in Port Elizabeth and 51.2 percent East London determine wages and employment conditions by collective bargaining. For the remainder the decision is left entirely to management or a combination of both methods is used with the final decision being in the hands of management.

Table 4.15 illustrates the nature of worker representation in those firms paying higher-than-average occupational wages. The evidence here supports the contention that the independent unions dominate the high-wage manufacturing industries. There are at least two principal reasons for this trend. First, the majority of the high wage firms comprise mostly the larger firms with multi-national status or those other branches around the country. It is these firms that generally have the flexibility and market power to negotiate with and accommodate the more powerful and militant independent unions. Secondly, many of these firms

are characterised by large, principally semi-skilled labour forces which encourage the propagation of collective behaviour due to the relative lack of labour differentiation in this occupational category (Braverman, 1974).

Table 4.15 : Worker organisation in high-wage firms

	Percentage -----
Independent union	63
Liaison/works committee	23
TUCSA union	10
No representation	4
Total	<hr style="width: 100%; border: 0.5px solid black;"/> 100

In addition over 80 per cent of those firms with independent unions fill more than half of their vacancies within the firm. On the other hand only 50 per cent of firms with other forms of worker organisation fill half of their vacancies internally. This, too, indicates that those firms with well-organised unions on the shop-floor reflect a relatively high degree of labour stability than those with weaker worker organisations and less product market-power.

Against this backdrop, it would appear that the existence of trade unions takes us some way to explaining the nature of wage relativities both between plants. In addition to the above evidence two further points deserve mention. First, as noted earlier, it was shown in Chapter Three that there is a strong correlation between the emergence of the independent trade union movement and the narrowing of racial wage differentials. Secondly, the comparative wage differentials

between Dimbaza on the one hand, and Port Elizabeth on the other must surely be due in part to the complete absence of trade union activity in the former centre.

In contrast to most of the high-wage industries in Port Elizabeth and East London methods of labour management and wage determination in Dimbaza are not inconsistent with Edwards' (1979) notion of "simple control" in certain sectors of the economy. The general lack of human capital skills and worker representation and the low levels of technology have ensured that Dimbaza workers are often made to bear the brunt of over-zealous management. Witness the strategy of the owner of a plastic recycling plant:

"Our labour turnover is much too high. Blacks don't appreciate better wages. But get them into debt and they'll stay. We bring in the furniture vans to sell them goods on H.P. It normally comes to about 15 per cent of their salary and we control the credit. We hook them on the first mortgage and nail them on the second."

The owner of a light metal industry was no less egregious when complaining about the Ciskei Governments' demand that another seven toilets be built for the use of employees.

"Blacks avoid work by hiding in the toilets. When we are told to build seven more toilets to comply with regulations we are building seven more places for them to hide".

While it was beyond the scope of this empirical analysis to do the in-depth case-studies necessary to test for the existence of control

mechanisms within firms the existence of simple and crude forms of control within some Dimbaza industries does provide a point of departure. Whether this is the primary reason for the low wages and poor working conditions is a more complex matter (see Webster, 1985).

#### 4.5 Some concluding notes

This investigation, despite the impressionistic nature of some of the observations, clearly indicates a diversity of factors that influence the nature and conditions of employment both across and within manufacturing firms in the Eastern Cape. While the evidence adduced does not square neatly with any one theoretical model the range of recruitment procedures and the substantial wage differentials observed are certainly difficult to reconcile with traditional neo-classical theory.

On the one hand wage differentials among persons within the same occupational group do not appear to be offset by non-pecuniary factors and it seems improbable that differences in hiring standards alone can account for differences in labour efficiency. On the other hand, there can be little question that the findings go some way to confirming the view that earnings are an important determinant of job choice and, consequently, that different levels of human capital play an important role in this respect. In addition, the observed variability of wage offers is, to some extent, consistent with imperfections in the dissemination of information predicted by temporary disequilibrium wage adjustment models. In this sense neo-classical theory is far from otiose, but it simply does not go far enough.

The persistence of inter-industry wage differentials and the stability of inter-occupational differentials over time lead us in other directions for an explanation. The evidence suggests that a consideration of on-the-job training and skill-specificity, of customary procedures and institutional pressures and, of collective bargaining and the development of internal labour markets, together, and in varying degrees, go much of the way to explaining labour market behaviour.

The implication is not that firms can set wages without regard to competitive forces in the relevant market, but basically that they are far anything but simple wage takers. Thus, high wage plants that enjoy high levels of profitability, economies of scale, efficient methods of production and management, and a degree of monopoly power in the product market are unlikely to merely rubber-stamp a wage set by impersonal market forces (Mackay et al, 1971 : 391). These firms normally have more freedom of action than suggested by the competitive model the outcome of which is often wages higher than those justified by the quality of the labour force.

The most compelling message of the evidence is that observable market outcomes, such as the inter-industry wage structure and the extensive of informal recruitment procedures, cannot be divorced from the social and institutional processes which regulate the internal affairs of firms (Nolan and Brown, 1983 : 283). It is also clear that these processes vary across regions, firms and occupations depending on changing pressures inside firms and on external pressures such as trade

unions and externally imposed codes of industrial conduct such as those enshrined in the Sullivan and EEC principles.

The very existence of these institutions suggests the recognition on the part of both employers and employees that the potential for tensions and conflicts at the work place is ever-present. In this sense they provide employers with the means to fashion internal employment conditions in order to achieve greater co-operation and productivity within the firm. Such attempts to harness and restructure payment systems and labour management procedures may well reduce the ability of firms to respond to changing conditions in the external labour market and to adopt strategies at odds with strict economic rationality.

This argument does not, however, ignore the role of competition in the process of wage determination. Instead the behaviour of firms is merely "the market expression of underlying changes in the organization of work within firms" (Nolan and Brown, 1983 : 284), indicating that competition extends beyond the process of exchange. To this end efficiency wage models of unemployment (Akerlof, 1984 ; Calvo, 1979 and Akerlof, 1984) provide the most coherent basis for an analysis of earnings in modern manufacturing industry.

In conclusion, while traditional theory is limited in its description of realities facing employers it is by no means otiose. In a world of imperfect information, institutional barriers and persistent differences in profitability and efficiency market forces at the very least set the outside limits within which earnings are determined.

## CONCLUSION

In this, the concluding chapter, an attempt will be made to draw together the threads of the previous argument so as to consider the relevance of the findings for economic theory. An attempt was made throughout Chapters 3 and 4 to relate the empirical evidence to the theoretical sections and it remains here merely to summarise the central thrust of each competing theory and to highlight the links, where they exist, between these theories and the empirical findings.

All three models considered in Chapter 1 attempt to rationalise the existence of wage differentials within a competitive equilibrium framework. The basic model points to a range of compensating variables which tend to offset earnings differentials between firms such that "net advantages" and not wage levels are equalised by the forces of atomistic competition in the labour market. Secondly, human capital theory provides perhaps the most general neoclassical framework for the analysis of earnings differentials across occupations. It combines marginal productivity theory with the economic analysis of the use of time, and emphasises the crucial role played by human capital in determining individual earnings. By implication, the differences in average earnings levels between groups of workers are hereby explained in terms of corresponding differences in their ownership of human capital. Thirdly, disequilibrium wage adjustment models explain wage differentials in terms of the market conditions in which transactions are effected; specifically in terms of the amount and quality of information available to employers, employees and potential employees.

In Chapter 2 the focus is on models of labour market segmentation which emphasise the importance of competition between jobs rather than the wage competition predicted by their neoclassical counterparts. The segmentation models broadly fall into two categories. The models of Thurow and of Doeringer and Piore look primarily to technological developments under capitalism and to a variety of institutional arrangements between employees and firms and among employees themselves to explain the emergence of differential earnings structures within stratified markets. The radical theories, on the other hand, attempt to place the dual labour market theories in a historical and ideological framework attributing the origins of stratification in the labour market to the capitalists' need to divide and rule the labour force. Finally, attention was focused on efficiency wage models which rationalise the existence of high, non-market clearing wages alongside involuntary unemployment in the labour market. These models, it is argued, explain a number of other labour market phenomena considered in both Chapters One and Two and provide a coherent explanation for earnings differentials and discrimination across employees and firms.

Chapter Three considered the structure of the South African labour market, in particular the panoply of extra-market forces in the form of laws and institutions which have impinged on both the supply and demand sides of the domestic labour market. Firstly, attention was paid to the legislation which divided South Africa into racially separate areas initially forcing Africans into wage labour in industries in the designated White areas. Then it was shown how the government restricted the ensuing supply of African labour to White areas through the implementation of various influx control measures

which have served principally to stratify the African labour force into a number of segments. This stratification is determined according to the relative access of groups of Africans to the high-wage metropolitan labour markets. Those with permanent urban residence status are considered to be the most privileged at the top of the queue, followed by homeland commuters and migrants, with homeland residents bringing up the rear.

Secondly, it was shown that education and training opportunities in South Africa are strictly stratified along racial lines to the extent that per pupil public spending on Whites is nine times greater than that for Africans. Together with the inferior quality of African education in general it was argued that the racial stratification of human capital provision in South Africa has limited African prospects in the labour market.

Thirdly, the laws restricting the rights of African workers to organise legally on a collective basis were outlined. The trade union protection afforded to White workers placed them in an advantaged position with respect to wage agreements and allowed them to effect "closed shop" agreements with employers thus further limiting the upward mobility of African workers. Although African unions are now very much part of the South African labour scene, having made dramatic strides in improving the employment conditions of their members, there can be little doubt that the legislation affecting trade unions has made an important contribution to the racial segmentation of South Africa's labour force.

On the demand-side of the labour market a number of laws were discussed which have acted to circumscribe the demand for labour in South African manufacturing industry and, in particular, to limit the vertical occupational mobility of African workers. The most important laws in this regard were those that reserved specific occupational categories for Whites and which along with other technological and institutional factors gave rise to the propagation of customary discrimination.

This backdrop together with the supporting empirical evidence illustrates a South African labour market characterised by an extremely high degree of segmentation, on the one hand between Whites and Africans and, on the other among and between Africans themselves. The effect of this segmentation is manifestly clear in three important respects. Firstly, despite constituting a minor proportion of the work force Whites dominate those occupations requiring higher levels of skill. Secondly, not only is there a substantial gap between the average wages earned by Whites and those earned by Africans but also evidence of a wage differential between Whites and Africans performing similar work. Thirdly, the stratification between Africans themselves is evidenced by their relative access to the metropolitan labour market in general and manufacturing industries in particular. The divide between urban "insiders" and migrant workers is well supported by Schneier's (1983) study while the divide between those restricted to the homelands and those who are not is quite clear in the Eastern Cape labour market, particularly between the Ciskei homeland and the metropolitan areas of Port Elizabeth and East London.

Against this background of varying levels of pre-market segmentation attention was then turned inwards, in particular to the recruitment procedures and the methods of wage determination followed by manufacturing industries in three distinct local labour market areas.

In respect of external recruitment procedures firms were found to rely heavily on so-called informal methods at the unskilled and semi-skilled levels and the more formal methods at the skilled level. In addition, one of the most striking features to emerge was the importance of the internal labour market as a recruitment arena. The use of informal methods and the internal labour market for recruitment purposes has important implications for both human capital theory and disequilibrium wage adjustment models. On the one hand they are likely to reduce market scanning and result in less appropriate candidates filling available vacancies at any point in time. This is not consistent with the predictions of human capital theory. On the other hand informal recruitment procedures will complicate the search process for workers with a disadvantaged pre-market status making it difficult for these groups of workers to identify the entire set of wage offers in a local labour market. This could well lead to wage outcomes further removed from equilibrium than predicted by the disequilibrium wage adjustment models.

The evidence on wage determination indicated a variety of factors that influence the nature and structure of earnings both across and within manufacturing firms in the Eastern Cape. The substantial regional and inter-firm wage differentials observed were difficult to reconcile with

the basic model of the labour market since non-pecuniary factors were not found to be more favourable in low wage industries. On the other hand the acquisition of human capital in the form of education and training was shown to play a role in the determination of occupational status and the wage rates for given occupational groups. However, additional evidence showed that education is not only valued for its human capital content but also as a screening device. The observed correlation between earnings and education can thus be said to disguise a more fundamental correlation between education and the attributes that characterise trainability. Following on from this was the more-or-less predictable observation that hiring standards are more strictly employed in high-wage firms but it was considered unlikely that hiring standards on their own can account for the substantial differentials.

The existence of imperfect information on the part of employers with respect to inter-firm wages suggests some support for disequilibrium wage adjustment models. However, when this is considered alongside the highly imperfect dissemination of wage information that is likely to result from informal recruitment methods these models lose some of their predictive power. While a distribution of wage offers was observed the nature of the information could well entrench the distribution leading it away from, rather than towards equilibrium. Such a situation is certainly not consistent with the disequilibrium wage adjustment models.

Thus, the persistence of inter-industry wage differentials and the

observed stability of inter-occupational differentials within firms over time led us to factors internal to firms for a more comprehensive picture. Firstly, there was evidence of a degree of skill-specificity attendant upon the widespread use of on-the-job training. In situations where skills are highly specific they will have the effect of "personalising" the employer-employee relationship and may contribute to an explanation of wage differentials between different levels of skill. However, the degree of skill-specificity in the survey areas did not appear to be unduly high.

Secondly, it was noted that many firms make "across-the-board" wage changes which strongly suggests the operation of anomic forces within some industries. Such notions of "equity" and "fairness" point to the failure of internal wage structures to respond to external labour market conditions, in particular a failure to reflect changes in the demand for, and supply of different types of labour.

Occupational comparisons based on equity criteria tended to be more prevalent in firms that enjoy a degree of product market power and those that have signed recognition agreements with well-organised trade unions. This latter characteristic, along with the adherence of some firms to the Sullivan and EEC codes, lends support to the contention that social convention and specific institutional arrangements play an important role in determining occupational and inter-firm wage differentials.

Where does this welter of evidence leave us? In the first place it is clear that the neoclassical models of wage determination do not provide

a comprehensive picture of wage and employment conditions in manufacturing industry. Secondly, the evidence of notions of equity and fairness along with the existence of customary procedures and institutional arrangements does provide part-way proof of the existence of internal labour market-type structures. However, the evidence is certainly not strong enough to prove the existence of the highly segmented and pristine internal labour markets postulated by Doeringer and Piore (1971). Thirdly, the informal recruitment procedures along with the high labour turnover and over-zealous management practices intuitively point to the existence of crude control mechanisms at some Dimbaza firms. However difficult it is to measure degrees of control it is equally difficult to imagine varying degrees of control as being the sole criterion in respect of inter- and intra-firm wage determination.

The most compelling explanation of firms' labour market behaviour is surely contained in the efficiency wage models. By incorporating many of the features of the above theories they are able to provide the most coherent framework for an explanation of real firms operating in a continually changing labour market environment. In addition these models by postulating that any reduction in wages will lower the productivity of current employees are able to explain the existence of involuntary unemployment existing alongside wages above market-clearing levels.

The natural consequence of such a situation in a stratified labour market is that the participation of large numbers of employees,

especially disadvantaged groups comprising those without urban "insider" status, youths and women, is likely to be curtailed as the relative strengths of competitive and stratifying forces vary across time and place. For some this will mean protracted confinement to low-paid, routine, menial jobs and for others the spectre of enduring unemployment.

Perhaps the most important aspect of the evidence adduced is that competitive market forces are operating in a labour market characterised by imperfect information, social and institutional barriers and persistent differences in efficiency, productivity and profitability. Thus, while market forces may set the outside limits within which earnings are determined the evidence strongly supports the view that money wages, in many instances, are to some extent determined by institutionalised bargains and the efforts of employers to achieve greater co-operation and productivity within the firm.

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APPENDIX IMethod of Enquiry

The empirical data presented in Chapter 4 is based on a survey of 90 manufacturing firms in the metropolitan centres of Port Elizabeth and East London in White South Africa and the rural Ciskei town of Dimbaza.

A quota sampling technique was used in the survey (Cass, 1969). Initially this involved the procurement of complete lists of all manufacturing firms in the three survey areas from the relevant Chambers of Industries. Each industry list was then divided up into three discrete categories consisting of small, medium-sized and large firms according to their employment size. In the case of Port Elizabeth and East London the categories were 0-100; 101-500; and 500 + and in the case of Dimbaza 0-100; 101-300; and 300 +. This was done on the assumption that industries of differing size were not only likely to differ in respect of relative market power but would also exhibit different patterns of labour market behaviour (Mackay et al, 1971).

Within these defined categories industries were randomly selected and sent letters explaining the nature of the project and requesting interviews. Where industries refused to co-operate alternate firms within the same size grouping and of the same particular manufacturing sector were selected as replacements.

Since the questionnaire had been constructed a pilot study was conducted among 23 firms in Port Elizabeth. On completion of the piloting changes in the questionnaire format were effected as well as the conclusion of some questions and the inclusion of others. The major change in respect of the format was to divide the questionnaire into two separate sections. The first section (see Appendix II) was personally administered face-to-face with appropriate representatives of each firm's management. In the smaller firms the interviewees were generally the owners-cum-managers of the plant and in the case of the larger firms the interviews were mostly conducted with personnel managers and their production line colleagues.

The second section of the questionnaire (see Appendix III) required information often not immediately available or procurable during the interviews. Consequently this section was left with the firms' representative with a stamped addressed envelope for return mailing.

The face-to-face interviews generally went smoothly but a number of problems were encountered in respect of the second section of the questionnaire. These mainly surrounded the unwillingness of some firms to return the data despite numerous telephone calls and letters requesting them to do so.

The returns for each survey were as follows: Port Elizabeth 30 out of 43 surveyed (69,7%); East London, 23 out of 29 (79%) and, Dimbaza, 9 out of 18 surveyed (50%). The importance of these incomplete returns

is that the wage data presented in Chapter 4 should be treated with some caution. However, the purpose of the chapter is to analyse wage differentials within and between industries, rather than absolute wage levels. Thus, while the absolute figures may be somewhat unrepresentative of the areas as a whole this is not enough to invalidate the existence of the wage differentials and the analysis that follows.

Table 1 : Percentage of firms surveyed by manufacturing type

	Port Elizabeth	East London	Dimbaza
Food/Liquids/Beverages	12	14	5
Clothing/Textiles	14	14	39
Wood/Furniture	9	11	-
Chemical	19	32	22
Metal	30	14	28
Electrical	4	7	-
Motor Cars	5	4	-
Quarry/Brick/Tile	-	4	-
Printing/Publishing	7	-	6
	100	100	100

Table 2 : Percentage of firms surveyed by employment size of industry

Number of employees	Port Elizabeth	East London	Dimbaza
Small	17	19	12
Medium-sized	39	47	28
Large	44	34	60
	100	100	100

Moreover, the data in Tables 1 and 2 indicates that the survey comprised a good cross-section of industries both across the range of manufacturing sectors and across industries of differing employment sizes.

Thus, while the survey results cannot be said to be representative of the manufacturing sectors in each of the three survey areas, the range of firms surveyed is consistent with the quota sampling method. It is felt that this provides an adequate basis from which to proceed with the analysis.

Questionnaire Part I RHODES UNIVERSITY

DEPARTMENTS OF EDUCATION AND ECONOMICS

EMPLOYER SURVEY 1983

STRICTLY CONFIDENTIAL

DURING THE INTERVIEW THE FOLLOWING SHOULD BE BORNE IN MIND:

- 1 THE PERSONNEL MANAGER OR EQUIVALENT SHOULD BE INTERVIEWED.
- 2 THE RESEARCH AIMS TO OBTAIN A BETTER UNDERSTANDING OF EMPLOYMENT, UNEMPLOYMENT AND EDUCATION AMONG BLACKS IN THE EASTERN CAPE.
- 3 HOWEVER THE INFORMATION IN THIS QUESTIONNAIRE SHOULD APPLY EQUALLY TO AFRICANS, COLOUREDS AND INDIANS. WHITES ARE BY AND LARGE IGNORED.
- 4 IT IS HOPED THAT THE RESEARCH WILL EVENTUALLY HAVE SOME POLICY RAMIFICATIONS.
- 5 STRESS THE CONFIDENTIALITY OF THE INTERVIEW AND POINT OUT THAT ALL PUBLISHED STATISTICS WILL ALWAYS REFER TO GROUPS OF EMPLOYERS IN SUCH A WAY THAT NO SINGLE FIRM COULD POSSIBLY BE IDENTIFIED.
- 6 THE INTERVIEW LASTS ABOUT ONE AND A HALF HOURS.

Employer Number

Questionnaire Type

Card Number

7

1

7		
1		

1-3

4

5

1 PLACE NAME .....code later

--	--

6-7

2 PLACE TYPE

- 1 metropolitan
- 2 large town
- 3 small town

- 4 decentralization point
- 5 rural village
- 6 farm

--

8

3 NAME OF EMPLOYER.....no code

4 NAME OF CONTACT PERSON.....no code

5 ADDRESS.....  
 .....Tel.....no code

6	NAME OF INTERVIEWER.....fill in code	<input type="text"/>	9-10
7	DATE OF INTERVIEW	<input type="text"/>	11-10
8	IS QUESTIONNAIRE COMPLETE?	1 yes 2 no <input type="text"/>	1
9	CASE-STUDY POSSIBLE?	1 yes 2 no <input type="text"/>	18

PART 2

MANUFACTURING

THIS QUESTIONNAIRE DEALS WITH EMPLOYERS IN MANUFACTURING.

Questionnaire type

19

A BASIC DETAILS

SOME QUESTIONS ABOUT THE BASIC CHARACTERISTICS OF THE FIRM.

1 WHAT DO YOU MANUFACTURE?.....code later  
.....code S.I.C.

20-21

2 HOW WOULD YOU CHARACTERIZE THE OWNERSHIP/CONTROL OF THIS FIRM?

- 1 foreign owned and controlled.
- 2 foreign owned and nationally/locally controlled.
- 3 nationally owned and controlled.
- 4 nationally owned and locally controlled.
- 5 locally owned and controlled.

22

3 ROUGHLY WHAT PERCENTAGE OF YOUR OUTPUT IS EXPORTED?

- |          |           |
|----------|-----------|
| 1 0%     | 4 26-50%  |
| 2 1-10%  | 5 51-75%  |
| 3 11-25% | 6 76-100% |

23

4 AGAIN ROUGHLY, WHAT PERCENTAGE SHARE OF THE SOUTH AFRICAN MARKET DO YOU HAVE?

- |          |           |
|----------|-----------|
| 1 0%     | 4 26-50%  |
| 2 1-10%  | 5 51-75%  |
| 3 11-25% | 6 76-100% |

24

B EXTERNAL RECRUITMENT/HIRING

EXTERNAL RECRUITMENT MEANS RECRUITMENT OF WORKERS WHO HAVE NEVER WORKED FOR THE FIRM BEFORE.

SOME QUESTIONS ABOUT YOUR METHODS OF EXTERNAL RECRUITMENT, YOUR TECHNIQUES FOR ATTRACTING AND SCREENING LABOUR AND THE ROLE OF EDUCATION.

5 WHEN YOU HAVE A VACANCY WHICH CANNOT BE FILLED INTERNALLY, WHAT PROCEDURES DO YOU USE TO ATTRACT APPLICANTS? DISTINGUISH BETWEEN (a) UNSKILLED, (b) SEMI-SKILLED AND (c) SKILLED/CLERICAL WORKERS.

- 1 use government labour bureau.
- 2 use network of family and friends.
- 3 rely on factory-gate queuing/casual calling.
- 4 rely on word-of-mouth.
- 5 use newspaper advertising.
- 6 use other employment agencies.

COMMENTS

(a) UNSKILLED

(b) SEMI-SKILLED

(c) SKILLED/CLERICAL


25-27

28-30

31-33

6 WHO CONDUCTS THE INTERVIEWS? DISTINGUISH BETWEEN (a) UNSKILLED (b) SEMI-SKILLED AND (c) SKILLED WORKERS.

- 1 personnel manager
- 2 line manager

- 3 both
- 4 supervisors

(a) UNSKILLED

(b) SEMI-SKILLED

(c) SKILLED


34

35

36

7 WHO MAKES THE FINAL HIRING DECISION?

- 1 personnel manager
- 2 line manager

- 3 both
- 4 supervisor

(a) UNSKILLED

(b) SEMI-SKILLED

(c) SKILLED


37

38

39

8 WHAT ARE THE LOWEST EDUCATIONAL LEVELS YOU ACCEPT IN THE HIRING OF THE AVERAGE PROSPECTIVE (a) UNSKILLED, (b) SEMI-SKILLED, (c) SKILLED AND (d) CLERICAL WORKER.

- 01 no schooling
- 02 sub A-B
- 03 std. 1-2
- 04 std. 3-4
- 05 std. 5
- 06 std. 6
- 07 std. 7
- 08 std. 8

- 09 std. 9
- 10 matric
- 11 N.T.C. or equivalent
- 12 other
- 13 literacy
- 14 numeracy
- 15 not important
- 16 no lowest

COMMENTS:

- (a) UNSKILLED
- (b) SEMI-SKILLED
- (c) SKILLED
- (d) CLERICAL


40-  
42-  
44-  
46-

9 IN YOUR EXPERIENCE, HAVE ENTRANCE QUALIFICATIONS RISEN IN RECENT TIMES? DISTINGUISH BETWEEN (a) UNSKILLED (b) SEMI-SKILLED AND (c) SKILLED/CLERICAL JOBS.

- |                      |       |      |              |
|----------------------|-------|------|--------------|
| (a) UNSKILLED        | 1 yes | 2 no | 3 don't know |
| (b) SEMI-SKILLED     | 1 yes | 2 no | 3 don't know |
| (c) SKILLED/CLERICAL | 1 yes | 2 no | 3 don't know |


4  
4  
5

COMMENTS:(Probe for "diploma disease" and qualification escalation i.e. if they have risen do they reflect changes in job content or is over-supply of labour a factor?)

10 DO YOU TRY TO MATCH SCHOOL QUALIFICATIONS TO JOB REQUIREMENTS?

- 1 yes
- 2 no

--

5

COMMENTS:(Probe for job content/evaluation)

11 WHAT SPECIFIC SKILLS DO YOU REQUIRE FOR THE VARIOUS SKILL LEVELS?

- 01 ability to read
- 02 ability to write
- 03 numeracy
- 04 practical skills
- 05 manual dexterity
- 11 other(specify).....
- 06 scientific skills
- 07 ability to think
- 08 practical knowledge
- 09 none
- 10 don't know

COMMENTS:

- (a) UNSKILLED
- (b) SEMI-SKILLED
- (c) SKILLED
- (d) CLERICAL


52-53  
54-55  
56-57  
58-59  
60-61  
62-63  
64-65  
66-67

12 WHAT SKILLS DO YOU REQUIRE THE SCHOOLS TO PROVIDE?

code as above


68-69  
70-71  
72-73

Card No 2

2
---

1

13 DO THE SCHOOLS PROVIDE THESE SKILLS?

- 1 yes
- 2 no
- 3 some


2

13a IF SOME, WHICH ONES?  
code as above

3-4  
5-6  
7-8  
9-10

13b IF NO, HOW CAN THEY PROVIDE THESE SKILLS?

COMMENTS:(code later)


11  
12  
13



A FEW QUESTIONS NOW ABOUT BLACK WORKERS AND UNEMPLOYMENT

17 WITH WHICH STATEMENT ABOUT UNEMPLOYED BLACKS DO YOU MOST AGREE?

- 1 They would be best off in terms of earnings if they took the first available job.
- 2 They would be best off in terms of earnings if they waited and searched a bit before taking a job.

56

18 WHICH STRATEGY DO YOU THINK IS BEST FOR AN EMPLOYED BLACK WHO IS LOOKING FOR A BETTER JOB?

- 1 Should resign from present job because efficient job search is a full-time occupation.
- 2 Should not resign because employers prefer to hire an employed person.

57

19 HOW OFTEN DO YOU FIND THAT AN AFRICAN TO WHOM YOU HAVE OFFERED A JOB REFUSES THE OFFER?

- 1 very often
- 2 often
- 3 occasionally
- 4 rarely
- 5 very rarely
- 6 never

58

20 WHAT SORT OF WORKER REPRESENTATION DO YOU HAVE FOR AFRICANS IN THE FIRM?

- 1 liaison committee
- 2 work committee
- 3 TUCSA union
- 4 independent union
- 5 no representation

59

C INTERNAL MOBILITY

SOME QUESTIONS ABOUT INTERNAL MOBILITY, PROMOTION AND TRAINING.

21 DO YOU HAVE A FORMAL POLICY OF INTERNAL PROMOTION?

- 1 yes
- 2 no

60

22 DO YOU GENERALLY PREFER EXTERNAL OR INTERNAL RECRUITMENT AS A WAY OF FILLING VACANCIES? DISTINGUISH BETWEEN THE VARIOUS SKILL LEVELS.

- 1 external
- 2 internal
- 3 both

- (a) UNSKILLED
- (b) SEMI-SKILLED
- (c) SKILLED
- (d) SUPERVISORY
- (e) CLERICAL
- (f) MANAGERIAL


61  
62  
63  
64  
65  
66

23 IN PRACTICE, WHAT ROUGH PERCENTAGE OF VACANCIES FOR THE VARIOUS SKILL CATEGORIES ARE FILLED INTERNALLY?

- 1 0-25%
- 2 26-50%
- 3 51-75%
- 4 76-100%

- (a) UNSKILLED
- (b) SEMI-SKILLED
- (c) SKILLED
- (d) SUPERVISORY
- (e) CLERICAL
- (f) MANAGERIAL


67  
68  
69  
70  
71  
72

24 WHAT ARE THE 3 MOST IMPORTANT REASONS FOR INTERNAL RECRUITMENT?

- 1 low screening costs/error
- 2 allocates labour optimally(uses potential)
- 3 existing employees know the firm
- 4 part of personnel policy
- 5 union/worker pressure
- 6 motivational reasons

Card No 3

3

73  
1  
2  
3

25 WHAT ARE THE DISADVANTAGES OF INTERNAL RECRUITMENT?

COMMENTS:

no code

26 WHAT ARE THE 2 MOST IMPORTANT CRITERIA USED IN SELECTING AN EMPLOYEE FOR PROMOTION/TRAINING?

- 1 schooling level
- 2 hard-worker
- 3 communication/human relations skills
- 4 reliability/obedience
- 5 seniority
- 6 other(specify).....


4  
5

COMMENTS:(Probe for skills vs attitudes vs formal education criteria)

27 WHO RECOMMENDS EMPLOYEES FOR PROMOTION?

- 1 personnel manager
- 2 line manager
- 3 both
- 4 supervisor

28 IN PRACTICE, HOW FLEXIBLE/RIGID ARE THE PROMOTION CHANNELS IN THE FIRM?

- 1 very flexible
- 2 flexible
- 3 average
- 4 rigid
- 5 very rigid

29 WHAT ADVICE WOULD YOU GIVE SOMEONE WHO WANTS PROMOTION?

- 1 improve level of schooling
- 2 get more training
- 3 work hard
- 4 show initiative/motivation
- 5 show reliability
- 6 be obedient
- 7 other(specify).....

COMMENTS:

30 WHEN VACANCIES CANNOT BE FILLED INTERNALLY, IS IT THE FIRM'S POLICY TO RE-ENGAGE PREVIOUSLY LAID-OFF/RETRENCHED WORKERS?

- 1 yes
- 2 no

9

31 WHY IS THIS? GIVE THE MOST IMPORTANT REASON.

- 1 fairness/humanitarian reasons
- 2 union pressure/agreement
- 3 ex-workers know the job
- 4 ex-workers know the firm
- 5 low screening costs
- 6 other(specify).....

10

32 DO YOU THINK THAT INTERNAL RECRUITMENT PROTECTS CERTAIN JOBS AND THEIR WAGES FROM SHORT-TERM FLUCTUATIONS IN EXTERNAL LABOUR SUPPLY?

- 1 yes
- 2 no

11

WHY?(Probe for whether or not changes in labour supply affect the firm's job and wage structure)

33 DO YOU THINK THAT INTERNAL RECRUITMENT DISCOURAGES PROSPECTIVE EMPLOYEES FROM IMPROVING THEIR SCHOOL QUALIFICATIONS?

1 yes

2 no

12

WHY?(Probe for idea that attractive jobs are given to "insiders" already employed)

33b DO YOU THINK THAT INTERNAL RECRUITMENT DISCOURAGES PROSPECTIVE EMPLOYEES FROM IMPROVING THEIR SKILLS (WORK-RELATED)?

1 yes

2 no

13

WHY?

---

SOME QUESTIONS ABOUT TRAINING PROGRAMMES

---

34 DOES THE FIRM HAVE AN INTERNAL TRAINING COURSE(NOT ON-THE-JOB TRAINING)?

1 yes

2 no

14

35 DESCRIBE THE COURSES OFFERED:

15

code later

36 GIVE EXAMPLES OF THE SKILL LEVELS/JOB TYPES INVOLVED:

37 DOES THE FIRM HAVE A FORMAL POLICY OF SENDING EMPLOYEES FOR OUTSIDE TRAINING AT CENTRES OR COLLEGES?

1 yes

2 no

16

IF NO GO TO QUESTION 44

38 WHERE DO YOU SEND YOUR WORKERS?

1

code later

39 GIVE EXAMPLES OF THE SKILL LEVELS/JOB TYPES INVOLVED:

1

40 HOW MANY EMPLOYEES ARE REGISTERED FOR MAJOR EXTERNAL COURSES THIS YEAR?

Fill in number

19-2

41 HAVE YOU RECEIVED ANY FEEDBACK FROM APPRENTICES AND/OR EMPLOYEES WHO HAVE ATTENDED COURSES AT TECHNIKONS/TECHNICAL COLLEGES?

1 yes

2 no

22

41a IF NO GO TO QUESTION 42. IF YES HAVE COMMENTS COME FROM

1 apprentices

2 other employees

3 both

23

41b IF YES, HOW DO YOU OBTAIN THIS FEEDBACK?

1 formally

2 informally

24

41c WHAT POSITIVE COMMENTS (IF ANY) ARE GENERALLY MADE ABOUT:

1 COURSE CONTENT:

2 QUALITY OF TEACHING:

41d WHAT NEGATIVE COMMENTS (IF ANY) ARE GENERALLY MADE ABOUT:

1 COURSE CONTENT:

2 QUALITY OF TEACHING:

41e WHAT CHANGES (IF ANY) WOULD YOU LIKE TO SEE MADE IN THESE COURSES?

42 WHO PAYS FOR THE TRAINING?

1 firm  
2 worker

3 both

25

43 IS THE WORKER'S SALARY AFFECTED IN ANY WAY WHILST THE EMPLOYEE IS ON SUCH A COURSE?

1 full wages  
2 partial wage

3 no wages

26

44 ARE THERE ANY OTHER WAYS THROUGH WHICH WORKERS ARE ENCOURAGED TO IMPROVE THEIR SKILLS?

1 more schooling (tuition schemes)	1 yes	2 no		27
2 more training	1 yes	2 no		28
3 promises of promotion	1 yes	2 no		29
4 literacy classes	1 yes	2 no		30
5 other (specify)	1 yes	2 no		31


45 IN TERMS OF YOUR SKILL/EDUCATION REQUIREMENTS FOR SKILLED LABOUR AND BELOW, WHICH IS THE MOST IMPORTANT: SCHOOLING, ON-THE-JOB TRAINING, FORMAL INTERNAL TRAINING AND EXTERNAL TRAINING?

1 schooling  
2 on-the-job

3 internal  
4 external

WHY?

SKILLED

SEMI-SKILLED

UNSKILLED


32

33

34

C WAGE PATTERNS

SOME QUESTIONS ON YOUR WAGE STRUCTURE AND ITS DETERMINATION.

46 HOW DO WAGES IN YOUR FIRM COMPARE WITH THE WAGES OF OTHER FIRMS (a) IN THE SAME INDUSTRY (POSSIBLY LOCATED ELSEWHERE) AND (b) IN THE SAME LOCAL AREA? DISTINGUISH BETWEEN DIFFERENT OCCUPATIONAL GROUPS.

1 much higher      3 similar      4 lower  
2 higher            5 much lower

For case (a) use column 1, etc.

CLERICAL

SKILLED

SEMI/SKILLED

UNSKILLED

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

35-36

37-38

39-40

41-42



51 EXPLAIN HOW YOU ACTUALLY ARRIVE AT YOUR WAGE DIFFERENTIALS?

PROBE FOR union pressures, custom, notions of "fairness",  
 skill/labour shortages.

52 DOES AN INCREASE IN THE WAGES OF ONE OCCUPATIONAL GROUP USUALLY  
 TRIGGER OFF A SERIES OF WAGE CLAIMS FROM OTHER OCCUPATIONAL  
 GROUPS?

1 yes

2 no

55

53 HOW STABLE HAVE THESE DIFFERENTIALS REMAINED OVER TIME?

1 very stable

2 relatively stable

3 relatively unstable

4 very unstable

56

54 WHAT EFFECT HAVE THE NEW UNIONS HAD ON THE OVERALL LEVEL OF  
 AFRICAN WAGES IN THE AREA ?

1 greatly increased them

2 increased them

3 little effect

4 no effect

57

COMMENTS:

55 DOES A WAGE INCREASE IN ONE OF THE LARGE FIRMS IN THE AREA  
 TRIGGER OFF A SERIES OF WAGE CLAIMS IN OTHER FIRMS?

1 yes

2 no

58

56 RANK IN ORDER OF IMPORTANCE THE FOLLOWING 3 STATEMENTS ABOUT HOW  
 WAGES ARE DETERMINED:

READ OUT:

1 African wages are primarily determined by the supply and  
 demand for labour.

2 African wages are primarily determined by the need for  
 industrial peace.

3 African wages are primarily determined by the need to  
 maintain worker satisfaction.


59

60

61

57 HYPOTHETICALLY, IF YOUR FIRM HAD TO REDUCE THE AVERAGE WAGE LEVEL, WOULD YOU EXPERIENCE DIFFICULTIES IN RECRUITING EXTERNAL LABOUR? DISTINGUISH BETWEEN (a) UNSKILLED, (b) SEMI-SKILLED AND (c) SKILLED LABOUR.

1 great difficulty  
2 same difficulty

3 few difficulties  
4 no difficulty

COMMENTS:

(a) UNSKILLED

(b) SEMI-SKILLED

(c) SKILLED


6

6

6

E LABOUR MANAGEMENT

SAME QUESTIONS ABOUT LABOUR MANAGEMENT.

58 HOW MANY EMPLOYEES (APPROX.) LEFT THE FIRM IN THE PAST YEAR? DISTINGUISH BETWEEN THE VARIOUS SKILL CATEGORIES.

(a) UNSKILLED

(b) SEMI-SKILLED

(c) SKILLED

(d) CLERICAL


65-67

68-70

71-73

74-76

59 WHAT STRATEGIES DO YOU USE TO REDUCE TURNOVER?

PROBE FOR MONEY INCENTIVES, SUBSIDIES, PERKS.

60 HOW SUCCESSFUL ARE THESE STRATEGIES?

61 DO YOU HAVE AN ATTENDANCE BONUS?

1 yes

2 no

COMMENTS:

--

77

62 DO YOU HAVE A PRODUCTIVITY BONUS?

1 yes

2 no

COMMENTS:

63 DO YOU HOARD LABOUR AT ALL?

Card No 4

1 yes

2 no

WHY? (Probe for production effects, severance costs, hiring costs etc.)

64 DO YOU SEE JOB PERFORMANCE IN PRODUCTIVITY TERMS?

1 yes

2 no

COMMENTS:

65 WHAT ARE THE 3 MOST COMMON FACTORS AFFECTING PRODUCTIVITY LEVELS?

- |                           |                     |
|---------------------------|---------------------|
| 01 schooling levels       | 07 hard work        |
| 02 technical skill levels | 08 low absenteeism  |
| 03 human relations        | 09 job satisfaction |
| 04 supervision            | 10 turnover rates   |
| 05 trade union relations  | 11 technology       |
| 06 discipline             | 12 other.....       |

4  
6  
8

66 WITH WHICH STATEMENT ABOUT SCHOOLING AND PRODUCTIVITY DO YOU MOST AGREE?

- 1 People with more schooling are more productive than people with less schooling.
- 2 People with less schooling are more productive than people with more schooling.

WHY?

67 DO YOU PRACTISE JOB ROTATION?

1 yes

2 no

F EVALUATION OF SKILLS

SOME QUESTIONS ABOUT THE TRANSFERABILITY OF SKILLS AND TECHNOLOGY EFFECTS.

68 DO YOU FIND THAT ON-THE-JOB TRAINING IMPARTS SKILLS WHICH ARE TRANSFERABLE WITHIN THE SKILL CATEGORY?

1 very transferable  
2 transferable

3 not very transferable  
4 not transferable

(a) UNSKILLED

(b) SEMI-SKILLED

(c) SKILLED

(d) CLERICAL

1  
1  
14  
15

69 FOR THE FOLLOWING OCCUPATIONS, TO WHAT EXTENT ARE THE SKILLS ACQUIRED THROUGH ON-THE-JOB TRAINING IN THIS FIRM USEFUL/ TRANSFERABLE TO OTHER FIRMS GENERALLY?

1 very useful  
2 useful

3 some use

4 useless  
5 very useless

(a) UNSKILLED

(b) SEMI-SKILLED

(c) SKILLED

(d) CLERICAL

16  
17  
18  
19

70 IF WAGE LEVELS INCREASED SIGNIFICANTLY (SAY 25%) THROUGHOUT THE COUNTRY IN WHICH SECTIONS OF THE FIRM AND IN WHICH OCCUPATIONS WOULD WORKERS BE VERY VULNERABLE TO REPLACEMENT BY MACHINES?

OCCUPATIONS

G UNEMPLOYMENT

## SOME GENERAL QUESTIONS ABOUT UNEMPLOYMENT.

71 WHAT ESTIMATE (%) OF BLACK UNEMPLOYMENT WOULD YOU GIVE FOR THIS AREA? (NOT PUBLISHED FIGURES)

- |          |          |          |
|----------|----------|----------|
| 1 0-5%   | 4 16-20% | 7 31-35% |
| 2 6-10%  | 5 21-25% | 8 36-40% |
| 3 11-15% | 6 26-30% | 9 41%+   |

20

72 THINKING ABOUT THE GENERAL LABOUR MARKET IN YOUR AREA, TO WHAT EXTENT ARE THERE SHORTAGES OR SURPLUSES OF LABOUR IN (a) UNSKILLED (b) SEMI-SKILLED AND (c) SKILLED CATEGORIES OF LABOUR?

- |                                |                |
|--------------------------------|----------------|
| 1 big surplus                  | 4 shortage     |
| 2 surplus                      | 5 big shortage |
| 3 supply and demand in balance |                |

(a) UNSKILLED

21

(b) SEMI-SKILLED

22

(c) SKILLED

23

73 I WOULD LIKE YOU NOW TO CONSIDER WHAT IS YOUR OPINION ON SOME OF THE GENERAL CAUSES OF UNEMPLOYMENT. I WILL READ OUT SOME POSSIBLE CAUSES. PLEASE GRADE EACH ON A 5 POINT SCALE OF IMPORTANCE:

- |                       |                        |
|-----------------------|------------------------|
| 1 very low importance | 4 high importance      |
| 2 low importance      | 5 very high importance |
| 3 average importance  |                        |

(a) HIGH WAGES/LABOUR COSTS.

24

(b) THE RECESSION.

25

(c) BAD UNION AND INDUSTRIAL RELATIONS (E.G. TOO GREAT A PRESSURE ON CONDITIONS OF SERVICE, WAGES ETC.).

26

(d) LACK OF EDUCATION (SKILLS LEARNED AT SCHOOL).

27

(e) LACK OF WORK-RELATED SKILLS (E.G. MANUAL AND TECHNICAL SKILLS)

28

(f) LEGISLATION/GOVERNMENT POLICY.

29

(g) SURPLUS OF LABOUR IN CERTAIN SKILL CATEGORIES.

30

(h) LACK OF INFORMATION ON THE PART OF LABOUR AS TO WHERE THE SHORTAGES LIE.

31

(i) DOMINANCE OF CAPITAL INTENSIVE TECHNOLOGY

32

74 DO YOU FIND WORKERS ARE ATTEMPTING TO IMPROVE THEIR FORMAL EDUCATIONAL QUALIFICATIONS?

1 yes 2 no 3 don't know

33

IF YES:

a DO YOU THINK THIS HAS TO DO WITH THE HIGH UNEMPLOYMENT SITUATION?

1 yes 2 no 3 don't know

34

IF YES:

b ARE THESE QUALIFICATIONS GOING TO PROTECT HIM/HER IN THE JOB MARKET?

1 yes 2 no 3 don't know

35

75 WHAT DO YOU THINK ARE THE MOST EFFECTIVE WAYS FOR AN UNEMPLOYED PERSON TO IMPROVE HIS/HER CHANCES OF BECOMING EMPLOYED?

1 more schooling 2 more training 3 join a union 4 don't join a union 5 advertise 6 not much 7 don't know 8 other.....

36

H STATE POLICY

76 HOW HAS THE GOOD HOPE/DECENTRALIZATION PLAN AFFECTED YOUR COMPETITIVE POSITION?

1 positively 2 negatively 3 don't know

37

COMMENTS:

77 ARE THERE ANY CHANGES IN STATE LABOUR POLICY THAT YOUR COMPANY WOULD LIKE TO SEE IMPLEMENTED?

1 yes 2 no 3 don't know

38

PROBE FOR INFLUX CONTROL, HOUSING, JOB RESERVATION.

78 ARE THERE ANY CHANGES IN BLACK EDUCATIONAL POLICY THAT YOUR ORGANISATION WOULD LIKE TO SEE?

1 yes            2 no            3 don't know

EXPLAIN: (PROBE FOR EQUITY, SYLLABUS CHANGES, ACADEMIC VS TECHNICAL EDUCATION)





RHODES UNIVERSITY · GRAHAMSTOWN

DEPARTMENTS OF EDUCATION AND ECONOMICS

EMPLOYER SURVEY

BASIC DATA

STRICTLY CONFIDENTIAL

The following questions are vital to the successful completion of an investigation into employment and training in the Eastern Cape.

All information will be treated confidentially and all published statistics will refer to groups of employers in such a way that no single firm could possibly be identified.

Please complete the questions below and forward to the following address:

Prof. A.J.Penny,  
 Department of Education,  
 Rhodes University,  
 P.O.Box 94,  
 GRAHAMSTOWN 6140

Card no 5 1

1 NAME OF FIRM..... do not use coding block 2 -

2 NUMBER OF EMPLOYEES BY RACE, SEX AND SKILL.

	WHITE		COLOURED & INDIAN		AFRICAN			
	M	F	M	F	M	F		
MANAGERIAL							5-	
PROFESSIONAL							23-	
CLERICAL							41-	
SUPERVISORY							59-	
SKILLED							2-	
SEMI-SKILLED							20-	
UNSKILLED							38-	
WHITE TOTAL (TO 4 FIGURES)								56-
ASIAN TOTAL (TO 4 FIGURES)								60-
BLACK TOTAL (TO 4 FIGURES)								64-
TOTAL ALL								68-

Card no: 6



- 7 IN THIS QUESTION WE ARE INTERESTED IN CERTAIN VERY ROUGH RATIOS THAT WOULD ENABLE US TO CLASSIFY FIRMS IN TERMS OF CAPITAL AND LABOUR INTENSITIES ETC. WE APPRECIATE THAT THIS INFORMATION IS SENSITIVE. HOWEVER WE TRUST THAT BY ROUNDING OFF THE FIGURES AS INDICATED YOUR STANDARDS OF CONFIDENTIALITY WILL BE SATISFIED.

THE RATIOS ARE THE ITEMS LISTED BELOW DIVIDED BY THE TOTAL NUMBER OF EMPLOYEES (OF ALL TYPES) IN YOUR FIRM. SO FOR EXAMPLE, RATIO(a) WOULD BE THE REPLACEMENT/INSURED VALUE OF CAPITAL PER EMPLOYEE.

Do NOT use these coding blocks

- |                                                   |                  |                      |       |
|---------------------------------------------------|------------------|----------------------|-------|
| (a) Replacement/insured value of capital.....     | to nearest R1000 | <input type="text"/> | 56-58 |
| (b) Book value of capital.....                    | to nearest R1000 | <input type="text"/> | 59-61 |
| (c) Annual value of output.....                   | to nearest R1000 | <input type="text"/> | 62-64 |
| (d) Annual cost of material inputs.....           | to nearest R1000 | <input type="text"/> | 65-67 |
| (e) Annual expenditure on labour (all types)..... | to nearest R100  | <input type="text"/> | 68-70 |
| (f) Annual cost of administrative overheads.....  | to nearest R100  | <input type="text"/> | 71-73 |

DEFINITIONS:

- 1 Capital should include all fixed assets.
- 2 Output equals value of annual sales, adjusted for stock changes.
- 3 Inputs equals expenditure on inputs, adjusted for stock changes.
- 4 Administrative overheads refer to the non-labour costs associated with administration and distribution. Excluding interest, rents etc.

THANK YOU

## APPENDIX IV

Average earnings by industry and region, 1980 : Africans (male and female)

Earnings are in Rand per month. Cell numbers in brackets								
M A L E								
Sector	Metropolitan		Towns		Rural	Homelands		Average
	Settled	Single	Settled	Single		Urban	Rural	
Agriculture	54 (65)				27 (1993)		59 (98)	30 (2165)
Mining	184 (38)	123 (891)		132 (877)	152 (59)			129 (1908)
Manufacturing	167 (1305)	173 (559)	140 (205)	168 (619)	75 (90)	162 (107)	161 (225)	163 (3110)
Electricity, water, communication	136 (75)	117 (39)						122 (184)
Building, civil engineering	149 (163)	141 (388)	110 (68)	94 (208)	77 (45)		104 (152)	123 (1051)
Trade employees	159 (683)	134 (196)	107 (256)	92 (164)	86 (90)	178 (36)	102 (122)	132 (1547)
Trade proprietors	222 (34)						133	178 (84)
Transport	173 (225)	147 (199)	133 (147)	109 (43)			148 (76)	151 (741)
Finance	185 (133)	125 (31)						176 (200)
Government	155 (131)	146 (202)	137 (101)	107 (145)			121 (112)	133 (733)
Domestic Service	84 (104)		56 (40)		26 (131)			56 (318)
Other services	181 (233)	121 (93)	144 (120)	76 (98)	140 (99)		178 (227)	154 (899)
Regional averages	161	141	125	130	41	178	132	123
Average wage and average mix	147	123	112	108	94		112	
Mix effect	+14	+18	+13	+22	-53		+20	
Wage effect	+24	0	-11	-15	-29		-11	

(Source: Simkins, 1985 : 15)