A COMPARATIVE ANALYSIS O
MARKET AND MINIMUM WAGE
IN SOUTH AFRICA

VOLUME I

I.B. HIPKIN

A COMPARATIVE ANALYSIS OF MARKET AND MINIMUM WAGES IN SOUTH AFRICA

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ABSTRACT

Minimum wages have been implemented in South Africa for many years. Currently almost two million employees are subject to minimum wage legislation. The many studies of these minimum wages have yielded numerous conclusions about the effectiveness of the industrial council and wage determination systems. The analyses have been hampered by the lack of knowledge of actual market rates. Figures published by the government are usually categorised too broadly for detailed study. Comparisons across industries have had limited use because of the difficulty in obtaining a basis for such comparisons: jobs in one industry cannot necessarily be compared with apparently similar jobs in another because of differences in job content.

This study reviews the literature on economic wage determination and the wage regulation machinery. Job evaluation is discussed as this forms the basis of comparison between jobs across various industry sectors. The Paterson job evaluation system has been used. The minimum wage analyses of the Southern Africa Labour and Development Research Unit have provided the minimum wage data for South Africa's industrial council agreements and wage board determinations. A national salary survey has been the source of actual market rates. Comparisons have been made on the basis of job evaluation grade, ranging from unskilled levels to skilled (artisan) level, for the period 1978 to 1983. The comparative analysis covers several

industry sectors and assesses how the different levels of actual and minimum wages have varied over this period.

The findings indicate that there has been greater upward pressure on both actual and minimum wages at the lower levels, resulting in larger increases in real terms than is the case at the upper semi-skilled and skilled categories. Economic performance and employment have had a limited affect on wage rates because these have continued to rise, in spite ofadverse economic conditions and large scale unemployment. The divergence between actual and minimum wages decreases with a progression from unskilled to skilled workers. The study also shows that the gradients (or differentials) between job grades decrease from 1978 to 1983 in both the market and the minimum rates, although the wage board figures are considerably lower than the salary survey and industrial council rates.

Actual and minimum wages show many similar characteristics, but the study does not accept that minimum wages are influential in determining actual rates. There are many other factors, such as economic conditions, trade unions (whose influence spread during the period under consideration), and socio-political pressures, which also appear to have affected wages.

PREFACE

Much analysis has been done of the minimum wages laid down by South Africa's industrial council agreements and wage board determinations, yet researchers have had little access to the actual wages paid to individuals. The main source of actual wages has always been the figures produced in government publications such as the Quarterly Bulletin of Statistics, Reserve Bank Quarterly Bulletin, and so on, but these sources have severe limitations largely because of their aggregation of a wide diversity of figures.

The author was intimately involved with a commercial salary survey for several years, and access to such information provided a unique source of actual wage data. The confidentiality of such data prevented both the publication of individual organisations' wage rates. A limited number of industries has been chosen with data for the period 1978 to 1983 in order to compare the actual wage rates (as reflected in the salary survey) and the industrial council and wage board minima, and to assess the influence of minimum wages on actual rates.

The bases of this study have been the salary surveys published by the P-E Consulting Group and the minimum wage analyses produced by the Southern Africa Labour Development and Research Unit (Saldru). The author is indebted to these two sources, without which the study would not have been possible.

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I.B. HIPKIN

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CHAPTER 1

THE NATURE OF THE STUDY

1. INTRODUCTION

The theory of wage determination is a vast topic. There are innumerable forces which affect the level of payment made to individuals. Wages should be both consistent within an organisation and at the same time externally competitive. Internal consistency must take into account all structural elements of pay as well as the motivational and reward aspects. External competition is a function of economic forces and pressures affecting the question of equity within society at large.

This study addresses a small part of the total system of wage determination: an analysis of market and minimum wages in the South African context for certain selected industry sectors. It is essentially a comparison of market wages, as presented in a national salary survey, with the minimum wages laid down by industrial council agreements and wage board determinations. These measurements of wage rates are the result of the many elements whose interaction ultimately determines the wages paid in South Africa. In discussing the differences in market and minimum rates, explanations are sought in the fields of labour economics, trade unions, the political situation, government legislation and job

evaluation. There is little evidence of a formal link between these issues, in which case there would be an element of structural consistency in wage levels. This leads Dunlop (1966: 6) to suggest that "it is not satisfactory to treat wage determination in terms of a single rate ... wage theory must operate within the concept of a wage structure".

2. BACKGROUND TO THE STUDY

The Survey of Race Relations in South Africa (1983: 124, 186) indicates that in 1982 over 570 000 employees were subject to wage board determinations, and that over 1,2 million employees were covered by industrial councils. The 1983 South African Salary Survey claims that its participants employ over one million people. There have been various analyses (such as the analysis of minimum wages by the South African Labour and Development Research Unit, Saldru) of minimum wages in order to detect trends in these minimum wages. Actual market rates are generally not available (apart from global, government published figures), so comparative relationships have not been identified. This study attempts to provide these market rates and to compare the trends in market wages with those evident in minimum wages.

In South African wage negotiations, management may have access to salary surveys, but these are specifically denied to unions. This relative advantage on the part of management may give them useful

information for negotiation purposes in that management potentially has greater knowledge of wage rates than do the unions. The extent to which salary surveys are used by management in this situation is not known. It is therefore pertinent to ask to what extent wage negotiations are influenced by economic forces of supply and demand, and then further affected by knowledge of market conditions on the part of management.

Job evaluation systems form the basis of wage structuring, but it would appear from numerous inconsistencies in the relationships between minimum wage rates, that many negotiations are concluded without specific reference to the mechanisms involved in salary structuring.

3. OBJECTIVES OF THIS RESEARCH

The objectives of this research are:

- to study the labour economic theory relevant to wage determination in order to provide the background necessary for interpreting the results of the comparative analysis of market and minimum wage rates
- to outline the background to the industrial councils and wage boards

- to discuss the job evaluation systems currently used in South Africa for the wage earner level, since job evaluation provides the mechanism for this comparison of market and minimum wages

- to present the results of the analysis of market rates, derived from the salary surveys, and the minimum rates taken from Saldru's analyses of industrial council agreements and wage board determinations

- to discuss these results in order to identify trends and seek similarities and differences in the variation of the market and minimum rates by job evaluation grade and over time.

4. THE RESEARCH APPROACH AND METHODOLOGY

This study follows the traditional research approach, outlined by Bailey (1978: 4):

- choosing the research problem and stating the hypothesis
- formulating the research design
- gathering the data
- coding and analysing the data
- interpreting the results so as to test the hypothesis.

In terms of the research process adapted from Wallace, and presented by the Open University (1979: 15), the study has followed the deductive procedure by beginning with theories, proceeding to a

specific hypothesis and then involving the testing of this hypothesis by observations and analysis.

The research problem relates to the relationship between actual and minimum wages. The body of labour economic theory which addresses wage determination is considerable and studies have been done on the effects of minimum wages. The Open University (1979: 16) states that "Hypotheses are derived from research problems and questions, from bodies of theory already in existence, and from empirically observed regularities". This is precisely the derivation of the hypothesis for this study. Arising from the relationship between actual and minimum wages, the theory applicable to wage determination, and the available information regarding minimum wages, the hypothesis for the study is:

> Are minimum wages influential in determining market wages?

The research design involved selecting the sources of data, the choice of industry sector, and formulating the basis of comparison between two different sets of figures. The control of extraneous factors is considered essential (Bailey, 1978: 7) in order to prevent interference with a study. In this study, extraneous factors are central to the whole issue in that wages are affected by so many intervening variables. Control of such variables would be dependent on the research paradigm with its set of concepts and assumptions.

The data were gathered from two sources: the market rates were extracted from the salary surveys of the P-E Consulting Group; the minimum wages were taken from Saldru's minimum wage analyses of industrial council agreements and wage board determinations. The assumptions and limitations are summarised in the next section.

The data coding and analysis consisted of grading the job positions in each source of data (by job evaluation grade) and comparing the two sets of results.

The interpretation of the results relies on tabular and graphical presentations of the data; further, two simple analyses are used: the divergence between market and minimum rates, and the gradients over time for each set of pay curves. The differences evident in the industrial council and wage board figures mean that the hypothesis must be tested separately for the two sets of minimum wage data.

The above methodology has been replicated for each of the following industry sectors:

* Iron and Steel
* Chemical
* Paper and Pulp
* Printing.

5. LIMITATIONS AND KEY ASSUMPTIONS

The limitations and key assumptions are considered in detail in the following chapters. They relate to the reliability and comparability of the data and are summarised below:

- It has been assumed that the salary survey figures represent market rates. It will be seen that salary survey rates may be rather higher than true market wages because participants in salary surveys are likely to be those organisations that are in a position to pay higher than average wages.

- Despite the problems associated with all job evaluation systems, market and minimum wages have been compared by job evaluation grade. Positions have been graded according to the Paterson system of job evaluation.

- It is not possible to isolate from salary survey participants the wages of only those organisations subject to minimum wage legislation. The market figures thus contain wages from both organisations that are bound by industrial council agreements or wage board determination, and also those party to neither.

  It will be seen later that this is important because the salary surveys do not permit the isolation of market wage universes which can be compared specifically with industrial council rates or wage board figures.

- The study has been limited to unskilled workers, semi-skilled workers and artisans, because these levels were considered the most important and also because there are few workers subject to minimum wage legislation who will be found in higher grades.

- The period 1978 to 1983 was chosen because before 1978 the salary surveys did not have a useful industry sector breakdown; when the study commenced, the Saldru figures were only available until 1983.

- The industry sectors chosen were those where reliable salary survey data were available throughout the six year period under consideration, and also where the industrial council and wage board figures extended across the unskilled, semi-skilled and artisan levels.

6. CONTENTS OF THE STUDY

The seven chapters cover the following topics:

Chapter 1 - Introduction

Introduction to the study, the objectives and limitations.

Chapter 2 - Labour Economic Theory

Classical, marginal and Marxist interpretations of wage theory

Wage determination under collective bargaining

Human capital theory

The economics of minimum wages.

Chapter 3 - Wage Regulation Machinery in South Africa

Background and details of the Wage Act and the Industrial Conciliation Act

The wage debate considering the wage board's effectiveness.

The Black Labour Relations Amendment Act (1981)

Chapter 4 - Overview of Job Evaluation and Salary Structuring in South Africa

Discussion of systems used at the lower levels in South Africa

Details of Castellion and Paterson methods

Wage structuring

Salary surveys in South Africa.

Chapter 5 - Analysis of Market and Minimum Wages

Description of sources of data

Details of positions selected and graded for comparison

Calculation of wage rates

Data representation

Methods of analysis

Chapter 6 - Discussion of Findings

General comments

Market and minimum wages by grade over time for each sector

Divergences

Gradients over time

Comparison of male and female labourers' wages.

Chapter 7 - Conclusion

Discussion of hypothesis related to industrial council wages and wage board determinations

Areas of future research.

CHAPTER 2

LABOUR ECONOMIC THEORY IN WAGE DETERMINATION

1. INTRODUCTION

Basic labour economic theories use a supply and demand model to explain wages and employment levels. The precise meaning of the term 'wages' has received attention in the literature since this forms the very basis of such a model. Whatever their constituent factors, wages are just one of the aspects affecting employment. These initial models are based on marginal productivity theory, with trade unions excluded. When collective bargaining is introduced, Brockier (in Dunlop, 1966: 136) maintains that there is a general tendency to provide a purely economic explanation of trade union behaviour in order to preserve the homogeneity of wage theory; this then leads to the maximisation of a certain monetary value. The introduction of collective bargaining broadens the arguments, to the extent, for example, of constructing a model which

> "views a capitalist economy not as a system for allocating resources, but as a way of organising production which involves a particular set of power relations between its members" (Osborne, 1984).

Economic theories of wages abound, corroborating and conflicting. Agreement is often not reached on the essential assumptions, which

may well be based on philosophical and political considerations. However, Cartter (1959: 39) admonishes and exhorts:

> "To approach any theory ... demanding that all appropriate assumptions be precisely and invariably true, is to deny the existence of any meaningful generalisations."

Dunlop (1966: 11) warns of the danger of becoming less and less satisfied with existing theoretical systems.

> "Part of the current dissatisfaction with wage theory arises from ever increasing factual knowledge of wage rates and the labour market. The new danger ... is that we shall be so weighted down and made timid by unique facts and complexity that we fail to discern boldly the general relationships."

Accepting the goal of such theories as a search for the ultimate explanation of the wage determination phenomenon, does not detract from the general observation that most theories only provide the causes that govern wages; they do not detail an all-embracing process of wage determination by considering all aspects of the labour market.

The labour market can be seen from several points of view. This is illustrated by Corina (1972: 4-5) who proposes that

> "an arbitrary but simple typology of 'labour market' models suggests four main categories which in the literature imperceptibly merge one into the other.
>
> (a) The labour market viewed as a straightforward extension of more general market theories.

(b) The labour market viewed as a special sub-case, nevertheless, in principle explicable by orthodox market behaviour analysis.

(c) The labour market conceived as an atypical form calling for special analytical techniques and the specific introduction of 'social determinants' as explanatory variables or constraints. This category embraces two chief variants - at one extreme, these sociological determinants may enter the model as specific exogenous forces and at the other extreme as specific variables contained within the system itself.

(d) The residual category ad hoc economic models of particular labour market processes, ... exclusively sociological models, etc."

In later discussions, it will be seen that Corina's third typology largely reflects the nature of the labour market applicable to this discussion.

The Marxists and neoclassical theorists have differing ideas on unemployment, which in any event must be seen from a short-run and long-term viewpoint. Authoritative texts propounding the neoclassical theories do so without reference to Marx; profit maximisation to the exclusion of all consequential aspects is considered an inviolate goal. Human capital theory has been presented by some marginalist economists as an answer to the Marxist doctrines that

"all capital is merely an embodiment of labour inputs, which implies that different levels of skill represent different inputs of labour. The human capital theory, on the other hand, considers different levels of skill to be due to different capital inputs" (Griffiths and Jones, 1980: 117).

This chapter considers some of the theories which have sought to explain wage determination.

2. THE WAGE RATE

In the South African context there is a broad distinction between wages and salaries, in that wages may be calculated on an hourly basis and paid weekly, whereas salaries are paid monthly. The distinction is not significant so the term 'wages' will be used.

A term that is used in the literature is the "unit of labour". In Adam Smith's Wealth of Nations the unit of labour is defined as being an hour's work by an average unskilled labourer. Cartter and Marshall (1976: 108) maintain that the concept is

> "the simplest common denominator ... (providing) a yardstick by which comparisons can be made in different periods of time, or at the same time in different parts of the world".

Further, they state that the unit of labour concept is essential as a homogeneous unit which is used for drawing supply and demand curves for labour.

The wage rate is "an abstraction of a unit of labour" (Cartter and Marshall, 1976: 108), and its precise meaning is important particularly since it is not synonomous with income. The latter includes

> "earnings from work performed plus other sorts of income such as fringe benefits, dividends and interest, rents, gifts and other payments received during the period under consideration" (Ray, 1971: 206).

Ray continues (1971: 206):

> "Income in most economic models is the relevant economic concept which serves the function of allocating labour to various sectors of activity, to different occupations and to different geographic areas. This allocation function is achieved through the working of the labour market."

The problem in using the concept of income is finding an apposite definition of the term that will consistently embrace generally accepted earnings components which are commonly found in published data. The monetary aspect of income can be dimensioned by a precise definition. The problem arises with the non-monetary elements.

In spite of these issues, the monetary elements of income are generally addressed in economic analysis. More specifically, a basic wage rate (in monetary units per specific time period) is used as a generic term for analytical purposes, encompassing all workers regardless of skills' levels, education, training and so on. The wage rate does not discriminate between basic earnings and additional earnings, such as overtime, or danger pay allowances. It would be of interest if forces could be isolated which individually determine basic wages as well as total earnings and take-home pay.

However, consistency precludes the use of other measures of wages, more meaningful to the individual, such as take-home pay and gross pay. One concept that is used is that of real wages, but it is based on the basic wage rate discussed above. Ehrenberg and Smith (1982: 19) define real wages as "nominal wages divided by some index of prices" and express real wages as an index number.

In this study basic pay is used, exclusive of all bonuses, commissions, incentives and all non-monetary elements. The study therefore does not address the concept of income which is used in several economic theories. At the level of worker under consideration, the non-basic elements of pay could provide an additional 30% to the cost of employment of an individual.

3. THE DEMAND AND SUPPLY OF LABOUR WITHOUT COLLECTIVE BARGAINING

In tracing the heritage of wage theory, Dunlop (1966) sees wage theory as being dependent on four factors:

- economic developments
- wage-setting determinants
- contemporary economic theory
- contemporary policy issues.

These four points emphasise that different approaches (radically different in some instances) have been proposed depending on the circumstances of the period under consideration.

The Classical Period, ending in about 1870, was concerned with the distribution of rents, profits and wages. Dunlop (1966: 5) quotes Richards as stating "To determine the laws which regulate this distribution, is the principal problem in Political Economy". The theory of wages is thus one of the key issues as workers' wages are important in determining profits which are accumulated by the capitalist. Rent is excluded as a factor in the pricing process. The significant relationship is between capital and labour. (Although Dunlop makes scant reference to Marx, it is at this point that Marxist economics starts. This is discussed later.)

A theoretical analysis of the theory of income distribution is concerned, inter alia, with factor pricing, which in turn requires a theory of supply and demand for factors. The supply and demand for factors are also central in the theory of marginal productivity. The theory of supply and demand can thus form a common base for two widely differing theories.

4. BASIC ASSUMPTIONS

At this stage it is as well to state a fairly generally accepted set of assumptions used to describe a perfectly competitive labour

market. Cartter and Marshall (1976: 164) provide assumptions for the supply side and the demand side of the market.

On the supply side:

- workers have full and perfect knowledge of the market, including information on opportunities available and wage rates;
- workers are entirely rational, and respond to differences in rates of return (including wages and non-cash benefits);
- workers are perfectly mobile;
- labour is not organised, and each labourer makes his own decisions on accepting jobs and wages offered.

On the demand side:

- employers have full and perfect information of the market, including information on wage rates paid by other employers;
- employers are rational and attempt to maximise profits;
- each employer represents a small enough share of the total demand for labour that this decision will not influence the market as a whole;
- employers act individually, and not in concert, in determining their wage and employment levels.

That the practical validity of each assumption can be questioned is not an issue at this stage. Certain assumptions are relaxed, depending on which aspect of supply and demand is being studied. Cartter and Marshall do not explain what they mean by 'rational' in the above assumption, but presumably they refer to profit maximisation on the part of employers and the utility of leisure and wage maximisation by employees. It should be noted that employers and employees in reality differ from those cited in the assumptions in degree rather than in kind. For example, as long as a sufficient minority of employees is informed and mobile, then the assumed conditions may be fulfilled. There must be another assumption that the factors of production are perfectly malleable, or that there exists an infinite number of employers with different factors of production. One issue not specifically stated in the assumptions is the dynamic state of the real market. The equilibrium of wages and employment postulated by the intersection of a supply and demand curve may not occur in reality because conditions are not static for long enough to enable this to occur.

5. THE DEMAND FOR LABOUR

The demand for a factor is a derived demand, and

> "the total demand for a factor will be the sum of the demands for it in every activity in which it is used" (Lipsey and Steiner, 1981: 330).

The derivation of a model for the demand for labour generally requires four initial assumptions, which are modified or dropped as the model progressively becomes more complex:

- employers seek profit maximisation;
- firms employ two homogeneous factors of production - labour and capital;
- labour is considered to be a variable cost; the costs of hiring, training and fringe benefits are ignored;
- the market is competitive.

Inherent in these assumptions is that capital is malleable in that capital allocation is such that it can provide different levels of employment or a smooth capital-labour substitution. The theory differentiates between short- and long-term demand for labour, the basic yet far-reaching difference being that labour is the only variable in the short-term, whereas both labour and capital vary in the long-term. Short-term analysis, on the basis of profit maximisation has two equivalent expressions of the firm's demand for labour:

- the downward-sloping part of the marginal product of labour schedule;
- the downward-sloping part of the marginal revenue product of labour schedule.

In the long-term, the potential change in capital employment introduces two effects which can result in a change of wages affecting the employment of labour: the scale effect and the substitution effect. The scale effect is explained by studying the effect an increase of wages has on the profit maximising equilibrium situation:

marginal revenue = marginal cost of production.

An increase in wages may be countered by reducing production, which in turn can result in a reduction in the employment of capital and labour.

Market demand curves are obtained by the summation of all individual firms' labour demand curves at every wage level. The qualification to this statement, made by Ehrenberg and Smith (1982: 58) is worth noting:

> "If firm demand curves are drawn as a function of the money wages they represent the downward sloping portion of the firms' marginal revenue product curves. In a competitive industry, the price of the product is 'given' to the firm, and thus at the firm level the MRP of labour has imbedded in it a given product price. When aggregating labour demand to the market level, product price can no longer be taken as given, and the aggregation is no longer a simple summation. However, the market demand curves drawn against money wages, like those drawn as a function of real wages, slope downward - which, at this point, is all that is important."

The elasticity of the (downward sloping) factor demand curve for labour is significant since the larger the proportion of total cost

that can be ascribed to payments to the factor, the higher the elasticity. Thus, if wages represent a high proportion of the cost of a commodity, an increase in wages will naturally result in a relatively larger increase in the commodity's price. Skill level, indispensibility and substitutibility of labour will also determine the wage elasticity of demand for labour. If elasticity of demand is greater than 1, a fall in wages will bring about an increase in employment such that the total wage bill will increase; a rise in the wage rate will result in a decrease in the wage bill. The reverse is true if elasticity of demand is less than 1.

6. THE SUPPLY OF LABOUR

The supply of labour is rather different in the short- and long-terms. In the short-term the supply of labour is relatively fixed and as a whole is highly inelastic, but Cartter and Marshall (1976: 191) do state with regard to an individual part of the total labour market that "the smaller the proportion of the total market ..., the more elastic is the supply of labour". The long-term supply of labour is likely to be considerably more elastic than in the short-term.

The individual labour supply schedule may rise or fall after wages have been increased: the worker may perceive that the higher wages enable a certain lifestyle to be maintained with less work, so the labour supply will decrease. This results from the substitution

effects of income and leisure. Alternatively, the increased wages will induce more workers to enter the market, resulting in an increase in the supply of labour. Rothschild (1954: 42) gives a summary of this situation:

> "The preference for leisure at (a) higher level of income will become stronger than the inducement to extra efforts at the higher wage-rate. But this tendency for the labour supply to fall off as wages rise may again be suddenly reversed over a certain range when the wage-rate reaches a level which enables the worker to move ... from one standard to a markedly higher one."

The result is the backward sloping supply schedule.

A summation of all individual supply schedules in order to obtain a total supply schedule, introduces a complication in that even though individual supply schedules fall off at a certain wage level, the total schedule may not. This is because the lowest rates at which individuals are prepared to work will differ, one to another. Rothschild (1954: 46) maintains

> "and while a rise in wage-rates may reduce the supply of labour coming forth from those already working, it will, on the other hand, increase the supply by bringing in workers who did not work at the lower wage rate".

Regarding the supply of factors, Lipsey and Steiner (1981: 337) pose two important economic questions:

- "to what extent do economic forces determine the total supply of a factor to the whole economy?
- to what extent do economic forces determine the supply available to a particular sector of the economy?"

Since the effective supplies of land, labour and natural resources (at national level) are not truly fixed, there must be other constraints on the supply of factors. Lipsey and Steiner (1981: 339 ff.) discuss aspects of these where they are found to be relevant to the theory of income distribution as applied to the economy as a whole and also specifically related to the supply of labour, which may be interpreted as a 'supply of effort', dependent on: population size, the size of the relevant part of the labour force, working hours, tax rates, inflation, unemployment and the fear of poverty, and welfare payments (unemployment benefits).

A further aspect that affects the nature of the supply of labour is the composition of the segmented labour force. This in turn gives rise to wage differentials.

7. SEGMENTATION AND WAGE DIFFERENTIALS

Labour market segmentation is relevant in an analysis of wage determination because it appears that segmentation "results in the failure of the labour market to treat its participants even-handedly, in that it accords significantly different opportunities and rewards to otherwise comparable people" (Ryan in Wilkinson, 1981: 4).

7.1 The Dual Market Concept

Doeringer and Piore (in King, 1980: 107) have identified the well-known labour market segmentation: the internal labour market "governed by administration rules" and the external labour market "of conventional economic theory where pricing, allocating, and training decisions are controlled directly by economic variables". The internal market, which is the primary market, has ports of entry and exit. It is characterised by high wages, good working conditions, promotional prospects, stability and strong unionisation. The secondary market is the opposite, with poor working conditions, employment instability, and so on. Cassim (1982: 2) describes the basic idea behind this dualism, referring to the differences in status and skills of workers:

> "(a) There are two separate labour markets, a primary and secondary sector.
>
> (b) Workers compete within each market, for jobs, wages and employment in general.
>
> (c) Workers in the secondary sector are treated in a more inferior way than those in the primary sector.
>
> (d) Mobility barriers prohibit the movement of workers from the secondary to the primary sector."

Kerr (in King, 1980: 305) explains the operation of the dual market system by considering the internal/external divide:

> "... the internal market has points of contact with the external market rather than interconnections all along the line-up of jobs. Workers inside the market, though they may compete with each other in a limited way, are not in direct competition with persons

> outside. Outside workers compete directly with each other, not with the inside workers, to gain admittance."

This lack of mobility is used by craft unions (according to Kerr (in King, 1980: 309) commenting on the United States' situation) to enable them to adjust the supply of labour to meet demand: "Control over supply is used more to preserve the integrity of the wage rate rather than to create it. The wage rate determines supply more than supply the wage rate." Industrial unions seek rather to "stabilise the demand for labor so that all workers with seniority rights may have assured employment ... Since seniority ties workers to the plant, the industrial union must be more concerned with the effect of a negotiated wage on employment". Kerr concludes: "under both systems of rules, wage rates are less effective in allocating labor than they are in less structured labor markets". Clearly seniority is far more important in the United States as a determinant of status and wages than it is in South Africa.

Cassim (1982: 5) makes the general comment regarding the dual labour market: "In the primary sector wages are not responsive to the forces of supply and demand. Discrimination basically increases the labour force in the secondary sector, thus depressing the wage and giving employers an interest in its continuance." Cassim (1982: 7) discusses several problems and criticisms of the dual labour market approach, such as "its parochial two-sector approach (overemphasising) the benefits of employment with the primary labour market". The theory does not consider the varying interests of

workers in that labour supply and demand functions differ in different groups. Cassim (1982: 8) quotes Beechey:

> "(the dual labour market) is generally descriptive and taxonomic. This is because it abstracts the question of employer's behaviour in the labour market from an analysis of the labour process, specifically from an analysis of the production forces as they are manifested in technological developments, and of the relations of production as they are embodied (in the) class struggle".

There is a ready application of the dual labour market concept in the South African situation. South Africa is alone in effectively having legislated such a system of two markets, which leads Cassim (1982: 12) to comment: "This means that we have two separate and persistent patterns of employment characteristics which cannot be explained in terms of a unitary labour market".

The dual labour market theory introduces a broad explanation for wage differentials, but this does not specifically address other differentials. Kerr (in Dunlop, 1966: 175) discusses five differentials which give rise to wage differentials:

- interpersonal differentials
- interfirm differentials
- interarea differentials
- interoccupational differentials
- interindustry differentials.

7.2 Interpersonal Differentials (Human Capital Theory)

Regarding interpersonal differentials, Becker (quoted by Ryan in Wilkinson, 1981: 5)

> "insists that the 'market for human capital' (i.e. opportunities to acquire knowledge and skills) is 'extremely segmented', a fact which provides a major source of the inequalities in pay ... Becker, in his analysis of the demand side of the market for 'human capital', treats variation in individual abilities as the predominant source of differentiation in an individual's prospective earning capacity".

Johnson (1973: 110) identifies "the essential notion of human capital (as) that of the choice between alternative income streams". Lydall (1979: 238) believes the theory's "great virtue is that it draws our attention to the naivety of aggregating income distributions across age groups". Yet Lydall continues

> "... the basic models of human capital are built on the assumptions of equal abilities, equal opportunities (including equal rates of interest on personal loans to finance investment in human capital), and above all long-term equilibrium, which implies equal and accurate knowledge of the future effects of current decisions."

The reality is that people have different abilities and many are prevented from choosing the best course of career because of imperfect knowledge and other market constraints. As Sattinger (1980: 20) points out, "Competition tends to make earnings in occupations of equal difficulty correspond to the efficiency of workers".

The acquisition of human capital is affected by the type of training undertaken by the individual, as introduced by Becker (in Rees, 1979: 47). Rees describes the two types of training:

> "General training develops skills of equal value both in the organisation that gives training and elsewhere ... Specific training is training in skills that are of greatest value to the employer who gives the training."

The implications for wage determination are given by Rees (1979: 47) as follows:

> "In the case of specific training, pay during the training period will exceed the employee's net marginal product where this is defined as the trainee's contribution to value added, minus the costs of training ... (In other words), an employer often pays a trainee learning specialised work more than the trainee is presumbly worth ... The excess of wages over marginal product is the employer's investment in training ... For general training, there can be no appreciable wedge between marginal product and wages after the training period, since in a competitive labor market the employee could get wages equal to the full value of marginal product from another employer."

This comment by Rees is interesting because it considers a simultaneous interaction of the human capital theory of wage determination and the marginal product theory.

It is evident that human capital theory fails to distinguish between individual and aggregate industrial demand. It moves the discussion of wages away from one of assessing interpersonal differentials, to one of interoccupational and interindustry differentials. Interpersonal differentials are reduced by pay

structures in an organisation. The exceptions are the differentials between male and female workers, and between White and Black workers. This study analyses the differentials between occupations (levels) and industries, considers the racial differentials in each, and gives fairly broad comparisons between Black male and female workers.

7.3 Interfirm Differentials

Regarding interfirm differentials, Kerr (in Dunlop, 1966: 175) comments:

> "In the absence of unionism, the labour market normally displays a wide dispersion of wage rates for the same type of work among firms operating in the same product and labour markets ... While union policy does not always aim at full uniformity, unionisation is closely associated with increased uniformity."

It is thus to be expected that there will be a degree of dispersion between the wages paid to firms in the same sector under normal market conditions, since workers and employers are not fully informed as to what other firms are paying.

7.4 Interarea Differentials

One of the major forces in reducing differentials is the trade union movement, but this is organised on an industry rather than a geographical basis. The result is that geographical differentials certainly do exist. As with interpersonal differentials, a common

wage structure (within a firm which has a presence in different locations) is likely to reduce interarea differentials.

7.5 Interoccupational Differentials

Kerr (in Dunlop, 1966: 178-179) quotes various explanations for the general narrowing of interoccupational differentials in Western Europe, the United States of America and Australasia:

- Turner considers unions as an important cause of inter-occupational differentials because of their policies to obtain flat increases; their preference is to recruit unskilled members to their ranks; they pursue egalitarian policies to reduce internal strife.

- Knowles and Robertson believe unions have little effect on differentials because they seek to simplify wage structures by aiming for flat increases.

- Reynolds and Samuels maintain that the effect of unions is temporary since their influence spreads from skilled to unskilled levels.

- Fisher and Clark explain reduced differentials by referring to the relative supply of skilled and unskilled workers which has nothing to do with unions.

- Kerr mentions other factors which have been proposed, such as the impact of full employment in raising demand for the unskilled, of mass technology which reduces the level of skill, of egalitarian tendencies generally.

7.6 Interindustry Differentials

Interindustry differentials are in accordance with Marshall's laws of derived demand which Hirsch and Addison (1986: 118) present as stating "that union wage effects should be largest where substitution by firms in production and by consumers in consumption is most difficult", or where the demand for union labour is least elastic. Interindustry differentials may also increase where unions are relatively powerful by virtue of their workers' crucial roles or strategic positions in the economy as a whole. Hirsch and Addison (1986: 134) summarise the (American) literature by stating that wage differentials are largest in construction, and smaller in manufacturing than in nonmanufacturing. They also conclude that union wage differentials by occupation are significantly larger among blue-collar workers than among white-collar workers.

7.7 Wage Drift

Wage drift can also be a factor in wage differentials. Wage drift occurs when earnings (such as take-home pay) increase at a faster rate than basic wages which have been negotiated on a national basis. Where (local) demand for workers with a certain skill

results in their having to be paid above the agreed rate, this will result in an increased differential in relation to wages earned by those whose skills are not in demand. It is important to note that the difference in take-home pay, arising from wage drift, does not reflect a difference in basic pay. In the longer term, the basic pay of those who are in demand may rise faster than other rates, thereby creating an increased differential. Lydall (1968: 5) considers that "wage drift is at least partly a consequence of attempts to impose artificial constraints on the dispersion of earnings". When dealing with the general reduction in differentials, Lydall (1968: 246) comments that "... beyond a certain point, attempts to squeeze differentials are likely to be offset by wage drift". Of course wage drift may also be caused by extensive workplace bargaining which is largely a function of the effectiveness of shop stewards.

8. THE DETERMINATION OF WAGES AND EMPLOYMENT IN MARGINALIST ANALYSIS

Clark stated that under certain conditions of competitive equilibrium and fixed supplies of labour, wages are determined by the marginal product of labour. Marshall maintained that the marginal productivity of labour defines the demand for labour, and further that wages tend to follow the marginal productivity of labour, depending on the wage rate and employment level.

Van den Bogaerde (1974: 133) comments that

> "because the equilibrium wage is determined by the money value of marginal output ... and under perfect competition wage equals the value of average output, this theory is often called the marginal productivity theory. This, however, is a misnomer for marginal productivity only refers to demand."

The supply side of the theory may be addressed by marginal utility of income and marginal utility of leisure which leads van den Bogaerde (1974: 132) to claim that "the individual supply curve of labour can follow any course, depending on the level of income and the preference of the consumer". The apparent irrationality of 'target workers', who want to earn only a fixed amount (with the result that the higher the pay, the less the hours worked), can be explained by considering leisure as a 'consumer good'.

The supply curve for the labour market as a whole can result in several equilibrium wage levels. Van der Bogaerde (1974: 140) concludes:

> "... it can be shown theoretically that there may be inherent disequilibrium on the labour market. This may be advanced as one of the reasons why often limitations are placed on the supply of labour by law or collective agreements referring to the maximum number of hours worked ... and (on) the minimum wages that may be paid."

Van den Bogaerde does not extend his argument to consider the interaction of his explanation for limitations on the supply side with the political reasons for tampering on the part of the authorities.

9. CRITICISMS OF THE THEORY

This section gives some specific criticisms that have been made of the theories of marginal productivity. Also presented are some divergent views on the relationship between wages and employment.

Dunlop (1966: 9) criticises the entire marginal productivity theory:

> "marginal productivity is not a theory of wages, but only a statement of the demand side ... from the outset the supply schedule has been a weak tool",

and again, (1966: 10)

> "Wages tend to measure the marginal productivity of labour, but this is not a theory of wage rate determination. It does not explain particular wages nor the general wage level. The supply side has again substantially collapsed."

The previous section did give an explanation of the derivation of the supply curve for labour.

The criticisms of marginal product theories of wage determination apply particularly in the short-term. Cartter (1954: 39) quotes Hicks as saying "little advantage seems to be gained from the attempt ... to define a short period marginal product ...". Cartter (1954: 40) revealed that

> "employment in a firm is almost completely unresponsive to wage changes ... Demand for products was much more important than the level of wages in determining employment".

Cartter provides no real explanation for this, but concludes (1954: 41) by saying

> "Only in a world of constant productivity, constant prices, constant demand, and constant wages in competitors' firms, would an employer be acting rationally to reduce employment immediately as the result of a wage increase."

The point is that in the short-term labour and capital are largely invariant, so the level of wages does not have an immediate effect on employment.

One common criticism (Hunt and Sherman, 1975: 244) of the marginal product theory is that the marginal product of capital cannot be measured. The radical theory claims that it is not possible to switch purpose-designed capital (or, one could add, specifically trained labour) from one industry to another. In any event machines are not infinitely divisible.

10. AN ANALYSIS OF MARXIAN WAGE DETERMINATION THEORY

It would appear that some influential writers have studiously ignored any meaningful reference to the Marxist economic tradition. The passing allusions of others would indicate that Marxist thinking is no more than a philosophical objection to a largely invincible capitalism. These writers, in the words of Meek (1977: 4) have no fears

> "that free competition might sooner or later breed a new type of monopoly; ... that the process of development might eventually come to an end; ... that a more or less unfettered capitalism might generate chronic unemployment, or severe inflation, or gross disparities in income, or war; ... or that capitalism might at some time or other be replaced by a different type of economic system."

In studying the development of marginal productivity theory as the next step to the theory of distribution, Dunlop (1966: 8) sees two problem areas:

- What are the effects of union action, including strikes, upon the distribution of the national product? and

- Can the existing social order and the functional distribution of income be defended against the Marxist charge of exploitation?

The first question will be addressed in the next section. The following paragraphs consider the second.

Marx's criticism of capitalism which is relevant to this discussion began with his charge that a capitalist system did not permit the development of a worker's potential. The capitalist considers labour as a commodity, a means of production, with wages as another production expense. Marx introduced his labour theory of value since he believed "the exchange value of a commodity was determined by the amount of labour time necessary for its production" (Hunt and Sherman, 1975: 80). It is important to note a fundamental

difference between the neoclassical perception of the wage rate ("The wage rate is ... the prime determinant in the allocation of labour among sectors of the economy and occupations" (Ray, 1971: 208)) and the labour theory of value, which "is not a theory of relative prices or a theory of resource allocation" (Desai, 1974: 4).

In selling his labour power for money, the worker has allowed the capitalist to make a profit, since the value of the labour power was less than the value of the commodity which the labour power produced and which the capitalist sold. Exploitation arose because

> "the average length of the working day exceeded the time necessary for a labourer to produce the value equivalent of his subsistence wage"

(Hunt and Sherman, 1975: 81). Desai (1974: 10) quotes Robinson as defining exploitation in modern economies "as the gap between wage and the marginal product of labour due to monopoly elements".

Marx rejected the justification of a capitalist's right to profits because he was the owner of capital. Marx claims that capitalists believe that their right to profit derives from their dedication to diligence and abstemious behaviour. The capitalist has a vested interest in paying no more than a subsistence wage, because this will ensure what Marx called an "industrial reserve army" of unemployed, which would strive to take up employment at the subsistence wage. The installation of labour saving machinery and other technological developments assists the capitalist in

increasing his output and potential profit provided the consumer demand was sufficient.

Marx's projections of economic cycles and their effects on employment and wages are well known: lack of consumer demand by the market leads to a drop in the production of consumer goods which in turn causes a drop in demand for capital goods; this represents the beginning of a depression. A reduction in capital goods' demand will result in a reduction of employment in this sector, and so a further curtailment of consumer spending because of an overall decrease in the national wage bill. Wages fall further to subsistence level, or below. Marx did not believe in eternal mass unemployment since wages would not fall as fast as output, so supply would ultimately fall below demand, and a recovery would begin. Even when wages did recover, the worker would still be relatively worse off than the capitalist since the capitalist would ensure that his profits would increase faster than wages. The lot of the worker is further aggravated by the division of labour.

The difference between the value of a worker's output and what he is paid represents the extent to which he is exploited. Marxists ask why profit is allowed and why exploitation exists. Part of the answer lies with the concepts of the subsistence wage and the value for labour power. Marx said that in the long term market wages would equal the value of labour power. Labour power is made up of two elements: the physical element and the social or historical element. The former determines what workers must receive as

payment for their labours in order to survive and reproduce. Marx maintained that "a wage equal to the value of labour power is consistent with net population growth only when allowance is made therein for the cultural element" (Hollander, 1984: 141). The cultural element is "governed by the habits under which 'the class of free labourers has been formed'" whereas "the natural element varies 'according to the climatic and other physical conditions of the country; confirming its physiological character'" (Capital I, 1906: 171). Hence, "the value of labour power is determined by the value of the necessities of life habitually required by the average labourer" (Capital I, 1906: 519).

With this understanding of the wage rate and the value of labour power, it is possible to study the effects on the wage rate of the supply and demand for labour.

Supply of labour is naturally related to population. Hollander (1984: 139) believes that Malthus "far from maintaining the inevitability of excessive population growth, insisted upon a reduced birth rate as a means of preventing falling wages" and that Malthus "feared that the required population control would entail severe constraints on personal freedom". Marx considered this a "libel on the human race" (Hollander, 1984: 139). Hunt and Sherman (1975: 248) generalise the radicals' view:

> "Radicals have for the most part rejected population as a factor of primary importance in wage determination because (1) human beings do not react so directly to changes in income (at least, above starvation level)

> and (2) population levels change slowly, whereas wage rates change fairly often and rapidly."

Harvey (in Hollander,1984: 139) considers Marx's failure to consider population and reproduction as one of the Marxian theory's greatest gaps. Harvey continues in a rather derisory way by saying that although "the sociological, demographic and geographic aspects of labour supply are important for any general theory of accumulation", they can be set aside ... considering Marx's primary objective to show "that if misery, poverty and unemployment are found under capitalism, then they have to be interpreted as the product of this mode of production and not attributed to nature".

Of course, it can also be alleged that these criticisms of Marx's 'setting-aside' of the 'sociological, demographic and geographic aspects of labour supply' can be extended to the neo-classical theory which also does not specifically consider them.

On the demand for labour side, the radicals agree with the marginal productivity theory in that "demand for labour is much affected by technological change that may substitute machines for workers" (Hunt and Sherman, 1975: 248). This is considered a useful theory in the long term, but like many other critics of the marginal productivity theory, the radicals find little useful application of the theory in the short term. Hunt and Sherman (1975: 248) believe that the overall demand for goods is the main determinant of labour demand, and consequently

> "when the overall, or aggregate, demand for goods is less than the supply in the market, production declines and workers are unemployed. Unemployment means that capitalists can set lower wages because workers compete for jobs. Unemployment is the strongest factor holding down wages."

It will be seen later that the situation in South Africa is rendered rather more complex by other factors.

11. THE EFFECT OF COLLECTIVE BARGAINING ON WAGE RATE DETERMINATION

The introduction of collective bargaining requires the dropping of the fourth assumption on the supply side: "Labour is not organised". Cartter and Marshall (1936: 241) treat a trade union as a "maximising agent" with the following objectives:

- the union seeks to reflect the desires of its members
- the union aims to satisfy workers' preferences for higher rather than lower incomes
- the union strives to obtain more leisure rather than less leisure for its members, at a given income level
- the union prefers rising membership to falling membership.

In practice this means trying to arrive at a balance for increased wages, increased total employment and increased leisure, without alienation of the union. The introduction of a union does of course introduce bargaining and power relationships:

Ehrenberg and Smith (1982: 338) claim

> "the position and wage elasticity of the labour demand curve are the fundamental market constraints that limit the ability of the unions to accomplish their objectives".

In analysing the effect of demand elasticity, Ehrenberg and Smith (1982: 339) state

> "other things equal, the more rapidly the labour demand curve is shifting out (in) the smaller (larger) will be the reduction in employment or the reduction in the rate of growth of employment that will be associated with any given increase in wage. Hence, the unions' ability to raise their members' wages will be strongest in rapidly growing industries with inelastic labour-demand curves."

Unions are generally unable to increase the demand for their members' labour but they will attempt to reduce the wage elasticity of labour demand. Unions' problems are compounded in the long term since the wage elasticity of demand is more elastic in the long term. This arises because labour saving technologies can be introduced in the long term; alternative sources of labour can be obtained in the long term; and competition in the long term may be more serious than in the short term. Collective bargaining is not the only way in which unions attempt to achieve their objectives. Ehrenberg and Smith (1982) mention unions' pressures for import controls, minimum wages (which are partly investigated as an attempt to increase employment costs of unskilled workers - apart from the humanitarian issues), resistance to technological advancements, and

so on. It is not entirely true to say that unions always resist technological advancements: through collective bargaining, unions do try to ensure that new investment does not displace labour. Their approach is not against new technology, but rather, they seek to prevent it from leaving their members worse off than before.

The analogy of a trade union as a monopolistic seller of labour has limited use in an analysis of wage determination because the union has no information on what is effectively an opportunity cost of the worker. "The worker foregoes alternative jobs or additional leisure to offer his services to any particular employer" (Cartter and Marshall, 1976: 243). The monopolistic seller concept also assumes a closed shop and control over the supply of labour. Neither of these situations occurs at the unskilled and semi-skilled levels.

If consensus between employers and unions is not reached, the courses open are a strike by the union and a lock-out by the employer. Ehrenberg and Smith (1982: 343) have identified four points which a union must consider in the negotiation process:

- the firm's profitability in terms of the market's ability to withstand an increase in price
- the ability of the union to impose costs on the firm, which depends on whether goods can be stockpiled by the firm in anticipation of the strike, and whether non-union supervisors can keep the operation going

- the ability of the firm to withstand a strike from a financial point of view

- the ability of the union to withstand a strike in terms of its financial resources.

Closely related to these factors are bargaining power and attitudes. These are considered by Cartter and Marshall (1976: 282) who define bargaining power as: "one's ability to induce an opponent to agree on one's own terms".

Cartter and Marshall emphasise that bilateral negotiations are still subject to economic constraints, and agreement with unions "does not obviate the forces of the market" (1976: 285) and they quote Rees (1976: 285) in stating that unionisation

> "does not lead to the replacement of economic by political forces in the setting of wages; rather the economic forces are filtering through political groupings, which can delay or redirect them but not reverse their flow".

Collective bargaining does not necessarily lessen the importance of market forces; although it adds an additional dimension to the process of wage determination.

The interaction of market forces with wage agreements takes place at many levels. Cartter and Marshall (1976: 286, 287) give three main areas:

- at industry level, in that both employers and unions are aware of current wages being paid in their industry

- local labour market which covers all industries in the area

- competition among unions for leadership and prestige.

Collective bargaining models and some of the economic theories would appear to have an underlying premise that trade unions do raise the wages of the members to higher levels than for nonunion members.

Empirical studies are confronted with the problem of isolating similar organisations with and without unions. The assumption is usually made that negotiated wages do not influence the wages of nonunion employees. This assumption is not necessarily valid because the general level of wages in one (unionised) sector, may have a bearing on the wages in another (non-unionised) sector.

Studies usually support the view that "unions do achieve some relative wage advantage for their members" (Cartter and Marshall, 1976: 302), although they quote a study by Rees which suggests that collective bargaining may actually have retarded the upward movement of wages in the postwar period. The view that unions assist in raising wage levels is supported by an investigation by Ross and Goldner (also mentioned by Cartter (1976: 304)) which revealed that "industries which were becoming most heavily organised were those experiencing the largest wage increases", although this type of

finding is qualified by saying that the impact of unions on wage rates is more noticeable during recessionary times. This is partially because during times of prosperity and improving productivity, market forces would ensure that wages rise in any event.

Hamermesh (1970) has questioned the validity of some studies that seek to explain the effectiveness of unions on wage determination and employment. One of his main concerns is the use of aggregate or industry data on hourly earnings. Hamermesh (1970: 502) states

> "hourly earnings are an average of wage rates for different skill classes weighted by employment in each of these classes. The skill mix may change cyclically, for a firm may increase the proportion of unskilled workers as output approaches capacity. This employment effect would give a downward bias to estimates of the effects of the level of unemployment on changes in wages."

In effect the change in wages has nothing to do with unions if demand for the commodity produced requires an increase in the labour force. The problem is one of isolating the true effects of unions. When considering the effect of collective bargaining on the relationship between wages and unemployment, Hamermesh stresses the importance of taking into account the availability of labour as it affects the behaviour of wage negotiators. He believes that collective bargaining models should predict some effect of unemployment levels on wage rates "but this effect works through the relation of demand and bargaining power rather than through flows of labour" (1970: 504).

Mellow (1983) has investigated the relationship between unions and size of organisation and found that unions are more likely to be found in larger organisations. Mellow (1983: 254) quotes Reynolds: "large plant size, a high concentration ratio and strong unionisation tend to go together". Mellow also found that wages were indeed higher in larger organisations, but notes (1983: 260)

> "a range of arguments, including substantial fixed costs associated with organisational activities, the structure of industries with large employers, and the nature of the work setting, would imply that the proportion of workers who are union members increases with employer size. Taken together, these two observations suggest that understanding how employer size and unionism interact in the wage determination process is important in attempting to isolate the wage effect of either factor."

It will be seen that the organisations participating in salary surveys tend to be the larger organisations, so it is to be expected that their wages will be higher than non-participating companies, and that unionisation will be stronger among the larger participating organisations.

There are other factors that interact to determine wages. For example, Turner and Jackson (1970) have sought to assess the relative importance of economic and non-economic factors in determining wages. They pose the question (1970: 827):

> "to what extent (do) wage and salary differentials of various kinds, the distribution of earned income, or even the general distribution of income between factors of production, depend upon 'non-market' conditions (including such things as trade union

> organisation, the institutional apparatus of wage and income determination, and social or political pressures) as opposed to the 'market' conditions with which economic analysis is assumed largely to deal?"

Their study covers advanced market economies, planned economies and less developed economies. Turner and Jackson say that in less developed economies, with their massive surplus of unorganised labour, real wages do not rise with productivity, but are held down until increasing profits are invested, and this investment will then absorb the labour surplus which caused the low wages originally. (This is the dual market situation.) Turner and Jackson found that in spite of a lack of trade union activity in poor and planned economies, all economies fit into the "wage-leadership/cost-inflation" concept (Turner and Jackson, 1970: 839):

- where productivity is rising, firms find it easier to concede to demands for wage increases than to reduce prices
- wage increases in one industry or trade tend to stimulate pressures for similar increases in other branches
- when wage increases exceed productivity growth, the difference is usually passed on by employers to prices.

Although unions may not be as well developed in poor economies, there are nevertheless pressure-groups (such as urban employees, soldiers) who effectively perform the same function as a union in that they represent a concentrated political force, similar to a union.

In an investigation into changes and trends in coverage and non-coverage of occupational groups, Gregory and Thomson (1981) highlight the prevalence of national and decentralised bargaining in the United Kingdom. One interesting finding is that in a period where trade union power was "popularly assumed to have increased" (1981: 32), the relative strength of unionism in one industry rather than another "has certain intuitive appeal (but) it has no basis for other support than that it happens to fit the figures" (1981: 32). Gregory and Thomson did find that

> "the covered (unionised) sector tends to pay a wage premium and maintain a relatively stable wage against fluctuations in demand, while in the other (non-covered sector) wages are more responsive to immediate market pressures" (1981: 32).

Volatile market pressures will affect expectations in the bargaining situation. Kaufman and Woglom (1984) feel that many bargaining models ignore union expectations when negotiations take place regarding wage agreements:

> "In addition to the effect of inflationary expectations on union wages, we find evidence that union wages respond to changes in labour market conditions which are expected to occur during the life of the contract" (1984: 418).

Their empirical studies enable them to claim (1984: 431) that "direct measures of both labour market and inflationary expectations are significant determinants of union wages".

The Marxist approach to a study of collective bargaining sees the role of the union as one of fighting a rearguard action. Hollander (1984: 146) quotes Marx as saying "trade unions can only check but cannot prevent the downward trend". This downward trend stems from Marx's belief that capitalists have no intention of increasing wages, but rather, they will strive to push the average standard of wages, or the value of labour to its minimum limit.

The evidence concerning the effectiveness of unions in increasing wages is inconclusive. The previous sections indicate that there may be some short-term effects, but the inability to isolate extraneous variables prevents a definite answer in the long-term. In this study, covering the period 1978 to 1983, the influence of (Black) trade unions on the industrial council system and on market wages generally will be investigated.

12. MINIMUM WAGES

The International Labour Convention defines the term 'minimum wage fixing' as "the fixing of a rate or rates of minimum wages by a process invoking the authority of the State" (International Labour Office, 1968: 5). The ILO sees four main purposes for introducing minimum wage fixing:

- To eliminate very low wages and bad conditions of employment generally, in order to enable

> "the workers concerned to maintain a suitable standard of living. For this purpose regard should primarily be had to the rates of wage being paid for similar work in trades where the workers are adequately organised and have concluded effective collective agreements, or ... to the general level of wages prevailing in the country or in the particular locality" (ILO, 1968).

- To exert upward pressure on the general level of wages. This purpose arises from the argument that the general level of wages is too low, so fixing minimum wages in relation to the general wage level is inadequate.

- To eliminate unfair competition in that competition in matters of price, design and quality of product is the prerogative of producers, but that competition at the expense of workers is unacceptable.

- To promote and encourage a general policy aimed at rapid growth and equitable distribution of national income.

A minimum wage is specified in nominal terms, and not linked directly to other wages, or the consumer (retail) price index. It is therefore incumbent on the authorities to adjust the minimum wage at regular intervals. It will be seen that this has not been the case with wage board determinations in South Africa.

Rees (1979: 64) makes the point that "the formal analysis of a wage increase imposed on a competitive market by the formation of an

effective trade union is, of course, the same as that for a legal minimum wage". There is thus nothing new in the analysis. In explaining the effects of minimum wages, Ehrenberg and Smith (1982: 71) suggest that the introduction of minimum wage regulations has the immediate effect of reducing employment but "no downward pressure is exerted on the money wage because by law the wage cannot be reduced below the nominal minimum". In stimulating the economy to reduce unemployment, governments are then confronted by an increase in prices, so effectively the minimum wage, in real terms, falls. Employment then increases to its initial equilibrium level, but the entire price structure of the economy has increased. Ehrenberg and Smith (1982: 71) summarise

> "What results then is a cycle of minimum wage increases inducing short-run employment losses, inflation reducing the real value of the minimum wage and restoring employment, and then (government) increasing the nominal minimum and starting the process all over."

The above basic description of the effect of minimum wages is simplistic in that it ignores several factors:

- No account is made of an organisation's not complying with minimum wage criteria.

- It assumes that all else remains constant, including demand for labour, which may well occur in an expanding economy. A shift to the right of the demand curve would result in an increase in employment, so it may be tempting to conclude that employment is

not adversely affected. However, as Ehrenberg and Smith (1982: 72) comment, the point to consider is "how did the actual employment level in the first period compare to the level that would have prevailed in the absence of the increase in the minimum wage?" It is thus clear that employment will be reduced. It should be noted that the question of wage elasticity of demand again enters into the equation. If it is less than one, the total wage bill will increase and could therefore increase aggregate demand, thereby increasing total employment. On the other hand, if it is greater than one, the total wage bill falls thereby reducing aggregate demand for consumer goods.

Ehrenberg and Smith (1982: 73) have also developed a model which discusses the situation where minimum wage legislation covers part of the workforce. If a minimum wage is introduced that exceeds the 'pre-minimum' wage, some workers will indeed receive this increased wage (in the 'covered' sector), but some workers will have to leave the covered sector for the uncovered sector, where the increased supply of workers to the uncovered sector will result in a reduction of uncovered wages. This assumes that unemployment does not exist in uncovered sectors. Employment in both sectors as a whole may not be affected, but there will be winners and losers in terms of wages. Ehrenberg and Smith (1982: 74) comment: "The gains won by some groups must be weighed against the losses suffered by other groups before an unambiguous conclusion can be reached".

Meade (1982: 15) believes that the aim of minimum wage legislation should be specified because if such legislation

> "could be so reformed that (its) primary function was to promote employment, the rate of pay could not simultaneously be used as a main instrument to provide a socially desirable distribution of income. That is not to say that every wage set to promote employment would always have undesirable distributional effects. On the contrary, the two desiderata would often coincide ... But this coincidence of desiderata would not always be the case."

Meade does not state under what conditions this coincidence would occur.

When minimum wages are introduced and employers feel bound to reduce their labour force in order to keep their wage bill constant, these employers are effectively rationing the jobs that they still offer. Leffler (in Rottenberg (ed.), 1981: 533) believes that this rationing process can produce "competitive equilibrium under a minimum wage constraint (which) can have higher employment and higher consumers' surplus for the low-wage workers than equilibrium in the absence of wage constraint".

In considering the aim of minimum wage legislation, Kaufman and Foran (1971: 510) pose the question:

> "What is the combined effect of the wage change and the employment change? ... This question really breaks down into two questions:
>
> (1) What percentage of workers lose their jobs? and
>
> (2) How does the increased unemployment compare to the increase in wages?

> The first is the traditional query, the second is relevant to the total wage bill, or labor's share. In the short run both answers are given by the elasticities of the relevant demand curves for labour."

Meyer and Wise (1983: 67) addressed the same questions in a study of employment and earnings of youth ("How large is the employment effect, and how large is the earnings effect?") to conclude that had there been no minimum wage legislation, employment would have been between 2% and 7% higher (for different age groups), and they found virtually no earnings effect.

This type of result must lead onto the social implications of minimum wage legislation. Griffiths and Jones (1980: 263) present Katzen's case for wage minimum (Katzen refers to the early 1960s in South Africa):

- wages should be increased since they were below the minimum living levels

- wage increases would be offset by productivity increases due to better nutrition

- wage increases could be achieved together with increases in employment because the labour market is monopsonistic

- wage increases can result in a redistribution of income to the poorer sectors of the economy, which in turn will lead to higher overall consumption in the economy.

Both Ehrenberg and Smith and Griffiths and Jones refute these reasons. The main social problem caused by wage minima is that those in employment are better off, but those unemployed will become worse off as prices rise. This assumes no or poor social security services. It seems that a state that introduces serious minimum wage legislation should also introduce substantial social welfare measures to provide for the unemployed. South Africa makes no such provision. Malnutrition is seen to be a problem of poor education and customs, as well as low wages. Katzen's fourth point is only valid if overall employment increases.

Ehrenberg and Smith (1982: 73) express surprise that most studies on minimum wages are concerned more with their effect on employment than whether they reduce the incidence of poverty. Tylecote (1975: 69) has identified

> "a body of evidence (which shows) that in the United Kingdom industry-wide agreements are normally concerned chiefly with the fixing of 'minimum rates' and for the most workers are only the preliminary to the real negotiations".

It would appear from this statement that minimum wages are no longer an assurance that basic living levels will be above subsistence in advanced economies anyway.

This brief analysis of minimum wages has shown that the main purposes for introducing such minima are only partially addressed and met. The problem is too complicated to assume that the elimination of low wages will be the automatic consequence of minimum wage legislation. This study seeks to establish whether minimum wage regulation in South Africa is in fact influential in determining market wages.

CHAPTER 3

WAGE REGULATION MACHINERY IN SOUTH AFRICA

1. INTRODUCTION

This chapter outlines the historical development of the Industrial Conciliation Act and the Wage Act. The purpose is to analyse their effect on minimum wages until the reforms in labour legislation which resulted from the Wiehahn Commission. Economic theory cannot fully explain the developments in the labour market in South Africa. For conventional theories to apply, the assumption of a relatively homogeneous labour force, free from government control must be evident. Government intervention on an ideological basis has been a key issue in all labour related matters: the very essence of the Wage Act was the 'civilised labour policy' which sought to enhance the status of White workers; job reservation remained part of the Industrial Conciliation Act for many years. Nevertheless, some developments related to wage determination will be discussed. The most significant change in the labour situation which arose from the Labour Relations Amendment Act of 1981, that of removing all reference to race, is also considered.

2. THE INDUSTRIAL CONCILIATION ACT

This section gives a brief historical background to the Industrial Conciliation Act with particular reference to its influence on wages in South Africa. The wage regulatory role of the industrial council is addressed in Chapter 6 of the dissertation.

2.1 Background to the Industrial Conciliation Act

The Industrial Conciliation Act, No. 11 of 1924 sought to introduce collective bargaining into South African industrial relations by providing the framework for industrial councils, conciliation boards and arbitrators that would control working conditions and wages in all sectors of the economy, except agricultural workers, domestic servants and government employees. The industrial councils have equal numbers of employer and employee representatives, the latter being members of registered trade unions. The definition of 'employee' precluded the inclusion of Africans but the 1930 amendment empowered the Minister to extend the scope of the Act to cover Africans. This did not mean that Africans could become negotiating parties to the industrial councils, but rather that industrial council agreements would set wages and conditions which would apply to Africans. This was to ensure that Africans could not be recruited at wages lower than those paid to other population groups, thereby replacing Whites, Asians and Coloureds by Africans. Industrial councils, each with its own constitution, negotiate on behalf of their industries the wages, hours of work, service

conditions and benefits that will be binding in their respective industries. The initial legislation excluded pass-bearing Africans and, since only African men carried passes, African women joined at least one registered union, the Garment Workers Union. This loophole was closed in 1953 with the passage of the Bantu Labour (Settlement of Disputes) Act. Under the 1937 amendment of the Industrial Conciliation Act, any of the provisions (not just those referring to wages) could be extended to those not considered as 'employees' under the Act. By 1938, the number of Africans whose wages were regulated by industrial council agreements was some 10 000 (van der Horst, 1942: 247). These unrepresented Africans could, in terms of the 1937 Act, be represented by an 'inspector' appointed by the Minister.

Subsequent amendments to the Act further excluded Africans, until the 1959 amendments

> "sought to make certain that no African would be able to take part in any deliberations under the Act. Section 21 (stipulated) that 'no native shall be appointed as a representative of the employees or as an alternate to such a representative' on industrial councils ... Section 37 (stipulates) that 'no native shall be appointed to represent the employee parties' in connexion with disputes under the Act" (Doxey, 1961: 138).

In 1975, 27 job categories were still subject to job reservation, with 16 of these being enforced (du Toit, 1981: 65). The 1956 Act and the 1959 amendment "placed in the hands of the Minister of Labour sweeping powers which enable him to determine virtually arbitrarily the part which each race can play in the labour market

..." (Doxey, 1961: 143). Although section 77 of the 1956 Act claimed that job reservation was aimed at "safeguarding against inter-racial competition", it was simply a method of preventing Africans from progressing into positions where they would threaten White workers. The economic effect of this is presented by Doxey (1961: 143):

> "Not only is the non-White prevented from the opportunity to rise in the job scale and consequently denied the chance of revealing his true capacity, but the efficiency of the White is reduced through lack of effective and healthy competition."

Doxey (1961: 144) continues:

> "The powers granted in the Act enable the Minister, for example, to reserve an occupation for a particular race even in cases where there may be no members of that race doing such work."

Du Toit (1976: 128), in discussing job reservation states:

> "It is stated more specifically, that the principle is applied not so much for the protection of all races but more so for Whites. Assurances by the authorities that it is a measure of protection to all are considered to be nothing but eye-wash, since the primary aim is to prevent non-Whites from taking over the jobs of Whites."

The euphemistic justification of job reservation as a 'safeguard' is extended to mixed trade unions in that, according to the 1951 Industrial Legislation Commission, mixed unions did not provide "adequate protection for the economic interests of minority groups, particularly in times of economic depression" (in Doxey, 1961: 148).

The Commission believed that lack of acceptance of racial differences would lead to 'racial strife', to which Doxey (1961: 148) adds: "The feeling that racially mixed unions lead to racial strife is based not upon experience but rather conjecture". Since Africans were not accepted as 'employees' under the Act, the term 'racially mixed' refers only to Whites, Asians and Coloureds.

2.2 Activities of the Industrial Council System

The 1983 Survey of Race Relations in South Africa gives details of the industrial council system in recent years. These are shown in Table 3.1. The number of industrial councils has hardly changed over the period 1972 to 1982. Only 1982 shows a drop in the number of agreements, from an average of 100 in previous years to 84 in 1982. The number of employers has risen by 33%, and the number of employees by 27% in the period under consideration.

There has been a wide diversity of opinion relating to the Industrial Conciliation Act in general and the industrial council system in particular. It is not the intention to present a broad discussion of this opinion, but rather to point to some perceptions.

Doxey (1961: 136) feels that "the system of industrial councils has worked well in sections of industry where the workers are well organised".

TABLE 3.1

INDUSTRIAL COUNCIL AGREEMENTS AND EMPLOYEES COVERED

Year	Number of Industrial Councils	Number of Agreements	Number of Employers	Total Employees
1972	103	102	36 235	997 875
1973	103	97	38 757	1 025 395
1974	102	104	38 894	1 065 191
1975	102	92	39 146	1 046 105
1976	102	102	41 124	1 065 366
1977	101	102	39 933	988 372
1978	102	99	39 528	995 299
1979	101	102	40 483	1 045 929
1980	105	98	41 280	1 095 472
1981	104	99	46 668	1 265 008
1982	104	84	48 309	1 267 222

Source: Survey of Race Relations in South Africa, 1982, 1983

Jowell (1979: 373) states

> "... perhaps the most important asset the Industrial Conciliation Act has is its credibility ... Though the Act ... is permissive in the sense that neither industry nor workers are compelled to use its provisions, they have accepted it as a useful piece of machinery and have been willing to take advantage of it."

Jowell ignores the fact that many of the independent unions at first rejected registration and the industrial council system and that today there still persists a strong critique of the industrial council system, especially in the engineering industrial council. This is discussed again in Chapter 6. Generally, the tentative acknowledgement that there may be some merits to the Act, is outweighed by adverse opinion concerning its failings and inadequacies. The comments of Jones and Griffiths (1980: 26) are typical of more moderate opinion:

> "There can be little doubt, in retrospect, that this Act has been successful in creating viable machinery for industrial negotiation and the settlement of disputes. However, by excluding the majority of male Black workers from membership of registered trade unions it effectively eliminated their representation on industrial councils and denied them a say in the collective bargaining process. In subsequent years, White workers were able, therefore, to enhance their position through the mechanism of free bargaining and trade union membership."

(The reason for excluding male Black workers is discussed earlier in this section.)

Although an industrial council agreement cannot discriminate in wages and working conditions on the grounds of race or colour, Griffiths and Jones (1980: 155) claim that such agreements

> "do, obviously, discriminate on the grounds of grade of work performed, which invariably implies racial discrimination when the job hierarchy is racially divided because of job reservation, 'closed shop' arrangements, or other impediments to Black vertical job mobility ... In practice, therefore, the stipulation of 'no racial discrimination' in council agreements has traditionally been by-passed."

While it is true that the job hierarchy is "racially divided", this is not only caused by the factors mentioned in the preceding paragraph: there are human capital aspects which also partly account for the structure of the job hierarchy along racial lines. The reasons for this may be found in education and training, which are in turn based on political considerations beyond the scope of this discussion.

The exclusion of African representation on industrial councils is one of the reasons for the discontinuity in the minimum wage pay curve at the grade beyond which Africans have traditionally not passed, that is, at the grade where Whites take over. Apart from the artificiality of job reservation and its adverse effect on economic growth by limiting the supply of certain categories of labour, its continued practice (certainly until all job reservation legislation was abolished) had a profound effect on wages: "it exacerbates the inflation of labour costs ... through the necessity

of paying 'monopoly premiums' to existing labour complements" (Griffiths and Jones, 1980: 171).

A commentary in the South African Labour Bulletin (1977) claims that there are problems with the system beyond discrimination:

> "it would be a mistake to see the Industrial Council system merely as ... racially discriminatory ... It is also a system through which the state and employers can (contain) and have contained working class ambition. This has been achieved by severely circumscribing and limiting the legal right to strike on the part of the workers."

Previous comments would indicate that subsequent legislation succeeded in protecting Whites, to the detriment of other races, particularly Africans. This practice was to continue until the Wiehahn and Riekert reports which "addressed themselves to job reservation in all its forms, whether statutory or traditional. They have committed themselves firmly to the abolition of statutory forms of job reservation and have been backed by Government ..." (Jowell, 1979: 386).

Before considering the changes brought about as a result of these reports, the other main item affecting wages will be discussed: the Wage Act.

3. THE WAGE ACT

While the Industrial Conciliation Act is concerned with unionised labour, and extended to cover non-unionised Africans who are employed in industries with unionised labour for other population groups, the Wage Act No. 27 of 1925 covered the wages and working conditions of unorganised labour. Excluded from the benefits of wage determinations made in terms of the Wage Act are employees within the scope of the Industrial Conciliation Act, farm labourers, domestic servants, apprentices, government employees, and several other categories.

3.1 Background to the Wage Act and the 'Civilised Labour Policy'

In terms of the Act, the Minister appoints a wage board consisting of three members who are empowered to investigate wages and employment conditions. The original purpose of the Act was clear: Doxey (1961: 155) describes it as a "racial bolster". He continues

> "the Wage Board was given the express instruction to fix wages at a level which would enable workers to maintain a civilised standard of living, with due regard to costs, both of living and production, and to the value of payments in kind".

Van der Horst (1942: 250) describes this 'Civilised Labour Policy' as "one of employing European labour on unskilled and semi-skilled work at wages higher than those prevailing for that type of work". Du Toit (1981: 63) maintains that inspectors of the Department of

Labour "went so far as to state that 'under no circumstances would Natives be regarded as civilised labourers'".

The wage board was also required to consider the ability of employers to pay higher wages. Van der Horst (1942: 254) notes that the wage board "soon (after its inception) found that in all industries in which its reference covered unskilled workers it could not recommend a 'civilised' wage, taking into consideration, as required, the ability of employers to carry on if they were required to pay higher wages". Considering the ability of employers to pay higher wages was important in that one of the wage board's aims was "to avoid holding back the productive energy of the country" (Lucas in Nicol, 1986: 4).

Under the Wage Acts No. 27 of 1925 and No. 44 of 1937, the wage board was bound to investigate any industry (or part thereof) on request by the Minister or on application by any trade union or employers' organisation registered in terms of the Industrial Conciliation Act, or by any number of employers or employees, if no union or organisation existed. The Wage Act, No. 5 of 1957 granted only the Minister the right to instruct the wage board to conduct an investigation. Further, the previous Acts allowed a trade union to nominate an additional member to the wage board. The 1957 Act changed this so that only the Minister could appoint assessors. Doxey (1961: 155) comments on the significance of these amendments: "... while the Act expressly forbids differentiation or distinction

on the basis of race or colour, one may detect in the new provisions discriminatory intent".

It might have been expected that the Wage Act would address the wages of those excluded from the Industrial Conciliation Act: the Africans. The comments of van der Horst (1942: 257) show that this did not occur:

> "In practice this has not been the case (the Wage Act's being primarily concerned with 'Natives'), for until 1937 it (the wage board) was precluded from recommending wages upon which workers would not be able, in its opinion, to maintain 'civilised' standards, unless such rates were specially sanctioned by the Minister of Labour."

It is interesting to note that employers feared that the wage board's determinations would compel employers to pay wages which they could not afford, and so they were keen to form industrial councils. Nicol (1978: 3) quotes the wage board:

> "At the time when the wage board was set up very little use had been made of the Industrial Conciliation Act, except in the printing and building industries. By the passing of the Wage Act a tremendous fillip was given to the formation of industrial councils."

The fears of these employers were largely unfounded since, as Nicol (1986: 5) points out:

> "The board did not ... dictate 'scientifically' sanctioned 'civilised' wages. Rather, after much consultation with employers and workers, it set minimum wages approaching those paid by 'employers of good repute' ... in practical terms the object of the wage board was to move all wages up towards those currently paid by the good employers."

It will be seen in subsequent chapters that this is certainly no longer the case.

It is clear that the 'civilised labour policy' was introduced to favour White workers. Comments that the wage board benefitted Black workers must be treated with caution: Jones and Griffiths (1980: 28) maintain that

> "In practice, the Board ... tended to recommend higher minimum wage rates than those which had generally been paid previously to the workers affected, and so it may be argued that the Act tended to benefit Black workers in the years following its enactment ... if there had been a completely free market for Black jobs, the level of wages which would have resulted may well have been an economic equilibrium, but, socially, would have been unacceptable ..."

Immediately after its enactment the Act specifically benefitted White workers; the wage board also found it was unable to make recommendations regarding certain unskilled categories because of the inability of employers to pay (van der Horst, 1942: 254). This type of action did not benefit Black workers, as claimed by Jones and Griffiths. Their comments are applicable, not in the years immediately following its enactment, but rather later.

Commenting on the redrafting of the Wage Act in 1937, van der Horst (1942: 258) states: "... it (the Wage Board) has not yet attempted to raise the wages of the lowest paid". Indeed she quotes (1942: 259) figures from the Department of Labour that "over the period

1932-7 there was a fall in the number of employees, including Natives, directly affected by wage determinations, their number being approximately 73 000 at the end of 1932, ... and 69 000 at the end of 1937". Van der Horst continues: "The importance of ... wage regulation in the market for Native labour lies in its effect not so much upon the privileged few whose wages may be raised or protected by these means as upon the many to whom opportunities for employment are thereby closed."

Wage determinations are thus unilateral actions by the Minister, acting on the recommendations of the wage board. These determinations have no specified period of enforcement. Rather, they remain in force indefinitely until amended, cancelled or superseded by subsequent Ministerial decree.

3.2 Wage Board Activity

Wage board activity has waxed and waned, with singularly reduced activity during the 10 years after the Nationalists' coming into power in 1948, apparently because of their commitment to "stabilizing wage rates, (in order) to harmonise with the Government's overall objective of promoting economic growth without inducing inflation" (Griffiths and Jones, 1980: 100). The annual average of determinations halved in the period 1949 to 1958, when compared to the period 1945 to 1948. From 1959 to 1972, the annual average of determination increased by some 230% over the previous period. The 1973 to 1977 period shows an increase in the annual

average determinations by 26% over the 1959 to 1972 period. The last period follows the 1973 Durban strikes when wage board activity increased significantly. The authors illustrate the wage board's activities, as shown in Table 3.2.

The number of wage board determinations has decreased by 14% from 1971 to 1982. The number of employees subject to wage determinations has risen by 18,6% in the same period, as shown in Table 3.3.

4. THE EFFECTS OF MINIMUM WAGE LEGISLATION

At this stage it is useful to pay some attention to the effectiveness of minimum wage legislation in terms of its impact on wages in South Africa. The roles of the Industrial Conciliation and Wage Acts have changed since their inception. This will also be considered before returning to the changes made to the Industrial Conciliation Act as a result of the Wiehahn Commission's recommendations.

The effects of both the Industrial Conciliation Act and the Wage Act have changed through the years. Nicol (1986: 21) believes that the interaction between the two has had profound effects on trade unionism:

> "Since the 1920's, growing unions which have failed to get recognition from employers have turned to the Wage Board as a substitute opponent outside the factory.

TABLE 3.2

WAGE BOARD ACTIVITY

Year	Determination			
	New	Amended	Total	Annual Average
1945 - 1948	28	4	32	8,Ø
1949 - 1958	31	8	39	3,9
1959 - 1972	167	14	181	12,9
1973 - 1977	26	55	81	16,2

TABLE 3.3

NUMBER OF EMPLOYEES SUBJECT TO WAGE DETERMINATIONS

Year	Number of Determinations	Total Employees (all races)
1971	76	481 087
1972	75	490 135
1973	72	407 466
1974	69	401 293
1975	69	411 402
1976	69	411 939
1977	69	415 578
1978	69	414 811
1979	69	418 130
1980	70	470 865
1981	66	568 761
1982	65	570 430

Source: Survey of Race Relations in South Africa, 1982, 1983

> The existence of the Wage Board has legitimated certain worker struggles which, had they been directed against employers immediately, would have been suppressed. In other instances initial worker organization round (sic) demands made of the Wage Board have led to employer recognition and the formation of industrial councils. In the 1930's and 1940's, the Wage Act became the central element in the organising strategy of emergent Black trade unions as well as a main weapon of the State in disorganising and side-channelling the Black union movement."

In 1971 Steenkamp doubted that the legal colour bars had served any purposes in the Fifties and Sixties, and indeed before that. The Industrial Conciliation and Wage Acts could not prevent Africans from working in jobs which had been the domain of Whites. The demand for labour exceeded the White supply, and in any event the supply (improved in terms of quality) of African labour resulted in competition with less productive White labour.

Doxey (1961: 112) describes the conflicting views of the government (which believed minimum wage regulation was essential to prevent the "debasement of White wages"), and the opposition (which maintained that minimum wages would bring about precisely such "debasement"). Doxey's argument (1961: 113) is that the civilised labour policy was "the means of preventing non-White encroachment on White preserves", rather than a single-minded attempt merely to set high minimum wages.

The civilised labour policy was clearly an attempt, in Doxey's words (1961: 114): "at bolstering White supremacy". The interpretation of 'supremacy' should be one of economic privilege rather than

political advantage. The wage board could not prevent African advancement. This was done through job reservation. Du Toit (1981: 63) believes that the results of the civilised labour policy were "a worthwhile investment that yielded rich dividends in political stability". The wage board was paternal in that Africans were not permitted to negotiate for themselves, but rather they were to accept the rulings of White officials. Steenkamp (1983: 65) states that where the interests of Africans had been improved by the legislation, this has been "largely accidental".

The period from 1936 to 1949 saw the wage board paying "more attention to unskilled labourers" (van der Horst, 1942: 258). Spandau (1972: 379) mentions the "considerable evidence for social concern on the side of the wage board". Spandau substantiates this by quoting from the 1937 Wage Board Report that "in recent years there has been an increasing appreciation of the necessity for improving the wages and other conditions of employment of unskilled workers". He continues to give figures which indicate that the gap between skilled and unskilled workers reduced during the war, which he attributes to a great extent to the 'cost-of-living principle' prescribed by means of War Measures. These helped the lower income groups proportionately more than the higher income groups. A further development was the appointment of a Controller of Industrial Manpower in 1941. This led to the freezing of skilled wages and to the dilution of many categories of work in the engineering industry (Spandau, 1972: 381). As a result, the wage board had little impact on the wage structure of this period.

Steenkamp (1983: 67) notes that the 'civilised labour policy' was largely dropped in 1937, after which "the wage board (was) required only to 'report' on which classes of employee required wages sufficient to enable them to uphold 'civilised standards of life'. In 1957, the provision was watered down still further."

It has already been mentioned that wage board activity increased after 1957. Steenkamp (1983: 78) maintains that the Wage Act "came to be employed more and more ... to improve the living standards of Blacks. Indeed, in view of the oversupply of unskilled Black labour, it is most doubtful that the real wages of the Blacks would have risen at all without government interference and the support the government received from enlightened employees". This statement would indicate that the minimum rates were effective in setting actual rates (of unskilled (African) workers), which presumably meant that actual and minimum rates were fairly close. Yet Spandau (1972: 383) states that "since 1957 (there) has been (a) wide discrepancy between minimum wage rates prescribed by the Wage Board ... and real average earnings ...". There is certain evidence to the contrary. The Report of the National Manpower Commission (1982: 39) gives a comparison of the wage board figure with median wages of adult male labourers in the Witwatersrand area. Table 3.4 gives some of the comparable figures.

The table shows that at the time of determination, wage board figures are comparable to market rates. Indeed, the National

TABLE 3.4

COMPARISON OF MEDIAN WAGES AND WAGE BOARD RATES FOR CERTAIN INDUSTRIES

Industry	Date of Wage Determination	Median Wage	Wage Determination
Chemical	2/64	6,00	6,80
	12/70	8,65	8,50
	10/75	20,00	18,00
	1/80	29,44	28,50
Timber	1/68	6,00	7,00
	9/75	11,52	14,50
	4/81	20,25	28,00

Manpower Commission (NMC) Report (1982: 39) states that "in most cases ... the wages are fixed at a higher level than that prevailing in the market". (The NMC could only have been referring to its four selected industries, because it states a few lines later: "There is nevertheless reason to accept that actual wages, as reflected in median wages, are generally higher than MWs (minimum wages) for a considerable part of the work force." The NMC does not lay any blame on the wage board; rather, it attributes the wage differentials to "a great demand for labour owing to the growth in the economy".

Pursell (1968: 87) analyses the wage board's impact on unskilled labourers' real earnings. He chooses the period 1957-1966 because he believed that "this is the period in which wage determinations were made with a view to improving Bantu earnings". In the manufacturing and related trades, Pursell classifies the industries into four groups according to the impact of the wage board. Table 3.5 presents some of Pursell's figures in order to illustrate the basis of his firmly held conclusions. (Not all industries have been given here.)

Pursell (1968: 89) concludes that in Group A "the Board's prescribed minimum wage rates generally substantially improved labourers' average real earnings". Referring to Group D, Pursell states: "the Board's prescribed minimum rates did not increase Bantu real

TABLE 3.5

LABOURERS' AVERAGE REAL WEEKLY EARNINGS, REAL MINIMA AND THE IMPACT OF THE WAGE BOARD ON REAL EARNINGS, BY INDUSTRY AND URBAN CENTRE

(October 1958, R = 100)

Industry	Year	Urban Centre					
		Cape Town			Johannesburg		
		Real Earnings	Real Minimum	% Increase	Real Earnings	Real Minimum	% Increa
Group A							
Coal	1964	6,11	6,19	1,3	4,74	5,75	21,3
Quarrying	1962	5,46	6,56	20,1	4,55	5,89	29,4
Heavy Clay	1962	5,07	5,95	17,3	4,51	5,68	25,9
Cement	1962	6,16	6,65	6,3	5,26	6,27	19,2
Group C							
Metal Containers	1965	7,45	7,64	2,5	7,18	7,21	0,4
Chemical	1964	7,18	6,54	0,0	5,95	6,23	4,7
Group D							
Canning	1958	6,84	5,88	0,0	6,60	5,63	0,0
Soap	1963	7,27	6,57	0,0	7,01	6,38	0,0
Ceramics	1962	5,26	5,49	4,4	6,25	5,49	0,0

earnings". His summary of the Manufacturing and Retail Trades is that "most determinations increased Bantu real earnings, the actual increase ranging from slight improvements to substantial increases".

It is difficult to accept Pursell's conclusions merely from the type of figures presented in Table 3.5, since only one year is considered for each industry. Further, it is not possible to conclude that all labourers' real earnings have increased, merely from an analysis of the figures applicable to the wage board's sphere of influence. At the stage in his publication where Pursell presents his tables he has made no mention of other factors that may affect wages. Later, Pursell (1968: 92) states "A good deal of this increase (of Bantu real earnings) is traceable to direct Wage Board action. But by 1964/65 it became apparent that the Wage Board was not the only force acting to increase Bantu real earnings." Only at this stage is employment considered: "the substantial increases in Bantu real earnings may have encouraged a rise in Bantu unemployment" (1968: 95). Pursell also states (1968: 95) that "employers have become an important variable in explaining higher Bantu real earnings".

Spandau (1972: 385) disagrees with Pursell's view that wage board policy was to improve the lot of Blacks (relative to Whites). Spandau illustrates how average racial wage differentials widened during the Sixties, both in absolute and relative terms. For example, between 1960 and 1970 White wages in manufacturing increased by 94% from R158 to R307; the comparable increase in Black wages was 82% from R29 to R52.

It is difficult to interpret the results of wage determinations as reflecting the view of the government (after 1952) as is claimed by Pursell (in Spandau, 1983: 383): "the official Wage Board differentials should provide an indication of government policy". This is contrary to the philosophy of the wage board, but further, the statements made by Ministers gave little indication that they were in favour of achieving a more equitable wage structure. This is not to deny that the wage board had some effect on wages in the Sixties and Seventies, if only in terms of comparable indices of consumer prices and wage board rates. Figure 3.1 (taken from the NMC Report (1982: 38) shows the result of such a comparison. The extent of this effect should not be exaggerated. Steenkamp (1983: 78) states that "It is highly questionable whether (the rate of increase of real Black wages in comparison with those of Whites, as a result of wage board determinations) the same results would have been achieved by unfettered Black trade unionism on its own". Spandau (1972: 384) believes that wage determination did prevent low-paying firms undercutting their higher-paying competitors, but he concludes that "the actual market forces have had a greater impact on South African wage differentials than is generally realised".

When considering the problem of wage regulation in the early Sixties, van der Horst (1976: 116) notes that "there was at least

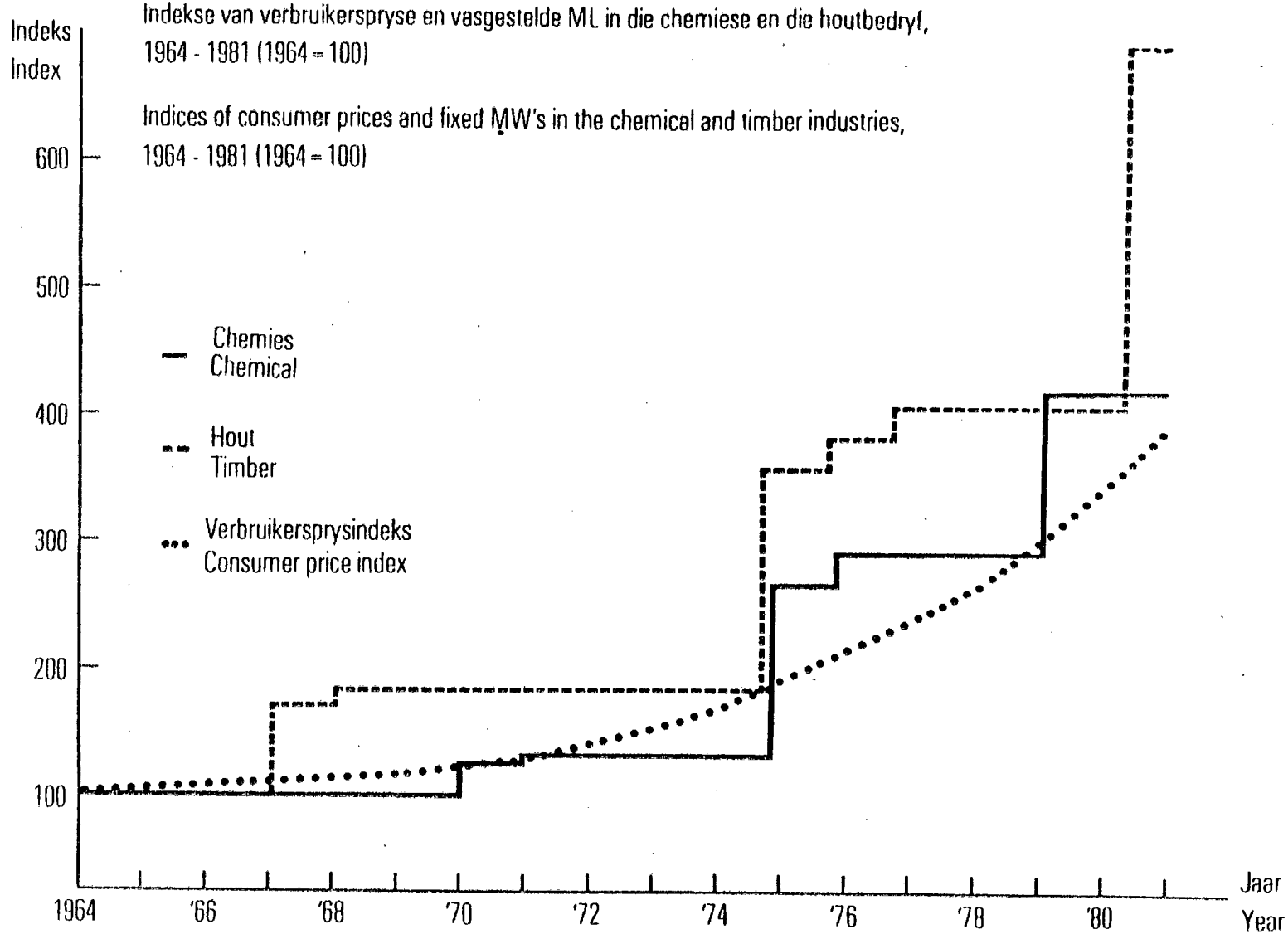


FIGURE 3.1 : RELATION BETWEEN CPI & SELECTED MINIMUM WAGES

fairly general agreement that the wages of Africans could not simply be left to market forces in such a fragmented and imperfect market, where the supply of African labour was channelled and controlled to such an extent". This was one of the justifications by economists for state intervention in wage regulation, although there was no consensus on how minimum wages should be laid down. Van der Horst's (1976: 123) overall conclusion regarding wage rates during the period 1948-76 is that greater wage drift resulted in higher actual earnings of Whites compared to Asians and Coloureds. Regarding Blacks, she comments "Where jobs have been broken down to permit parts to be done by less skilled (Black) labour the rates for such work have frequently been very much lower than those for the whole job".

It will be shown in later chapters that wage board determinations are becoming less and less effective. For example, the Quarterly Bulletin of the Southern Africa Labour and Development Research Unit (Saldru) (4/1984: 24) has calculated that in 1984 two-thirds of the minimum wages set by the wage board for labourers showed a decline in real terms. 35% of the labourer categories received no increases at all in 1984. Saldru shows that one of the reasons for such decreases in real wages is that the average time between wage determinations is 19 months, whereas the average for industrial councils is 12 months. Of course such decreases cannot be attributed only to the period between wage determinations. Embodied in the form and the political nature of the wage board are many

other factors, in particular the great emphasis paid to "ability to pay" on the part of employers.

Although this discussion is largely concerned with the wage determination process on the part of the wage board, it is useful to turn briefly to the industrial councils. The effect of industrial councils on minimum wages is dealt with in subsequent chapters, so the following paragraphs consider briefly certain topics that are not dealt with elsewhere, but are relevant to this section.

In certain cases industrial councils set unrealistically low minimum rates for many categories, including labourers and artisans (Saldru Quarterly Bulletin, 4/1984: 23). There is little opportunity for bargaining at plant level to increase these rates because employers insist on negotiations at (centralised) industrial council level only. The Saldru Bulletin comments:

> "... if market forces compel all employers to pay more skilled workers far above the council-prescribed 'minimum wages', narrowing the differentials between minimum rates for skilled and unskilled workers can be meaningless - the industrial council becomes a snare and a delusion".

Although Saldru believes that "a central authoritative wage-regulation body ... is a necessary goal of union organisation", it feels that "the industrial council system ... has become incapable of playing such a role ... ". Lack of unionisation on the part of Black workers and the exploitation of the industrial council system (by employers' using their own job evaluation and pay structuring

systems in plant level negotiations) mean that "industrial councils are not merely losing control of wage levels but of the whole structure of remuneration in industry" (Saldru Quarterly Bulletin, 4/1984: 23).

The National Manpower Commission (1982: 28) gives a comparison between the annual percentage compound increase in minimum wages agreed by industrial councils and the consumer price index (CPI). Table 3.6 gives the figures.

This type of data does not necessarily indicate an improvement in earnings. An analogous situation is that Black wages have been rising (in percentage terms) faster than White wages, yet the wage gap in Rand terms continues to increase. Similarly, an increase in minimum wages that is larger than the CPI does not necessarily mean a higher standard of living, or reduced White/Black differentials.

It would appear from the preceding discussion that there is little agreement in the literature regarding the effectiveness of minimum wage legislation in South Africa. At times spurious reasoning has been applied to the interpretation of the available data. On other occasions prejudiced opinions are expressed. On balance it seems that minimum wage legislation certainly improved the wages of White workers in the early days, but that the effect on Black wages in later years has been considerably reduced. The value of these comments is limited because little evidence is available on the

TABLE 3.6

INCREASES IN MINIMUM WAGES (IC) AND THE CONSUMER PRICE INDEX

Industrial Council	Period	Annual % Compound Increase Minimum Wages	CPI
Iron and Steel	1968-81	14,7	10,0
Building (Tvl.)	1969-81	12,0	10,6
Motor Industry	1967-81	11,7	9,4

simultaneous variation of uncovered wages and the wages covered by minimum wage legislation.

5. THE LABOUR RELATIONS AMENDMENT ACT

It is the purpose of this section to highlight some aspects of this legislation which have a direct bearing on wage determination. While it is clear that the Act as a whole has had major implications for the labour situation, it is not the intention to provide a discussion of the broader aspects.

The essential features of the Act are the admission of Blacks into the industrial council system, the creation of the National Manpower Commission and the establishment of the Industrial Court.

Previous legislation excluded Blacks from the industrial council system through the definition of 'employee'. The 1979 Act has changed this to include Blacks and thereby excludes any differentiation on the basis of race or colour. The South African Labour Bulletin (SALB) (1981: 29) states:

> "It is true that the state has taken the step of recognising the right of all workers regardless of race to membership of registered trade unions. African workers can, for the first time, belong to registered unions by right rather than Ministerial exemption ... (but) the Act still represents an intention on the part of the state to extend full control over the unions ..."

The repeal of the Black Labour Relations Regulation Act, No. 48 of 1953 has transferred the provisions relating to the mechanism for determining minimum wages and working conditions by means of labour orders to the Labour Relations Act (Section 51A) (of course the Wage Act and its labour orders have remained in tact). "The effects of this (are) that a labour order could now be made in terms of this procedure to regulate wages and working conditions for workers of all races. Black Labour Orders will remain in effect until superseded by the industrial council agreement (Section 51A(7))" (Benjamin, Cheadle and Khoza in SALB, 1981: 22). Such Labour Orders are made by the Minister on the recommendation of an employer's organisation. Before publication each order is approved by the wage board.

Although race and sex discrimination have been removed, the SALB (1981: 29) believes "... some provisions have been retained which enable racial division ... the Minister and industrial councils are still empowered to grant exemptions from these measures to 'any person or class of persons' in 'certain areas'".

The amended Act includes the provisions contained in the Black Labour Relations Regulation Act regarding works and liaison committees. This is presumably because by 1979 303 works committees and 2 664 liaison committees were in existence (SALB, 1981: 38). Clearly the suggestions of the Minister of Labour (in Wilson, 1975: 543) that the works and liaison committees should elect representatives to a wider council which could negotiate with

employer organisations did not materialise. Wilson comments: "... one must ask how, and by whom, the new councils will be organised and built up. It would seem there is little room here for the traditional type of full-time trade union organiser." Nevertheless, the machinery for the works and liaison committees (replaced by works councils) remains, even though their influence in wage bargaining appears limited. The NMC Report (1982: 40) gives the following number of workers represented in regional committees, works committees and liaison committees:

1979	774 200
1980	799 400
1981	809 300

No indication is given regarding the effectiveness of works councils.

The important implications of the new legislation for wage determination are that the industrial council system no longer excludes Blacks. This and the disappearance of (legislated) job reservation should enhance the bargaining position of Black workers.

CHAPTER 4

OVERVIEW OF JOB EVALUATION AND SALARY STRUCTURING IN SOUTH AFRICA

1. INTRODUCTION

Classical economic theories of wages consider the supply and demand of labour as the main determinants of wages. Marginal productivity theory proposes that additional labour should be employed until the marginal cost of such labour equals the marginal revenue accrued therefrom. Both the underlying assumptions of this theory (such as perfect competition and profit maximisation) and its conclusions are rejected by several writers whose field of interest lies more in the domain of management than economics.

Livy (1975: 145) states boldly:

> "Clearly the (economic) model is purely abstract and divorced from reality. In real life the market for labour, and competition between firms, is manifestly imperfect, with pronounced tendencies towards oligopoly, monopoly and monopsony. Moreover, how does one calculate marginal productivity?"

Livy softens his attitude a few sentences later:

> "Economic theory alone does not provide the answers. We are faced with people's differential abilities, attitudes to work and to various management styles, their expectations and preferences, as well as their degrees of combination to bargain terms and conditions

> of employment, to codify and restrict methods of working and/or exploitation, to withdraw their labour and so on."

Referring to economists' explanations of rewards and payments, Paterson (1972: 129) states:

> "There is no satisfactory economic theory to fit the facts."

When discussing marginal productivity theory, Paterson (1972) quotes Robinson (1970) (who is referred to by Paterson as 'an economist') as saying "This theoretical purity is of relatively little assistance to those attempting to operate in a real labour market".

In a study of various labour markets, Mackay (in Robinson, 1970) arrives at several conclusions regarding the structure of wages:

> "This does not indicate that economic forces are unimportant but the result of the system of wage determination is a wage structure which does not always reflect what would arise by the purely economic forces of supply and demand ... Changes in intra-plant differentials are not wholly, or even mainly, explicable in terms of local labour market conditions. At the very least, changes in intra-plant differentials are not acutely sensitive to ruling employment conditions."

These are the views of non-economists, but rather than offering an alternative explanation for wage determination, they are ultimately suggesting an additional viewpoint: job evaluation and subsequent wage structuring. Livy (1975: 146) comments:

> "Neither economics nor job evaluation can provide clear and unequivocal predictors of what the rate for the job should be, but what job evaluation can offer is a means for marshalling the various forces together and

> for interrelating comparable units of work requiring comparable sets of skills and capabilities with prevailing market conditions."

This chapter presents an overview of the main job evaluation systems used in South Africa for wage earners. This is followed by a discussion of wage structuring with particular reference to the unskilled and semi-skilled categories. The final section considers salary surveys in the South African context.

2. PREVALENCE OF AND RATIONALE FOR JOB EVALUATION

In order to determine the prevalence of the different types of job evaluation in South Africa, a questionnaire was sent to salary survey participants, in which they were asked to state what system of job evaluation they used. The questionnaire forming part of another study by the author (1985), was sent to 486 organisations which were either present or past participants of the P-E Consulting Group's salary survey. No pretence is made that the 320 replies received are fully representative of South African industry and commerce: since the P-E survey is evaluated according to the Paterson job evaluation system, an analysis of the responses will reveal a Paterson bias.

Paterson (1972) estimates that two-thirds of the employees in the United States are pay-graded by job evaluation systems; the comparable figure for the United Kingdom is one-third, whereas almost the entire working population of the Netherlands is graded.

The 1983 South African Salary Survey published by the P-E Consulting Group indicates that 62% of the organisations participating in the survey have formal job evaluation systems. That survey claimed to cover approximately one million employees.

It is likely that most organisations with formal job evaluation systems will subscribe to a salary survey. The other main salary survey, published by FSA (Pty) Limited has slightly fewer participants. Approximately half the subscribers to each survey will participate in both surveys, so it is reasonable to assume that the two surveys gather the salary and wage data of some 1,5 million employees.

The economically active population of South Africa (excluding the 'independent' states and excluding agricultural workers and domestic servants) was approximately 6,5 million in 1980 (according to the National Manpower Commission, 1984). The 1,5 million employees mentioned above therefore represent 23% of the economically active population under consideration. A conservative figure of the employed population that is pay-graded by job evaluation systems is thus 62% of 1,5/6,5 = 14%. The figure is conservative for several reasons, but the following are worth noting:

- Few government departments participate in salary surveys, which means that the Civil Service is largely excluded from the above figures; when these figures are excluded, the economically

active population of 6,5 million becomes 5,1 million, giving a figure of 18%;

- There are some large private organisations that participate in neither of the main salary surveys, even though they have formal job evaluation systems.

Cogill (1984: 61), in an unreferenced statement, claims that 65% of the blue collar labour force in South Africa is covered by some form of job evaluation. There is certainly a discrepancy between Cogill's figure and the 14% given above, but they are not directly comparable because Cogill's figure only includes blue collar workers, and so excludes much of the Civil Service as well as all managerial and white collar employees.

One of the questions contained in the questionnaire referred to at the beginning of this section was "What type of job evaluation system do you use?" Table 4.1 gives the response.

In order to obtain a more balanced indication of the types of job evaluation system used, information has been taken from the salary survey (September 1985) published by FSA (Pty) Limited. It should be mentioned that this organisation also produces a Peromnes salary survey, so it is likely that the majority of participants would use the Peromnes job evaluation system. The percentages are shown in Table 4.2.

TABLE 4.1

TYPE OF JOB EVALUATION SYSTEM

(Sample known to be biased towards Paterson System)

Job Evaluation System	% of Respondents
Paterson	50
Own internal system	20
Peromnes	14
Hay	4
Ranking	3
Castellion	3
NIPR - Q Method	3
Other*	3
Total	100

*Other includes: Factor comparison, Task

TABLE 4.2

TYPE OF JOB EVALUATION SYSTEM

(Sample known to be biased towards Peromnes System)

Job Evaluation System	% of Respondents
Peromnes	38
Paterson/Task	33
In-house system	14
Hay	8
Other	6

(With acknowledgement to FSA Remuneration (Pty) Limited)

Tables 4.1 and 4.2 indicate that the Paterson and Perommes job evaluation systems are most commonly used. These tables do show a bias towards the system according to which the two organisations' salary surveys have been evaluated, as is evident from the differing results. The purpose is to illustrate which systems are most widely used by those organisations which participate in the main salary surveys in South Africa. For reasons that will become apparent, the two systems that will be discussed in some detail are the Paterson and Castellion systems. The Castellion system is the forerunner of the Perommes system.

The responses to the questionnaire revealed the usage of job evaluation systems by industry sector, as shown in Table 4.3. Industrial equipment manufacturing organisations have the lowest use (56%) of job evaluation systems. This category will include the majority of SEIFSA affiliated organisations.

Table 4.4, taken from the September 1983 Salary Survey published by P-E Consulting Group, shows the incidence of job evaluation systems by size of organisation. Table 4.4 indicates that the majority of organisations with over 100 employees would be likely to have a formal job evaluation system in operation: the larger the organisation, the more likely the use of a job evaluation system.

The questionnaire revealed that two-thirds of the respondents had implemented their current job evaluation system in the last five years. This is not to say that they had no system of evaluating

TABLE 4.3

ORGANISATIONS WITH JOB EVALUATION SYSTEMS BY INDUSTRY SECTOR CLASSIFICATION

Industry Sector	% of Organisations
Primary Production	60
Mining	71
Materials Manufacture	79
Construction	60
Industrial Equipment Manufacture	56
Consumer Goods Manufacture	59
Distribution	63
Service Industries	67
Financial Institutions	81
Non-Profit Organisations	75

their jobs prior to, say, 1980; they could have changed their system.

The thrust of the preceding paragraphs is that there are two main job evaluation systems used in the private sector, but the use of job evaluation on a broad scale is not widespread. The figures also indicate that it is the larger enterprises that have job evaluation systems. Cogill (1984: 60) notes that the mining industry and "a number of firms" were using job evaluation by 1950. The current systems have been implemented rather recently. Paterson's book only appeared in 1972, although some of his work began in the early Sixties. The Peromnes system developed from the Castellion system in the early Seventies. The Council for Scientific and Industrial Research did valuable research on job evaluation systems between 1950 and 1965.

Job evaluation can thus not explain the level of wages, but its proponents seek to use it in order to attain a structured pay system. Paterson (1972: 2) comments:

> "... as a result of wage-drift, as a result of the failure of the economists to produce a practical theory to account for wage inflation and its control, (and) as a result of the stronger institutional pressures in the firm, ... all the evidence suggests that there are factors operating within individual plants which effectively isolate them partially from the external economic forces operating in the local labour market."

Job evaluation does not explain what these factors are, but it does provide a framework for pay structures. Livy (1970: 41) maintains that the objective of job evaluation is "to determine the relative differences between jobs in terms of job content".

The next sections discuss how such differences are evaluated and how the wages for different jobs are arrived at using job evaluation.

3. JOB EVALUATION SYSTEMS IN SOUTH AFRICA

This section briefly describes some of the job evaluation systems used in this country at wage earner level. This means that systems used predominantly at the executive or management level are not considered. Others whose use is not widespread are mentioned with minimal discussion. Rather more time is spent on the Paterson and points methods since these are widely used, salary surveys are evaluated according to them, and because the wage data presented in the next chapter are categorised by Paterson grade.

The systems discussed are:

- ranking
- classification
- the points method in general
- the Castellion method
- the Peromnes method

- the Paterson method
- other methods.

The fundamental difference between the classification and points methods is the assigning of numerical values to each factor. This has a decided bearing on the selection of the factors since not only must the factors describe the essential elements in all jobs, but it must also be possible to quantify these factors.

3.1 Ranking

Job evaluation essentially consists of establishing the relative positions of jobs. In the ranking method jobs are compared in order to determine their relative complexity or difficulty. The ranking method is not standardised in that there are no specific bases for comparison of relative complexity or difficulty.

This method is neither analytical nor quantitative because according to Livy (1975: 53):

> "jobs are not broken down into their component elements and requirements ... (nor does the method) give any indication of the degree of difference between jobs."

Ranking is an impractical and a tedious task in a large organisation although the effort can be reduced somewhat by selecting bench marks against which other jobs are compared. A refinement of this is the paired comparison technique where each job is compared against all

others. The final result is a pyramidal hierarchy of jobs which can be divided into a number of grades for purposes of salary and wage allocation. These grades are effectively equidistant (numbered sequentially, for example), but there is no reason to believe that the actual differentials existing between jobs should result in grades being equal distances apart. In other words, it cannot be said that the difference between the job content of grades 1 and 2, say, is the same as the difference in job content between grades 2 and 3.

The main advantage of job ranking is its conceptual simplicity. As an aid to easier discrimination between jobs, Livy (1975: 56) cites instances where it may be possible to select "a number of factors in a job as a basis for arriving at ranking decisions, but once one begins to do this one is in fact operating a vague and rather woolly points system without any tight or clearly defined controls". Milkovich and Newman (1984: 99) go further:

> "Ranking is seldom the recommended approach. The criteria or factors on which the jobs are ranked are usually so crudely defined (if they are specified at all) that the evaluations become subjective opinions that are difficult if not impossible to explain and justify in work-related terms."

It will be argued later in this section that the Paterson (decision band) method of job evaluation is in fact no more than a refined version of the ranking method. The literature may not indicate wide formal use of the ranking method, but in organisations without job evaluation systems, managers will subconsciously apply the

ranking method in determining pay differentials, even if their only frame of reference is the organisation structure.

3.2 Job Classification

In the job classification method of job evaluation, definitions are used to describe the characteristics of a number of predetermined grades. The basis of this method is the classification of the organisation structure into grades. The number of grades will depend on the nature of the organisation, so the job classification system could be considered to have considerable flexibility. Livy (1975: 70) regards this as "little more than internal convenience". He believes that the "classification system probably has greater validity when it forms part of an industry-wide or national scheme". Clearly if this is the case, the method cannot be designed around any organisational structure as Livy maintains in the beginning of his discussion on the system. In any event, the choice of number of grades is fairly arbitrary.

The literature indicates that the job classification method is most commonly found in the public sector. This is certainly the case in some, although not all, branches of the South African Civil Service. This lends credence to Livy's view of the method's being advantageous in a bureaucratic organisation but this does not agree with Biesheuvel's (1985: 28) view that

> "it has been argued in favour of the job classification method that because of the generally closer link between classes and organisational structures, it

> facilitates manpower budgeting and the establishment of career development pathways."

The argument is not with the second part of Biesheuvel's statement; rather it is that the job classification system cannot be both a national-type of job evaluation system (as suggested by Livy) and one that can accommodate internal organisation structure peculiarities. Milkovich and Newman (1984: 105) support the latter viewpoint because of the "inherent flexibility of the classification system".

The characteristics which define the factors used in the classification method are likely to be those which account for differences in responsibility, skill and other factors frequently encountered in the points methods of job evaluation. The classification system is thus one which represents the transition between the ranking and the points systems.

Milkovich and Newman (1984: 104) quote examples of the classification system's being used in other businesses where, for example, four to six grades have been developed for engineers. "However, the differences among grades are often more related to experience or 'years-since-degree' than differences in work content". Experience is a factor found in points systems, as will be shown later.

Paterson (1972) describes the use of the classification system in some detail in the US Public Service and also for use in the clerical class of jobs only, as expounded in the Institute of Office Management 'Manual on clerical job grading and merit rating', London, 1961. In both cases he describes a close correlation between the grades used in these systems with his decision bands, yet he maintains that the main disadvantage of the classification method is its applicability to cover a wide range of positions. The use of specific factors to evaluate only certain jobs limits the extent to which the method can be used in an organisation with a wide variety of jobs: different groups or 'families' of jobs will need different 'comparable factors'.

Paterson (1972: 60) has a further criticism of both the ranking and classification methods, which has already been mentioned and which is also considered by other writers:

> "There is no indication that the pay differential between each job in the series of the Ranking Method, and between each grade in the Classification Method should be equal or even nearly equal. There is every indication in the US Public Service that the differential between grades is progressively greater the 'higher' the grades; but not even this can be said of Ranked jobs in business enterprises. It is not to be wondered that these Methods are not much used, or if used are adjunct to negotiation ... There is no 'measure' of relative difficulty and importance hence there can be no 'measure' of relative value and so pay."

The extent to which the Paterson method overcomes this objection is considered later.

3.3 The Points Method in General

The simplicity and facility of introduction of the qualitative systems (ranking and classification) are insufficient to ensure their validity. Biesheuwel (1985: 20) claims that the alternative points rating methods are the most commonly used, despite their greater complexity.

Milkovich and Newman (1984: 112) state that all points methods have three common characteristics:

- compensable factors (factors used as the basis of evaluating jobs)
- factor degrees which are numerically scaled
- weights reflecting the relative importance of each factor.

Each of these characteristics will be discussed with reference to points systems in general. Subsequent sections consider the two such systems used in South Africa: Castellion and Peromnes.

3.3.1 Factors

The ideal situation in choosing factors set by Livy (1975: 73) is certainly not prevalent in South Africa:

> "A universal points rating scheme which can be applied to a whole organisation successfully is likely to be elusive. Although some examples do exist, they tend to be cumbersome, since an unwieldy number of factors must be included in order to encompass the whole range of job characteristics to be encountered. One of the assets of the points system is that it enables fine discriminations to be made between jobs, but this advantage is negated if too many factors are used, resulting in a blurring of criterion definitions, and inevitably, a certain amount of co-variance between factors. Expediency normally calls for the discrete treatment of job families, such as manual, clerical, managerial, etc., with points plans tailor-made for each family."

Biesheuvel (1985: 31) considers the opposite extreme to the co-variance problem: "too few factors will lead to a loss of discriminative power". He maintains (1985: 29) that:

> "The choice of factors is therefore generally a subjective matter depending on the evaluator's reasoning about what is most significant in the job that is also significant in the value judgements of the market place."

This again raises the issue considered in the previous section on the classification method: if market place judgements are to be considered (for attaining external competitiveness in salaries and wages), then a common job evaluation system must be used. This then precludes using the 'tailor-made' system propounded by Livy (except insofar as he believes in a points system only being used for 'families').

Paterson (1972: 62) agrees with Livy:

> "... it is recognised that not all job factors can be applied to all jobs in the firm, so job clusters are selected and from each cluster key jobs are chosen for analysis and description."

Paterson then cites Brennan (1962) in giving six criteria governing the choice of these jobs:

(1) They must represent the entire range of jobs.

(2) They must be stable, that is unlikely to change in content.

(3) They must be well recognised jobs, known both to labour leaders and management.

(4) They must be clearly and exactly defined with respect to skills, responsibilities and requirements.

(5) They must be acceptable to all in regard to description and rate of pay.

(6) They must stand out distinctly from other jobs so that there will be no misunderstanding among the raters.

Based on these criteria, factors which adequately cover each key job are chosen.

A commonly quoted system (Biesheuvel, 1985: 31; Burgess, 1984: 123; Livy, 1975: 75; Milkovich & Newman, 1984: 116; Paterson, 1972: 63) is that devised by the National Electrical Manufacturers' Association (NEMA) in the U.S.A.. Burgess (1984) gives examples of

the different factors which are applicable to production workers and to clerical and technical staff. These are summarised in Table 4.5 and show that certain factors are common to both groups, some of which are used in the South African points systems.

It is evident from the above that these writers firmly believe that a points system should be applied to job families or clusters and that factors will differ from one category to the next. It will be seen that the points systems used in South Africa utilise one set of factors throughout all categories.

3.3.2 Factor degrees

This second step refers to assigning scales which reflect different degrees (that is, a series of internal divisions) within each factor. The NEMA system mentioned above divides each factor into between five and eight degrees, each of which is described using simple statements or comprehensive definitions, as necessary. For example, Livy (1975: 78) gives the following degrees for the Experience factor:

Factor	Experience
1st degree	up to 3 months
2nd degree	3 months - 1 year
3rd degree	1 - 3 years
4th degree	3 - 5 years
5th degree	over 5 years.

TABLE 4.5

FACTORS USED FOR TWO EMPLOYEE GROUPS

Production	Clerical & Technical
Education	Education
Experience	Experience
Physical demand	
Mental or visual demand	Mental or visual demand
Initiative & ingenuity	Complexity of duties
	Supervision received/given
Responsibility	Responsibility
- Equipment or process	- Errors
- Material or product	- Contacts with others
- Safety of others	- Confidential data
- Work of others	
Working conditions	Working conditions
Hazards	

The number of points allocated to each degree varies, is illustrated in Table 4.6. There has been some discussion as to whether the values ascribed to degrees should be determined by arithmetic or geometric progression, or by variable percentage differentials. Livy (1975: 79) maintains that the arithmetic progression is the most common. Paterson (1972: 65) is non-committal: "Apparently there is no theoretical basis for using either (arithmetic or geometric) method". The dissension evident clearly indicates that there is no objective or scientific basis on which these values should be determined. Different authors seem to choose a method, without any theoretical foundation.

3.3.3 Weighting the Factors

Weighting the factors in a points system of job evaluation is a contentious issue. Regression analysis can be used to determine the weightings of individual factors in order to indicate the extent to which they predict existing remuneration levels. In a joint article with Naude, the author (1985) did such an analysis for executive remuneration. The findings showed that certain factors (such as annual turnover of the organisation, and type of company (holding, subsidiary, etc.) are better predictors of executive remuneration than others (such as profit). The problem with such an approach is that it uses the existing wage structure as the reference point, thereby reinforcing any inequities that are inherent in the structure.

Biesheuvel (1985: 29) comments on the use of regression analysis:

> "In practice, this empirical procedure is rarely used because ... there are other subjective elements in the development of the points system which cannot be circumvented. The application of the multiple regression technique to the kind of quantitative data one obtains from the basically qualitative material may therefore be statistically questionable. There is greater merit in relying on the quality of psychological judgement throughout."

This statement would indicate that the points system cannot aspire to ensuring that "the value of all factors combined constitutes 100% of the total job" (Livy, 1975: 76).

In spite of his belief in "the quality of psychological judgement", Biesheuvel (1985: 29) does admit (when determining "the successive degrees in which each factor can manifest itself in jobs") that "this process is essentially subjective and therefore liable to errors of psychological judgement".

Paterson (1972: 65) suggests that the weighting of factors is best achieved by consensus in the grading committee.

Table 4.6 (taken from Burgess, 1984: 128) gives an example of the NEMA point method for production workers, showing the points increasing arithmetically with a progression through the five degrees.

Assigning numbers to factors and degrees, such as those shown in Table 4.6, may appear to give greater face validity to the point

TABLE 4.6

NEMA POINT PLAN FOR PRODUCTION WORKERS

Factors	1st Degree	2nd Degree	3rd Degree	4th Degree	5th Degree
Skill					
Education	12	24	36	48	-
Experience	15	30	45	60	75
Complexity of duties	15	30	45	60	-
Effort					
Physical demand	10	20	30	40	50
Mental and/or visual demand	10	20	30	40	50
Responsibility					
Consequence of errors	12	24	36	48	60
Responsibility for safety of others	7	14	21	28	35
Responsibility for work of others	7	14	21	28	-
Job Conditions					
Working conditions	7	14	21	28	35
Hazards	5	10	15	20	25

method (when compared to ranking or classification), but there is no underlying theoretical validity which will allow the point method to be called scientific or objective.

Paterson (1972: 75) makes some fundamental points regarding the points method:

> "As already mentioned it is generally assumed that each degree of one factor represents a step equivalent to the degree in another factor but, if each factor is weighted differently, i.e. each has a different number of points to be distributed among its constituent degrees, then the number of points assigned to degrees in the various factors must be of different value as ordinate numerals. Says Belcher (p.283), 'Where factor weights and the resulting point values for factors and degrees have been determined by committee rather than statistically, it is advisable to evaluate a number of key jobs to determine if the plan achieves the desired relationship between jobs. At this point adjustment in point values may be called for to insure that the plan is acceptable to the parties.' In other words the point values are negotiated and are not objective."

In a further bold statement Paterson (1972: 75) states:

> "... when the total points are plotted against pay during the assessment stage, the relationship is assumed to be always linear. It is known that for the whole firm the differential increases exponentially from the lowest grades to the highest."

Paterson's own explanation for this will be discussed later, but he also quotes other research to support his contention. He concludes this part of his argument (1972: 76):

> "So it must be assumed that the linear relationship applies only to a job cluster covering a few grades; or, if there are many grades, they must be of small intervals. So, apart from the difficulties of choosing factors that can properly be applied to every

> job in the firm, the methods of point distribution do not permit of application throughout the firm."

If this argument is accepted it certainly questions the use of a single points system for internal use in an entire organisation, and the extension of the system to cover industry at large. The argument does lead Belcher (1963: 295) to prefer "custom-built" over "ready-made" systems, provided it is recognised that the factors vary from job cluster to job cluster and from organisation to organisation. Further he maintains that "A limited number of factors can provide a workable system".

Biesheuvel (1985: 32) supports the view of a limited number of factors:

> "It is obvious that factors ... cannot cover all that there is to a job, but this requirement is quite unnecessary. We need to account only for those elements that matter from a compensation point of view."

He argues that "there are bound to be some elements that carry no weight for compensation at all", and he cites physical effort as an example. Biesheuvel's argument that incumbents doing hard physical work are in a poor bargaining position does not address the question of whether or not additional rewards should be paid for hard physical work. Paterson's proposal to deal with this "physical effort" problem is equally unconvincing and even impractical. This will be mentioned again.

Since the question of the weighting of factors is central to the points method, it is useful to mention that an international conference on job evaluation (quoted in Paterson, 1972: 77) found that there were two major ways of determining the weightings of factors:

- deducing them from the existing pay structure
- assessing the relative scarcity of the required abilities.

Paterson summarises the conference's conclusion that the first is better because "job evaluation is not normally acceptable to the workers if it results in major changes in the existing hierarchy of wage rates". This circular approach of using the existing pay structure to determine weightings, which in turn determine the pay structure is no more than an introduction of spurious validity into the whole process. This reinforces the lack of a theoretical basis for the points method of job evaluation.

Paterson continues:

> "The conference believed that, in any case, the existing pay structure reflected the supply/demand structure of the labour market and so was already established on scarcity of abilities. This conclusion does not accord at all with the variations in factor weightings that are to be found in a wide variety of firms some of them in the same industry."

Paterson presents a methodological argument against the points method in that unlike measurements cannot be directly summed. The following is his well-known analogy (1972: 77):

Job A	Job B	Job C
20 bananas	40 bananas	50 bananas
60 oranges	30 oranges	20 oranges
50 lemons	20 lemons	10 lemons
40 apples	50 apples	80 apples
170	140	160

He comments:

> "All one can say is that Job B is less acid than Job A, and Job C is sweeter than the other two. The totals of numbers have little differential meaning."

Livy's response (1975: 126) is:

> "... the whole purpose of the points system is to arrive at a summation of the various elements in a job with a view to forming some pragmatic basis on which to make comparison ... Unless one resorts to a single-factor ... there is no other way of doing it."

But Livy does emphasise the importance of weighting factors differently. This is highlighted by Sargent (in Rock (ed.), 1984) who states, "Experience has shown that except by rare coincidence each factor carries a different weight in determining job content. Consequently each factor scale has a different point value."

3.4 The Castellion Method

The Castellion method is not widely used in South Africa, but it is important for two main reasons:

TABLE 4.7

FACTORS & POINTS RANGES FOR THE CASTELLION SYSTEM

	Points Range
A. EFFORT	
Sub-factor AI : complexity of decisions	1-200
Sub-factor AII: pressure of work coefficient	1,0-2,0
Effort score: complexity score plus product of complexity score and pressure of work coefficient	2-600
B. RESPONSIBILITY	
Sub-factor BI : controls and checks	1-112
Sub-factor BII: consequence of error	1-128
Responsibility score: controls and checks plus consequence of error	2-140
C: COMPETENCE	
Sub-factor CI : qualifications	0- 68
Sub-factor CII: experience coefficient	1,1-5,0
Competence score: qualifications plus product of qualifications and experience and 'no qualifications adjustment'	2-408
TOTAL CASTELLION POINTS RANGE	6-1248

The coefficients (AII and CII) are figures by which the corresponding sub-factors (AI and CI) are multiplied to give a total score for that factor. A series of guidelines (definitions) describes what points score is allocated for each factor, or sub-factor.

- A considerable amount of published research has been conducted in creating this points system of job evaluation; and

- it was the forerunner of the Peromnes system of job evaluation which is widely used in South Africa, particularly in the financial and retail sectors.

The Castellion method was derived by the South African Breweries from a job evaluation system developed by the NIPR. The name comes from the Castle beer and Lion beer brand names.

Details of the method will not be given, apart from the three main factors, their subfactors and the points ranges. The information in Table 4.7 is taken from Biesheuvel (1985: 256).

The Castellion system was seen as "a general solution ... with universally applicable factors and a standard points range for each factor, according to the degree of its involvement in a job" (Biesheuvel, 1985: 67). This was in order to obviate the necessity of having to recalculate the weights of factors for different companies or divisions within the same company. In other words, the total flexibility of the points method in using as many factors and weightings as deemed expedient was seen as impractical particularly because the Castellion system was the basis of a salary survey conducted by the South African Breweries in the mid-Sixties.

Biesheuvel (1985: 73) does see a potential problem in that there is no physical effort factor in the system. He suggests two solutions:

- The payment of a special allowance for the physical effort involved in certain jobs; and

- the introduction of a modified evaluation procedure for low level manual jobs.

The first possible solution is also favoured by Paterson when his decision-band theory is criticised on the same count. Apart from the administrative burden imposed by the inclusion of special allowances, they rapidly become rights rather than privileges. After a change in conditions or technology which means that such an allowance can no longer be justified, it is extremely difficult to take away an allowance. Biesheuvel (1985: 73) believes that:

> "this allowance could be determined from market values for jobs of this kind, though a problem might arise if evaluation in terms of a universal Castellion system already yields a value for the job in line with its market value. There would then be no scope for the payment of a substantial additional allowance."

Allowances also distort the internal equity which is suggested to be one of the main benefits which derive from a job evaluation based pay structure.

The second solution of replacing an existing factor with one which would take working conditions (or physical strenuousness) is a solid

admission that a 'universal' points system is unattainable. Writers such as Livy have warned of this, yet South African points systems, such as Castellion and Perommes, take no heed of such admonitions. Biesheuvel (1985: 81) does acknowledge:

> "... a company may decide to have a separate evaluation system for weekly paid jobs of a predominantly manual kind".

The debate setting out Paterson's opinion of the Castellion method, and Biesheuvel's view of the Paterson (decision-based) method will not be reproduced here. However, it will be shown that Paterson believed that the decision-based method effectively incorporated all other factors. Biesheuvel maintains forcefully that the Castellion decision-making factor is not the same as the single Paterson decision-making factor.

Biesheuvel (1985: Chapter 15) presents Cortis's validation of the Castellion method in some detail, although he acknowledges (1985: 104): "Cortis's exercise can (therefore) not be looked upon as a conclusive test of the construct validity of the Castellion system".

3.5 The Perommes Method

The Perommes method is one of the more widely used job evaluation systems in South Africa. This method was derived for the purpose of providing a simplification of the Castellion method as the basis for a salary survey conducted by the South African Breweries. The salary survey was taken over by an independent company in the mid-

Seventies, and the Perommes method remained with the salary survey. The method has eight factors, to each of which may be assigned between Ø and 36 points. The total then forms the basis of grading with grade 19 representing the lowest grade and grade 1+ being the top grade. The factors are:

1. Problem solving
2. Consequence of error of judgement
3. Pressure of work
4. Knowledge
5. Job impact
6. Comprehension
7. Educational qualifications and intelligence level
8. Subsequent training/experience required.

Biesheuvel (1985: 55) makes the following comments on the Perommes method:

> "The Perommes Method is open to criticism in its choice of factors and in its assignment of the same weight to all of them ... Job Impact, Knowledge and Comprehension should not be separately assessed. Job Impact is an essential aspect of decision making, particularly when decisions are assessed in terms of complexity. Knowledge is the outcome of both qualifications and experience. Comprehension, which as defined is largely a matter of being able to follow written and verbal instructions, communications and terminology, is implicit in the progression of knowledge and experience ... The same basic elements are (thus) being assessed more than once under different headings. Assignment of the same weight to all factors by providing the same points range for each factor is unsound, as they differ in their relative importance as determinants of job performance."

There can be no theoretical justification that each of the factors is equally important for all categories of jobs. It has been mentioned above that several writers specifically state that the factors should be selected for the job category under consideration. The Perommes method is also open to criticism in that a summation of the points for each factor cannot represent the effect of their interaction (Biesheuvel, 1985: 55). Certain factors, because of overlap, are weighted too heavily for different categories; others are weighted too lightly.

It is surprising that Biesheuvel can recommend the Perommes method: (as will be shown later) he rejects the Paterson system because of the lack of availability of "rigorous empirical information" and "on the grounds of the methodological weaknesses". Yet he produces no rigorous empirical evidence of the Perommes method, nor does he seek solutions to the methodological weaknesses that he himself has pointed out in the Perommes method. His final comments (1985: 56) on the Perommes method certainly do not address the issue:

> "These criticisms do not seriously detract from the usefulness of the method for salary survey purposes. They are unlikely to affect the hierarchy of key jobs in the external market, nor their identification with similar jobs in the internal market."

This method in no way predicts the shape of the pay curve, nor does it allow the pay curve to determine the factor weightings, yet the method is effectively considered adequate for interpolation between key jobs. The apparent symmetry of the method shows that ease of

use has been considered more important than rigorous scientific objectivity, although it must be added that none of the points methods can be considered truly objective.

Cowan (1985: 93) summarises the situation:

> "... most multi-factor job evaluation systems arbitrarily lay down how many points can be awarded for different levels of education, different levels of stress, and so on. This is not scientific measurement, but a way of dressing up opinions as numbers, and then applying these opinions as a routine procedure. The opinions are embedded into the measurement process when the system is designed."

3.6 The Paterson Method

Paterson developed and tested his system in Southern Africa in the late Sixties and early Seventies. He based his system on one factor because he believed (1972: 2):

> "All jobs, whatever the particular field or function, require people to make decisions, so decision-making is common to all jobs - for which reason decision-making becomes an important factor, if not the only one, by which jobs can be compared."

Paterson (1972: 8) continues:

> "There are six kinds or bands of decision to be found in any enterprise and, theoretically, there are no more possible. So any job can be defined in terms of these decisions and of the authority relations that are involved, under such broad terms as 'supervisor' and 'adviser'."

The decision bands devised by Paterson, and upon which his system of job evaluation is based are given in Table 4.8. This table is a combination of Paterson's two presentations (1972: 25; 1981: 95).

Paterson's defence of his decision-band method's exclusion of physical conditions is analogous to Biesheuvel's explanation for the absence of such a factor in the Castellion method. Paterson (1972: 123) uses the term "effort" which is "measured as 'required' physical and mental effort". He maintains that physical conditions

> "can only be subjectively evaluated and deserve negotiation separate from evaluation of job content. Conditions refer to the external environment within which work is done; conditions are not part of the work, not part of job content."

Paterson does not believe that physical conditions, or physical effort should not be rewarded, but he specifically states that this must not be part of the job evaluation derived salary and wage structure: allowances must be paid over and above the normal rate for the grade.

Although Livy does not criticise the conceptual foundation of the Paterson method, he does (1975: 112) criticise the contingency payments advocated by Paterson:

> "The system is ... in danger of building a two-tier structure and of perpetuating the contemporary phenomena of wage drift. Paterson's claim that it can provide a basis for incomes policy is refutable, notwithstanding the merit of deriving basic rates from common criteria."

TABLE 4.8

HIERARCHY OF PATERSON'S DECISION STRUCTURE

Original Band Designation (1972)	Revised Band Designation (1981)	Kind of Decision	Grade*		Kind
E	F	Policy-making (Enterprise goal-setting)	FU FL	(1Ø) (9)	Coordinating Policy
D	E	Programming (Strategic planning)	EU EL	(8) (7)	Coordinating Programming
C	D	Interpretive (Tactical planning)	DU DL	(6) (5)	Coordinating Interpretive
B	C	Routine (Process selection)	CU CL	(4) (3)	Coordinating Routine
A	B	Automatic (Operation decisions)	BU BL	(2) (1)	Coordinating Automatic
Ø	A	Defined (Element decisions)	A	(Ø)	Defined

*Paterson originally numbered the grades from 1Ø (coordinating policy) to Ø (defined). When using the revised bands, common usage is to refer to FU (upper F band), FL (lower F band) and so on.

Paterson regards bands D, E and F as 'administrative' and bands A, B and C as 'instrumental'.

Pressure of work may be considered a part of the job content

> "if 'pressure' means relatively greater frequency in having to make decisions, or in being frequently involved in some aspect of the decision-making process, then number of decisions of a particular kind per unit time is a quantification of content which can be compared with other similar quantifications." (Paterson, 1972: 124).

This type of argument leads Paterson to conclude that there is one common denominator for all jobs. He argues (1972: 124) that the Castellion system, the Time-span and the Guide-chart Profile methods (these last two have not been discussed, but will be mentioned later)

> "... all have one thing in common, and converge on that one thing; ... they are concerned with decision-making as the basic criterion of job comparability."

Because Paterson believes (1972: 7) that "it is impossible to conceive of any more kinds or bands of decision, or of any more Grades of decision", he is obliged to resort to other methods of subgrading. He considers subgrading to be necessary "in order to provide differentials that indicate, in greater detail, differences in value of the job" (Paterson, 1972, Vol.II: 73). The extent to which subgrading should be permitted is expressed as follows (1972, Vol.II: 74):

> "Experience of the Paterson Method suggests these limitations:
>
> 1. A maximum of three subgrades for each odd-numbered Grade. They are called a, b and c.
>
> 2. A maximum of two subgrades for each even-numbered Grade. They are called a and b."

The even-numbered grades (refer to Table 4.8) are the co-ordinating grades or the 'upper' grades; the odd-numbered grades are the policy, programming, interactive, routine, etc. grades, or the 'lower' grades. It is current practice to refer to the odd-numbered subgrades of the C Band, for example, as C1, C2 and C3 (the lower C grades); the even-numbered subgrades of the C Band are C4 and C5 (the upper C grades). The A Band is divided into only three subgrades: A1, A2 and A3. Some organisations use only four subgrades: for example, B1 and B2 as the lower subgrades and B3 and B4 as the upper subgrades. The reason for this is the difficulty encountered in distinguishing between subgrades. Paterson proposes three major techniques of subgrading, with the first being the least subjective, and the third being the most subjective:

1. The Decision-Count
2. The Count-Ranking
3. The Ranking.

The rationale behind each is given below.

The Decision-Count

Paterson (1972, Vol.II: 74) explains this method of subgrading:

> "1. Within any one Grade one task is relatively more difficult and so more important than another if it requires more decisions of that Grade.

> 2. A Job is relatively more complex, and so more difficult and important, than another of the same Grade if it is composed of more tasks requiring decisions of that Grade."

It is thus necessary to count the number of decisions that are required in the performance of a job. Paterson (1972, Vol.II: 78) acknowledges the problems likely to be encountered in actually having to count decisions.

The Count-Ranking

The main principle of this subgrading method is (Paterson, 1972, Vol.II: 78): "Tasks, processes and operations can be subjectively ranked as subgrades in order of difficulty and/or complexity".

Paterson (1972, Vol.II: 79) lists five general principles for subgrading, the details of which are too complex to be discussed here.

Again, practical problems of implementation lead Paterson to propose a further technique.

The Ranking

Paterson introduces this subgrading technique (1972, Vol.II: 82):

> "A Ranking Technique is necessary for subgrading of all those jobs where the Decision-Count and Count-Ranking techniques are not adequate. But the essential criterion for comparison remains the difficulty in decision-making as demonstrated either by analysis of

> the decisions, or of the education or experience required ... or of the mental effort required for the job ... Here one of the factors of the Castellion Method may be useful, the Decision-Making Factor."

It is not surprising that this reasoning leads Biesheuvel (1985: 58) to pose the question:

> "If one has to resort to other grading concepts and methods to achieve this (providing a continuous grading of jobs), why not adopt one or other of these throughout, and not just for sub-grading?"

It is clear that Paterson's three subgrading proposals are not in keeping with one of Paterson's own requirements for an effective system of job evaluation: acceptability. Paterson believes (1972: 116) a method "must have simplicity, it must be readily understood by the great majority of members of the firm". In his later book, Paterson (1981) does not use these three subgrading techniques; he rather provides sets of "Principles underlying subgrading" which contain qualitative descriptions effectively making the subgrading process a ranking exercise, with comparisons between jobs illustrating subgrading methodology. Livy (1975: 112) comments on the original three subgrading techniques:

> "Some of the actual techniques used for subgrading are, inevitably, rather subjective. Certainly they are recondite, and one would suspect not always comprehensible to the working man."

Commenting on the reported successes of the method, Livy (1975: 112) makes the point:

> "But the Achilles' heel of the method is that one of the principles on which it rests is fallacious. Because the outcome conforms with existing pay rates, it does not mean to say that they are the right ones. They do not validate the scheme."

Biesheuvel's criticisms of the Paterson concept are the most vociferous (1985: 58):

> "The Decision Band Model by itself is insufficient to provide a continuous grading of jobs; it cannot establish the range of job value differentials from the highest to the lowest level which account for the pay differentials actually observed between these levels."

The Paterson method lends itself to a hierarchical structure. Paterson's discussion of relations in decision-making is concerned with the system of structural authority where he illustrates nominal, actual and full control with the structural diad and triad. He does introduce the concept of 'sapiential' authority by stating that (1972: 22):

> "For the purposes of job evaluation the important point is that a person ... who has the right to tell a colleague that he 'must do if' ... is on the same level as the decision-maker."

But otherwise Paterson concentrates on the function decisions in the hierarchical context. This leads Biesheuvel (1985: 59) to state:

> "Paterson has postulated an army-style decision process, with an hierarchical command structure, which may fit highly bureaucratic organisations ... It is most inappropriate, however, to a business practising a participative style of management, where job boundaries are less clearly circumscribed, lines of authority are of a different order, the command from above being largely replaced by joint consultation, and a good deal of autonomy in decision making has been granted."

Biesheuvel does not believe that all policy decisions (which Paterson classifies as F Band decisions) are taken at Board level. He maintains that policy decisions may well be taken at lower levels, and that it is unrealistic for Paterson to classify these policy decisions as, for example, "programming decisions". Biesheuvel takes Paterson's titles ("policy", "programming", and so on) very literally, without apparently noting the entire definition, including factors such as limits of discretion. Nor does Biesheuvel seem to consider who bears responsibility for decisions (irrespective of who makes recommendations).

The choice of decision making is an acceptable factor to Biesheuvel, but he states (1985: 61):

> "Jobs should be graded, not according to the descriptive decision making band in which they can be classified, but according to the difficulty and complexity of their contribution to the decision making process."

He continues (1985: 64):

> "We agree that all jobs, even the low level ones, involve decisions, though not of the kind Paterson relies on; we also agree that a very wide range of decisions in terms of complexity and difficulty can be distinguished, though not by means of the criteria and methods advocated by Paterson."

Although Biesheuvel cautions against the use of the Paterson method "on the grounds of the methodological weaknesses" (1985: 66), he does not attack the hypothesis put forward by Paterson regarding the pay structure that the Paterson system produces.

Bowey and Eccles (1975) criticise the Paterson system as introducing "a strong bias in favour of 'managerial' jobs", and having the "handicap of reinforcing the old-management-biased status quo even though not based on 'factors' and Paterson claims (the method is) equally applicable to all jobs".

A fundamental criticism of the Paterson system remains: the single factor of decision-making does not have scientific face validity. It is difficult to accept Paterson's belief that decision-making, being common to all jobs is the only factor by which jobs can be compared.

3.7 Other Methods

It was stated in the introductory paragraphs to this section that job evaluation systems which are predominantly used for higher levels in the organisation would not be discussed. Also, those methods not widely used in South Africa would not be considered. For the sake of completeness, it is worth mentioning some of these systems:

- Guide-Chart Profile Method (the Hay system)
- Q Method
- Factor Comparison Method
- Time Span of Discretion Method.

The Guide-Chart Profile Method is best suited to executive and management levels in the organisation. It relies on three concepts: accountability, problem-solving and know-how. The system is copyright and details of the charts which are drawn up for individual companies may not be published. Apart from its use for the higher levels, it is seldom encountered in South Africa.

The Q Method was developed by the National Institute for Personnel Research (NIPR), the name being derived from the questionnaires used to obtain information for drawing up job descriptions. The method has three key dimensions: decision making, controls and contact with people. These are subdivided into nine factors:

- nature of the job
- the most complex recurring decisions to be taken to resolve problems
- the background necessary to identify and resolve problems
- resources available to assist the solution of problems
- the restraints determining actions or decisions
- the nature of control over decisions exercised by a superior
- the nature of the feedback and consequences or implications thereof
- the nature of the contact with people inside and outside the organisation.

The methodology for implementing the Q Method is rather more structured than other points systems, such as the Peromnes method.

or why time span measures level of work or embodies the essence of equity". The method appears only to attract intellectual interest.

3.8 Summary

The preceding sections have given some of the details of several job evaluation systems used for wage earners in South Africa. The various criticisms indicate that no system is without conceptual or methodological fault. The two systems most widely used in the South African private sector (Paterson and Peromnes) have been attacked on various counts. The purpose of this discussion was to provide the background to Livy's comment (1975: 146) that

> "job evaluation can offer a means for marshalling the various forces together and for interrelating comparable units of worth requiring comparable sets of skills and capacities with prevailing market conditions".

Biesheuwel's comment on the factor comparison method that it is "entirely arbitrary" can surely be extended to apply to all of the job evaluation systems discussed. A lack of scientific objectivity is evident in all the systems: the choice of factors, their weightings and the allocation of values to these factors are arbitrary. The arguments of the proponents of the various concepts and systems are not fully convincing. The use of job evaluation as the basis for pay structuring is thus theoretically suspect. The comments of Wootton in the next section support this view.

The next sections consider the structuring of wages and their presentation in salary surveys.

4. WAGE STRUCTURING

In discussing the theoretical considerations of job evalu-ation, Livy (1975: 129) quotes Wootton (1955):

> "Job evaluation 'respects in practice the boundaries set by convention to which in theory it might offer serious challenge'".

He continues:

> "Perhaps job evaluation is a myth, a mystique for covering up inequities in the social system. What is more, the introduction of a formal system may rigidify (sic) and impede the processes of change. The problem enters the political arena. There can be no doubt that the validation of job evaluation of plans as wholes, or the various supposedly correlated factors included in them, is a tricky exercise."

Yet it is not always fair to blame job evaluation for perceived inequities in a system. Frequently the inequities are manifested in the form of pay. Job evaluation is theoretically detached from pay and wage structuring (unless, of course, existing structures have been used to weight factors). In practice it is inextricably linked to wage structuring in that it is a fundamental instrument for distributing an organisation's salary and wage bill.

While it may not be fair to blame job evaluation for pay inequities, it is fair to blame those who propagate the use of certain job

evaluation system as the basis of wage structuring. There is no sound theoretical reason for drawing a pay curve with job evaluation grades spaced equidistantly on the horizontal axis, 'wage' on the vertical axis, and expecting the resulting curve to have mathematically recognisable characteristics. Paterson (1972: 126) comments:

> "Some believe that the pay curve is linear, that there is a linear relationship between pay and points; others, however, believe the relationship is geometric ... These are beliefs, neither theories nor logical principles that have been proved."

When discussing salary and wage structuring, Biesheuvel (1985: 142) quotes extensively from the work of L.K. Savery, but he adds that Savery's work is "very much a 'How to do it' contribution to the subject of compensation. The theoretical or conceptual aspects of his prescriptions are not discussed ...". This is a common failing with the literature. Paterson does attempt to present a theoretical or conceptual argument, and this is now discussed.

4.1 Paterson's Relationship Between Pay and Job Evaluation Grade

Paterson seeks to present a relationship between pay and grade which will provide some measure of theoretical validity to his decision-band theory of job evaluation in the pay structuring context. His explanation (1972: 153) is summarised below:

> The difference between each band involves the categorical imperative, so the relation between the co-ordinator and the

co-ordinated is one of the sense of responsibility: there is one 'unit of responsibility' between each. Responsibility cannot be delegated so there will be accumulated responsibility upwards. Consider three managers, K, L and M, with L reporting to K, and M reporting to L. Because L cannot delegate responsibility, he remains responsible to K whatever M might do. The two 'units of responsibility' M to L, and L to K, remain.

Referring now to Paterson's job evaluation method, let the relation between each band be one 'unit of responsibility', then if the responsibility at Band A is 1, the responsibility at Band B will be 1 + 1 = 2 and at Band C 1 + 2 + 1 = 4. Table 4.9 is obtained by continuing in this fashion.

Thus if y = reward, and x = band, $y = 2^x$

Since each band (except the first) is divisible into two grades, then when x = number of grades

$$y = (\sqrt{2})^x = 1,42^x$$

Any one unit of money may be taken as equivalent to one 'unit of responsibility', so Paterson concludes that the relationship between grade and reward is logarithmic: a linear horizontal scale of grade, and a vertical logarithmic

TABLE 4.9

ACCUMULATION OF UNITS OF RESPONSIBILITY BY BAND

Band	Total Band Units
First A	1
Second B	1 + 1 = 2
Third C	1 + 2 + 1 = 4
Fourth D	1 + 2 + 4 + 1 = 8
Fifth E	1 + 2 + 4 + 8 + 1 = 16
Sixth F	1 + 2 + 4 + 8 + 16 + 1 = 32

scale of pay will yield a straight line relationship between the two.

This rather ingeneous (but exaggerated and simplistic) theory reinforces the hierarchical characteristics of the Paterson method. Paterson quotes some examples where his theory 'works'. When salary survey data are plotted on the system of axes proposed by Paterson, the results are fairly close to a straight line. It is difficult to accept Paterson's explanation for this apparent relationship between pay and Paterson grade. If individual organisations have been striving to achieve this straight line pay curve, it is not surprising that their structure exhibits such a relationship. Similarly, the shape of the salary survey curve may also reflect the effect of organisations' attempting to achieve what they have been led to believe is an 'equitable pay structure'.

4.2 Establishment of Wage Structure

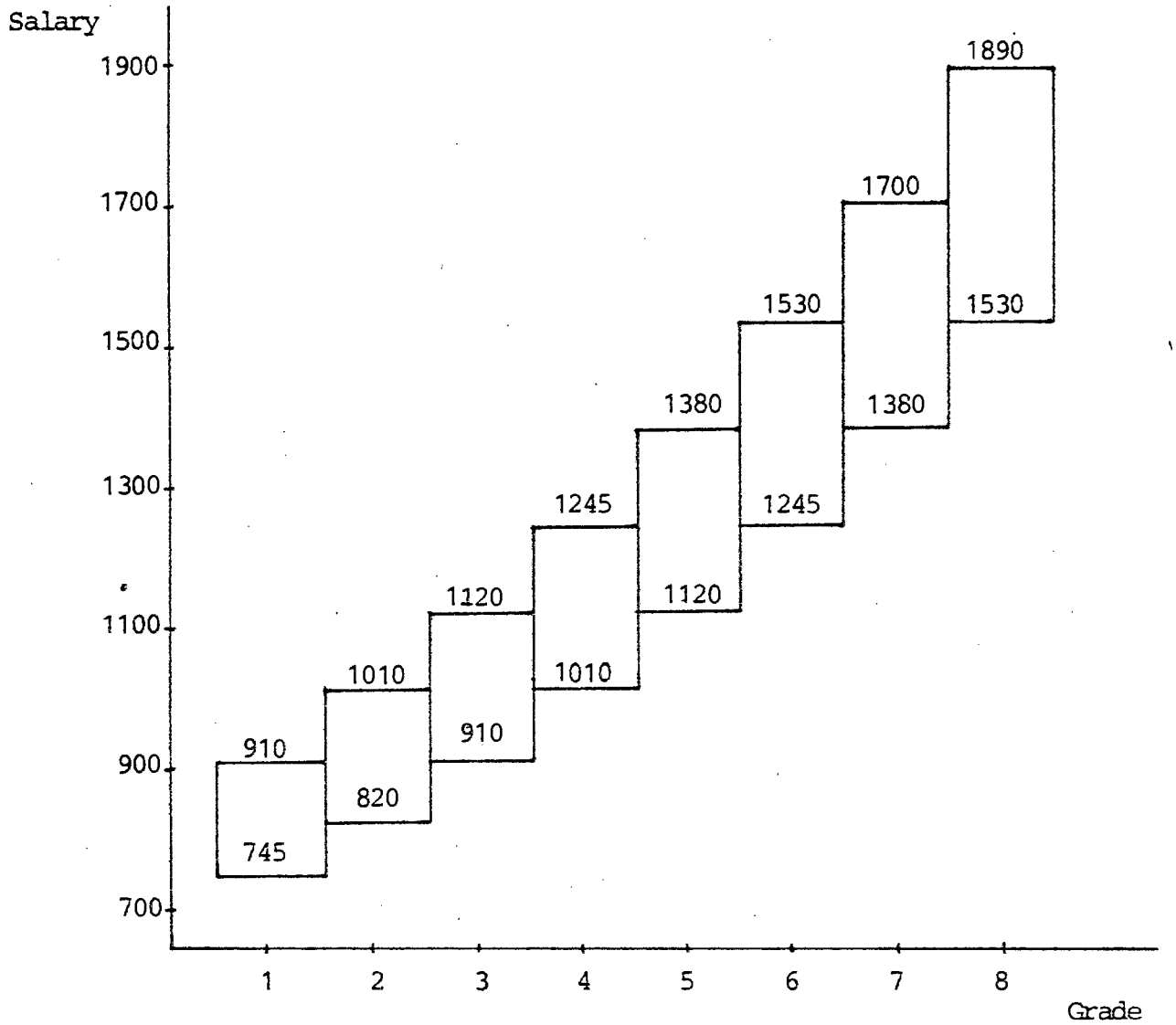
It has been mentioned that Biesheuvel found that most literature refers to the 'How to do it' aspect of structuring. Typical of such an approach is the example of Karr and Fischback (in Rock (ed.), 1984) of the American Association of Industrial Management:

> "The Association recommends the use of ranges overlapping approximately half a grade with a percentage progression (typically of 10%). Spread within grade is 23%."

This example is illustrated in Figure 4.1.

FIGURE 4.1

SAMPLE SALARY STRUCTURE



Grade progression 10,0%
Spread within grade 23,1%

Adapted from Karr & Fischbach (in Rock (ed.), p.13/11)

The concept of overlap is illustrated in Figure 4.1. The purpose of overlap is to enable a superior worker in a given range to be paid more than a less effective worker in the next grade. (Burgess (1984: 195) quotes several American sources that maintain that an overlap of 50% is acceptable. The questionnaire sent to South African organisations (mentioned in the beginning of this chapter) indicated that some 80% of respondents had overlaps of less than 30%. Overall figures of overlap are not too meaningful: figures for overlaps at the different grades would be more useful. However, the above figures indicate a much steeper pay curve in the South African context than in the American situation. Paterson (1981: 133) mentions that he has encountered overlap, particularly overlap of Grade B3 by Grade B2, but not

> "a substantive grade pay overlapping the substantive pay above, nor a coordinative grade pay overlapping the coordinative above ... because a job cannot be rewarded more than the job to which it has a relation of responsibility."

(The terms 'substantive' and 'coordinative grade' refer to the lower and upper grades shown in Table 4.8.)

In other words, B2 will not overlap C2, nor will B3 and C3 overlap. He finds the 50% overlap acceptable, except "if there is overlap by a coordinative grade pay of the substantive in the band above it is always small".

The 'size' of the boxes in Figure 4.1 is effectively the determinant of the overlap. Advice abounds in terms of the amount by which the

maximum of a grade should exceed the median, and the percentage below the median for the minimum of the scale. Figures in Burgess (1984: 195), Milkovich and Newman (1984: 256) and Biesheuvel (1985: 156) are in the range of 20% - 30% for the top of the scale above the median, and 10% - 20% for the bottom of the scale below the median. Biesheuvel (1985: 161) quotes examples at the South African Breweries of the maxima (representing fully competent levels) being two standard deviations above salary survey means, and the minima being one standard deviation below salary survey means. Again, there is no theoretical justification or explanation for such findings.

Paterson (1981: 137) agrees with the maximum being in the region of 20% - 30% above the mean:

> "It is sometimes said that (the) maximum should not be greater than 25% of the basic pay - a statement that is based on experience rather than on logic. The theoretical reason for this empiricism is that the slope of the pay curve in western industrial societies is of the order of 1,25 $\pm$ 0,05, hence the maximum should not be greater than the mid-point of the next grade."

It should be noted that there is no 'theoretical reason' for such pay curve slopes.

4.3 Gradients

Paterson (1972: 165) has made several suggestions regarding the slopes of pay curves. He is not prescriptive in terms of what slopes should be, but rather makes observations of slopes varying

from 1,Ø5 to 1,3Ø. These may be interpreted as saying that the wage of one grade is 5% (or 3Ø% respectively) higher than the wage of the preceding grade. Paterson (1972: 167) comments: "In any one industry the slope of the pay curve appears to vary with size of firm" (the larger the firm the steeper the slope). Benge (in Rock (ed.), 1984) indicates that the slope of the pay curve depends on the nature of the organisation: he gives a slope of 6% for what he describes as a "static" organisation with "slow progression", a slope of 18% is found in a "rapidly expanding organisation".

There is no reason to suspect that gradients will remain constant across all grades. Narrowing of wage gaps at certain levels, blue collar/white collar differentials, pay compression and the effect of trade unions are all possible reasons for changes in gradients. Figure 4.2 shows two pay curves, AA and BA, where AA shows a constant gradient throughout whereas BA illustrates the 'dog-leg' effect with upward pressure on wages at the bottom levels.

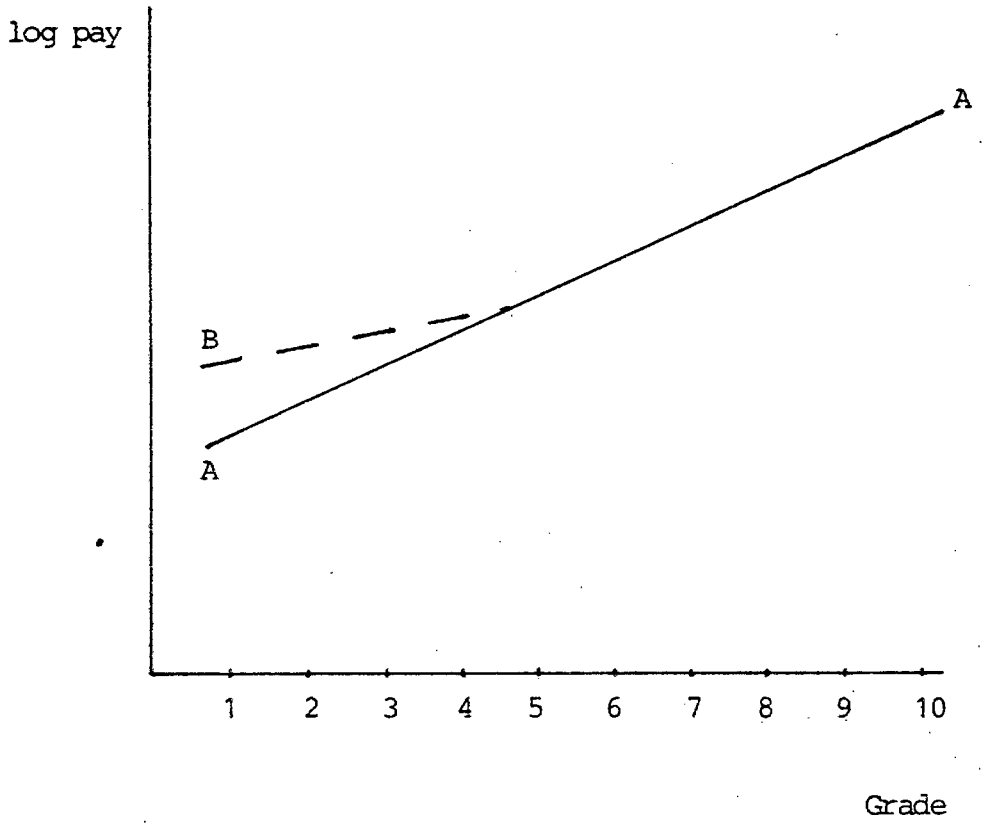
Clearly, the wage structures mentioned above have no scientific foundation. They can do little more than explain, justify or entrench a particular dispersion of wages.

5. SALARY SURVEYS IN SOUTH AFRICA

Salary and wage structuring on the basis of a job evaluation system is used for obtaining and maintaining internal salary and wage

FIGURE 4.2

PAY CURVE WITH DIFFERENT SLOPES



equity and consistency. Jaques (1970: 124) believes there is "an unrecognised system of norms of fair payment for any given level of work, unconscious knowledge of these norms being shared among the population engaged in employment work. It is because of these intuitive norms that (the individual) has had recourse to the concept of equity in describing the scale of 'felt-fair' differential payments". Such 'felt-fair' differential payments have an internal and an external component, the former's being addressed by job evaluation, the latter's being affected by 'market' conditions. Attempts are made to obtain 'market' information by using salary surveys.

In South Africa, these are exclusively for the use of management: consultants producing salary surveys typically take the view that salary and wage data are provided by the management of participating organisations, the surveys are paid for by these organisations and that processed (confidential) salary and wage information will not be made available to third parties. Trade unions, as organisations in themselves, have not been allowed to participate in salary surveys because consultants have questioned whether the unions will only use the information for their own internal organisational needs, or whether the information will be used by the unions in a bargaining situation on behalf of their members. Salary surveys thus remain a management tool. There is no doubt that management does have the use of salary surveys for negotiating purposes.

Salary surveys are a mechanism for replacing the "haphazard process" (Biesheuvel, 1985: 119) of trying to determine 'the going-rate' of a job rather than by using published official figures, advertisements, rumour, subjective feelings of the relative worth of a job, and so on.

This section describes certain aspects of salary surveys in South Africa and discusses some of their weaknesses in representing 'market' salaries and wages.

5.1 Background to South African Salary Surveys

The first salary survey in South Africa was produced in 1964 by the South African Breweries (SAB) for its subsidiaries and organisations in its group. The intention was to obtain salary and wage information for key positions of primary interest to the South African Breweries. In order to assist participants in understanding the survey and its requirements, an imaginary company structure was drawn. The name of this organisation was Peromnes Limited. Biesheuvel (1985: 120) describes this structure as having "four functional divisions vertically and 20 grades horizontally and eventually also a head office/branch structure". This survey outgrew the Peromnes Model Chart, so a job evaluation system was required to assist in matching jobs. The Castellion job evaluation system was considered too complicated, so a simplified form was derived from the Castellion system. This became the Peromnes job evaluation system. The SAB survey continued for eight years.

Meanwhile the first commercial salary survey was produced in 1968 by UAL Management Services. By 1972 there were some 550 organisations participating in this salary survey. In 1974/75 this survey split with one section combining with the remnants of the Castellion/Peromnes survey, ultimately forming the basis of the salary survey published by FSA (Pty) Limited (management consultants); the other part of the UAL survey was taken over by Urwick International who produced the survey until 1978/79, when it was acquired by the P-E Consulting Group.

There are now two main salary surveys in South Africa: those produced by P-E Corporate Services (Pty) Ltd and those produced by FSA Remuneration (Pty) Ltd. Each organisation claims to have some 800 participants, with these participating organisations employing one and a half to two million people. Approximately half of each surveys' participants also takes the other survey. Both organisations publish bi-annual surveys for three categories of employees:

- top executives
- general staff: Whites
- general staff: Asians, Blacks and Coloureds.

Each consultancy also publishes a series of industry surveys, such as for the mining industry, the retail industry, the insurance

industry, and so on. More specific details of the P-E survey are given in the next chapter.

There are other salary surveys in South Africa. The Hay-MSL Group publishes an executive salary survey which supports its confidential and exclusive job evaluation system. There are less than 100 participants. Other regional or company specific surveys are available, but these are generally more 'elitist' than the general salary surveys whose participation is open to all organisations, except trade unions and other employee bodies.

5.2 The Collection and Analysis of Data

Salary and wage data are collected by questionnaire. The number of employees whose salaries or wages are analysed has increased greatly with participating organisations being able to submit their data on tape once it has been down-loaded from their computerised payroll.

Job (or position) codes are used to collect data. Each code represents a particular job whose title and brief job description are used as the basis of comparison. (The Peromnes survey collects data by grade.) This is probably the greatest potential source of error. It is an impossible task for the consultants to check the matching of different jobs. The only check can be the imposition of lower and upper salary limits for each job cluster, which will form the basis of computer checking.

Milkovich and Newman (1984: 238) highlight the problem: "Many aspects of pay surveys have been ignored by researchers ... Little is known about ensuring comparability of key job matches or matching benefit packages. We do not even know how representative of some markets the survey participants are." The last sentence is important because it is likely that the larger or more progressive organisations will participate in surveys. This will result in the survey median salaries and wages being rather higher than the true 'market' figures.

For each job code, further data on race, location and industry sector are collected. In some cases different codes refer specifically to male and female employees. (Data relating to age and certain organisational size parameters are only collected for executives.) Biesheuvel (1985: 122) states that "regional differences have been found in practice to be not all that important in South Africa". The validity of this statement depends on the interpretation of "not all that important" since a 20% differential is frequently found between coastal areas and the PWV area.

The industry categorisation is rather broad in order to ensure adequate samples in the individual categories. For example, the P-E Survey's 'Consumer Goods Manufacture' category includes domestic appliances, food and drink, leisure products, pharmaceuticals and cosmetics, tobacco and liquor and furniture. The reasons for 'ensuring adequate samples' are to maintain confidentiality in that no organisation's data must be recognisable, and also to obtain

statistically meaningful data. For example, no data will be published in the P-E survey unless there are at least three different organisations submitting data in one location or sector; the quartiles are only shown if at least 10 items of salary or wage data are received for one location.

An increasing number of organisations (62% in 1982, 74% in 1985 - P-E Surveys) claim to have an integrated pay structure. This means that they claim not to discriminate on the grounds of sex or race, and so many do not have a reference to race on their payrolls. Salary and wage information is thus entered into salary surveys under the 'White' category. This has serious implications for publishing figures in that although discrimination is disclaimed, these so-called integrated pay structures are likely to reveal lower figures than would an 'All White' structure. To this extent it is likely that salary survey figures shown in 'White' tables are rather lower than what 'Whites' are actually earning; yet these 'White' tables will certainly indicate much higher rates than are being paid to 'Non-Whites' in an integrated pay structure. The net result is that 'White' salary survey median figures probably lie somewhere between what is being paid to 'Whites' and that being paid to 'Non-Whites' where there is supposed to be no discrimination.

Surveys ignore the management profile of organisations. Haigh (in Rock (ed.), 1984) comments:

> "Another less tangible but equally important factor is the reputation and image the company projects as being well-managed and a leader from a personnel relations

> standpoint. This would include companies which have consistently demonstrated over time their fairness and interest in employees and which provide attractive, well-crafted compensation and benefit programs."

Foster (in Rock (ed.), 1984) emphasises another problem in the perception and reception of surveys:

> "Management views survey results more favourably if the participants are of comparable size, in the same industry, and have similar pay policies. These factors play an important role in obtaining accurate data. Surprisingly, many surveys seriously miscalculate their role. Some surveys, for example, concentrate on controlling for company size at the expense of attaining job comparability. Others stress comparability but neglect size or industry differences. Surveys seldom deal effectively with all these considerations at the same time."

5.3 Summary

The previous paragraphs have given a brief outline of the background to, and some of the problems associated with, salary surveys. It is as well to be aware of the many problems inherent in the surveys, otherwise an analysis of their results could lead to idealistic expectations. Surveys can be no more than guidelines representing the pay rates of their participants. They form but one of the many components involved in the determination of remuneration levels. Another component is that of fringe benefits, bonuses and incentives. These are analysed in good salary surveys, but no descriptions have been given since this aspect does not form part of this study.

CHAPTER 5

ANALYSIS OF MARKET AND MINIMUM WAGES

1. INTRODUCTION

This chapter explains how the market and minimum wage data are derived and presented in the Appendices. The findings are discussed in Chapter 6. This chapter outlines in general terms how the data are analysed. In order to investigate the relationship between minimum wages and market rates, two sources of data have been used: the industrial council and wage board figures compiled by the Southern African Labour and Development Research Unit (Saldru) and the Salary Surveys published by the P-E Consulting Group.

Although recent salary surveys contain up to 1 000 positions in most broad industry categories with a locational breakdown, the industrial categorisation is not as detailed as are the industrial council agreements or wage board determinations. For this reason it is the salary surveys which have determined which industrial council agreements and wage board determinations have been used.

Salary surveys have been discussed in general terms in the previous chapter, but before exhibiting the wage data, it is necessary briefly to discuss the presentation of both the market data and the

minimum wage figures. This will be followed by a description of the methodology used in deriving the wage rates.

This chapter presents only the methodology of the study. The Appendices contain the factual results, interpretation of which appears in Chapter 6.

2. SOURCES OF DATA

Brief descriptions are given of the two sources of data.

2.1 The Salary Surveys

General staff salary surveys have been used in this study. The latest survey used, the September 1983 General Staff Survey, covered 847 organisations employing over 1 million staff of all races with the broad industry sector breakdown of participating companies shown in Table 5.1.

An illustration of the way salaries are currently presented is shown in Table 5.2 (September 1984 General Staff Salary Survey - Volume I, Part 2 (Whites)).

In the surveys from 1982 onwards, salaries have also been given by Paterson Grade as shown in Table 5.3 (September 1984 General Staff Salary Survey - Volume I, Part 1).

TABLE 5.1

BREAKDOWN OF PARTICIPATING ORGANISATIONS BY INDUSTRY SECTOR

Industry Sector	% of Companies
Primary Production	8
Mining	5
Materials Manufacture	19
Construction	6
Industrial Equipment Manufacture	17
Consumer Goods Manufacture	21
Distribution	8
Service Industries	6
Financial Institutions	6
Non-Profit Organisations	4
N = 847	100

Source: September 1983 General Staff Salary Survey - Volume I, Part 1

TABLE 5.2

EXAMPLE OF SALARY SURVEY GENERAL STAFF TABLE

SECTION A
Page 10

CLERICAL AND SECRETARIAL

A288 - PRIVATE SECRETARY (TO OTHER THAN CHIEF EXECUTIVE) - OVER 10 YEARS EXP.

Handles all stenographic work, filing, reception, appointments and travel arrangements for a senior manager.

GRADE:	B4		BASIC SALARY BY LOCATION						BASIC SALARY BY INDUSTRY SEC	
SUMMARY			LOCATION	No. of Staff	Lower Quartile	Median	Upper Quartile	80th Percentile	SECTOR	Me Sa
Date Reviewed	Median Salary	Average Salary	Johannesburg	438	1096	1215	1323	1385	Primary Production	110
Jul 1983	921	918	Pretoria	47	1050	1130	1362	1392	Mining	114
			East Rand	159	1020	1099	1184	1326	Materials Manufacture	90
Jul 1984	1068	1075	West Rand	25	979	1035	1177	1191	Construction	101
			Rest of Transvaal	48	1064	1115	1154	1212	Industrial Equipment Manufacture and Supply	93
BONUS			Natal	162	865	930	995	1092	Consumer Goods Manufacture	96
Who Receive	92 %		Western Provinces	269	815	888	1002	1104	Distribution	92
			E P and Border	95	861	1028	1268	1387	Service Industries	105
Average Value	1086		O F S and Northern Cape	16	800	1090	1116		Financial Institutions	104
			ALL AREAS	1259	912	1068	1230	1345	Non-Profit Organisations	95

TABLE 5.3

EXAMPLE OF SALARY SURVEY TABLE : SALARIES BY GRADE

SALARIES BY GRADE

MALE AND FEMALE

Page 1

Location: ALL LOCATIONS **Race:** ALL RACES **Employee Function:** ALL FUNCTIONS

GRADE	A 1	A 2	A 3	B 1	B 2	B 3	B 4	C 1	C 2	C 3	C 4	D_L	D
LOWER QUARTILE	301	360	454	545	635	733	910	950	1275	1375	1625	2024	23
MEDIAN	362	411	560	670	779	880	1070	1205	1494	1665	1900	2350	27
UPPER QUARTILE	418	491	690	810	912	1030	1305	1477	1718	1920	2189	2695	32
90th PERCENTILE	495	600	800	945	1085	1233	1595	1710	1945	2176	2470	3077	36

Because tables such as that shown in Table 5.3 have only been available since 1982, they were not used in the study. Rather, tables such as that depicted in Table 5.2 have provided the basic market salary figures for the period 1978 to 1983. Although much information from years prior to 1978 is available, industry sector breakdowns are inadequate. 1983 was the latest year for which Saldru figures were available when this study commenced.

In each survey, the figures are as at 1 July of the year concerned.

2.2 Industrial Council and Wage Board Rates

The Southern African Labour and Development Research Unit has produced a series of comprehensive analyses of the minimum wage rates set by South Africa's industrial councils and wage boards. For each agreement a set of figures is presented which specifies whether the wage rate resulted from an amendment or a main agreement and the date on which the rate came into force. Nominal and real wages (in 1975 rand) are presented with the number of hours worked per week. Table 5.4 shows part of the information given for the Iron, Steel, Engineering and Metallurgical Industry Main Agreement.

The titles Rate I, Rate A and so on refer to positions described in the relevant Government Gazette. These are referred to again later.

TABLE 5.4

EXTRACT FROM SALDRU'S MINIMUM WAGE ANALYSIS

IRON STEEL MAIN

(Top line nominal wages;Lower line real wages in 1975 rand;Current date:12/8

AMND 12/72	AMND 3/73	AMND 11/73	AMND 8/74	AMND 6/75	AMND 6/76	AMND 9/77	AMND 7/78	AMND 7/79	MAIN 7/80	AMND 5/81	AMND 7/81	AMND 7/82	AMND 7/83
Rate I													
10.80	10.80	14.40	17.55	20.25	24.75	26.55	31.50	36.00	41.40	44.55	50.85	64.35	68.85
14.30	13.99	17.63	19.50	20.31	22.34	20.92	22.53	22.80	23.36	22.53	24.85	27.49	26.23

Current Hours: 45 Hourly Change 1973 to date: Nominal +537.5% Real +74.7% Current Real Weekly Wage: R 24.99

Rate A													
60.75	60.75	63.45	78.75	85.50	94.50	98.10	112.50	123.75	141.30	148.50	162.90	189.00	198.45
80.46	78.69	77.66	87.50	85.76	85.29	77.30	80.47	78.37	79.74	75.11	79.62	80.73	75.60

Current Hours: 45 Hourly Change 1973 to date: Nominal +226.7% Real -10.5% Current Real Weekly Wage: R 72.03

3. DATA CALCULATION AND PRESENTATION

The industries selected for detailed study were chosen in order to ensure that adequate and meaningful data would be available. The following sectors were subjected to comprehensive analysis (details of positions and results are in the appendices):

- Iron, Steel, Engineering and Metallurgical Industry
- Chemical Industry, Cape
- Chemical Manufacturing Industry, Witwatersrand
- Printing and Newspaper Industry - Duplicating, Screen Printing and Corrugated Board and Container Sections
- Pulp and Paper Manufacturing Industry.

3.1 Position Grading

Job descriptions obtained from the respective Government Gazettes were used to grade the positions contained in the above sectors. The Paterson system of job evaluation was chosen as the basis for comparison between the agreements and the salary surveys. The Paterson system, rather than any other system, was chosen for several reasons:

- The salary surveys are evaluated according to this system (see, for example, Table 5.2, where the illustrative salary table indicates that the position of Secretary, with the brief job description given, is graded as B4).

- One of the reasons for the extensive use of the Paterson system in South Africa is the relative case of grading. Other points systems of job evaluation, such as Perommes and Castellion, are more difficult to use where industry-wide grading is required, particularly when some job descriptions are brief. If these latter systems were to be used, wide assumptions would have to be made regarding certain factors: assigning points to the education/intelligence factors, for example, would be highly suspect.

The choice of positions in the A and B Bands was extended to include some artisan positions, all of which have been graded as C1. The limitation of the study to A and B Bands stems from the intention to investigate the unskilled (A Band) and semi-skilled (B Band) categories. In any event there are not many positions covered by minimum wage legislation that would be graded in the C Band (apart from the artisan level).

Four rather than five subgrades have been used in the B Band because of the difficulty involved in seeking to discriminate particularly between B4 and B5 when using rather brief job descriptions.

3.1.1 Salary survey positions

For each industry sector selected positions have been grouped for each Paterson grade. Appendix I contains the positions chosen for market rate representations of the Iron, Steel, Engineering and

Metallurgical Industry Main Agreement. Other industries have been treated likewise.

3.1.2 Industrial Council and Wage Board positions

Job descriptions obtained from the respective Government Gazettes have been used to grade these positions. Not all positions in each industry have been graded: in certain cases insufficient information concerning the job has prevented accurate grading. This is particularly problematic where the job components indicate a certain (non-supervisory) grade, but a supervisory component is added as a final element in the job description. Such positions have been ignored. Appendix I contains the graded positions for the Iron and Steel Main Agreement.

3.2 Calculation of Wage Rates

The study places considerable emphasis on the analysis of the wages of Asians, Blacks and Coloureds. There are few Whites in the A Band and in the B Band positions which are covered in industrial council agreements. Where market figures have been available for Whites, these have been included to produce two sets of results in most cases.

3.2.1 Calculation of market rates

Weighted averages of the salary survey market figures have been used to incorporate the different races. The weights have been in accordance with the 1980 census figures for the different categories of employee. For example, for the Iron, Steel, Engineering and Metallurgical Industry, the weightings have been as follows:

- For weighted average of Asians, Blacks and Coloureds (abbreviated ABC):

Asians	3%
Blacks	83%
Coloureds	14%

- For weighted average of Whites, Asians, Blacks and Coloureds (abbreviated WABC)

Whites	16%
Asians	2%
Blacks	73%
Coloureds	9%

Weightings have been changed for the different sectors, and also to accommodate the proportionately larger number of Coloureds in the Western Cape (applicable only to the Chemical Industry (Cape) figures). Wages analysed in this study are basic monthly pay. This explicity excludes other measures of remuneration, such as net take-home pay or gross pay, which may be more meaningful to the

individual. While additional allowances such as shift allowances, overtime pay, danger pay and incentives or bonuses are quantified in general terms in the Salary Surveys, their discussion in the surveys is for policy formulation purposes: they could not be used for comparative purposes, and in any event minimum wage legislation can only specify such rates, it cannot say what individual amounts will actually be paid.

These monthly rates have been converted from nominal to real terms (in 1975 Rand) using the same conversion factors as have been used in the Saldru analyses. The factors by which nominal rates have been multiplied are given in Table 5.5.

3.2.2 Calculation of minimum rates

The weekly rates contained in the Saldru analyses have been converted into monthly wages. Where three or more positions were used in one grade, the median figure has been used. The average has been taken for cases of two positions per grade.

Table I.1 in Appendix I shows the market and industrial council minimum rates for the Iron, Steel, Engineering and Metallurgical Industry Main Agreement.

TABLE 5.5

CONVERSION FACTORS FROM NOMINAL TO REAL RATES

Year	Factor to convert nominal to real rates (1975 base = 1,ØØ)
1978	Ø,7152
1979	Ø,6333
198Ø	Ø,5643
1981	Ø,4887
1982	Ø,4272
1983	Ø,381Ø

3.3 Data Representation

The market and minimum rates are shown in tabular form (such as Table I.1 in Appendix I). Graphical illustrations are more useful to identify trends over time or tendencies by grade. Such illustrations appear in the graphs such as Figure I.1 in Appendix I.

It is evident from both the tabular and graphical representations that on occasion the minimum rates are above the market rates. Several factors may explain this phenomenon:

- Companies subject to minimum wage legislation are indeed paying less than the minimum rates.

- The dates of salary survey data collection and minimum wage agreements or amendments may coincide, and the amended rates may not yet have been implemented or the old rates may be submitted to the surveys.

- It has not been the policy of the salary surveys to discriminate between those organisations which are and which are not subject to minimum wage legislation. Thus, although position descriptions are similar and industry categorisation incorporates what appear to be organisations in a common industry, there may well be included some organisations not governed by the legislation.

The first case may occur, but is not considered to be widespread. Instances of the second situation must surely be rare, so it is felt that the third reason is the most likely. Unfortunately, it is not possible to select and process the data of only those organisations subject to minimum wage legislation because the original collection of data did not make allowance for this. This is a methodological problem and highlights but one of the problems of salary surveys.

Graphical representations of market and minimum wages by grade also illustrate the variation of these two rates over time. The actual amounts by which the two rates differ are quantified by a measure of divergence (which is discussed later). The horizontal axis has been drawn such that it indicates a constant grade width irrespective of the number of subgrades: this means that the width of the A Band (with subgrades A1, A2 and A3) has the same width as the lower B Band (with subgrades B1 and B2).

As has been mentioned, at the lower grades, market wages are only given for Asians, Blacks and Coloureds. At grades B3 and B4 some White salary figures are presented. Grade C1 is for Whites only. There is naturally no racial breakdown for the minimum wages.

3.4 Quantifiable Measures for Data Analysis

It may appear attractive to apply statistical techniques to the data, but closer observation indicates that the number of

independent variables is limited (six years in the case of a time analysis, and eight grades with analysis by grade). Two simple concepts have been used which seek to identify trends and progressions through the grades: divergence and gradients.

3.4.1 Divergence

A measure of divergence (d) between market rates and industrial council rates has been chosen as follows:

$$d = \frac{\sum_{i=1}^{n} (\log MR_i - \log IC_i)}{n}$$

$$= \log\left(\prod_{i=1}^{n} \left(\frac{MR_i}{IC_i}\right)\right)^{1/n}$$

$$= \log \left(\text{geometric mean } \frac{MR_i}{IC_i}\right)$$

where MR = market rate

IC = minimum wage

n = number of years

This measure of divergence has been taken (rather than a standard deviation type formula where the difference between market and minimum rates would be squared, and then an overall square root taken) so that calculation will include (negatively) the situation where the minimum wage is higher than the market rate. Such a negative d in one or two years will reduce the overall divergence

whereas the standard deviation would not discriminate between positive and negative divergences.

The reason for introducing this measure of divergence is to investigate the relationship between market and minimum wages from one grade to the next; in other words, to answer the question: does the differential between market and minimum rates progressively change from low to higher grades, or more specifically, does the amount by which the market rate exceeds the minimum wage at Grade A1 increase or decrease with a progression through to C1?

Tabular and graphical descriptions are given in Appendix I for the Iron and Steel Industry (Table I.2 and Figure I.3).

3.4.2 Gradients within wage curves

A second useful indicator of trends is an assessment of gradients within wage curves. In other words, how does the slope of the pay curve between two successive grades change over time? A decrease in the slope of the pay curve between A1 and A2 (effectively measured by the percentage amount by which the wage in Grade A2 exceeds the wage in Grade A1) would indicate pay compression at the bottom levels, in the sense that there is a trend towards flattening the pay curve or reducing differentials. Table I.3 and Figure I.4 in Appendix I illustrate the situation in the Iron and Steel Industry, both for market and minimum wages.

3.5 Wage Board Data

Preceding paragraphs have dealt almost exclusively with minimum wage data based on industrial council agreements. Similar analyses have been performed with wage board determination figures. As with the industrial council agreements, wage board determinations, comparable with the salary survey industry sector breakdown, have been selected.

The determination selected for comparison with the Iron and Steel industry is the Metal Containers and Allied Products Industry. The Chemical and Allied Products Industry provides the basis for comparison in the chemical industry. Appendix II contains the positions by grade used for comparison with the Iron and Steel industry.

Calculations and data representations similar to those presented for industrial council agreements are also included in Appendix II.

3.6 Further Industry Sector Analysis

Similar analyses have been performed on other industry sector data, as shown in Appendices III, IV and V.

3.7 Comparison of Wages Paid to Males and Females

Minimum wages do not discriminate between male and female workers, yet differentials certainly exist. Appendix VI considers male and female operatives' wages.

CHAPTER 6

DISCUSSION OF FINDINGS

1. INTRODUCTION

The job evaluation theorists have claimed that economic theory cannot explain wage levels. Yet, job evaluation can do no more than provide a structure within which wages can be analysed; it does not give a satisfactory explanation for wage differentials. The previous chapter presented certain market and minimum wages, and the relationship between them. It is the purpose of this chapter to discuss these in terms of the hypothesis: is minimum wage regulation machinery influential in determining market wages, or is it not? Does the level at which minimum wages are set reflect the wage level commensurate with the employment and economic situation? Do minimum wages lag behind or lead actual wages? Reference will be made to both economic theory and wage structuring in seeking to address these issues.

2. GENERAL COMMENTS

Before discussing the findings of the previous chapter, several general comments are made since these have an important bearing on this study. The term 'market' wages is expounded upon; some

characteristics of industrial councils are discussed; socio-political influences are considered in the light of wage determination; published figures relating to remuneration, employment and other factors are analysed in order to identify any relationship between them. The findings are discussed by analysing the results of each sector and by attempting to explain them. The last section of this chapter gives a comparison of male and female labourers' wages.

2.1 Explanation of Market Wages

The reference to the salary survey figures as 'market' wages is somewhat of a misnomer: participants in salary surveys are likely to be the larger, more profitable and possibly more progressive organisations. The vast majority of South Africa's 'Top Hundred Companies' or their subsidiaries subscribe to salary surveys. This means that these organisations are better able to pay higher wages and salaries than their smaller, less profitable counterparts. This will result in the survey's figures being rather higher than a true average for the entire spectrum of industry. For the sake of convenience the term 'market' wages will continue to be used, despite this reservation. Following the investigation in Mellow (1983) which is presented in Chapter 2, it is also likely that unions are more likely to be found in these larger organisations.

Even though the 'market' figures are known to be higher than the overall average, it is to be expected that an industry median figure

will be greater than the minimum wage. This is simply because organisations may pay the minimum wage for a new, (young) inexperienced worker, since they are prevented from paying less than the minimum figure. An older or more experienced worker is bound to earn more, even if it is only the 'notch' system which ensures this. The question is therefore not 'whether' but rather 'by how much' the market rate exceeds the minimum figure. Trends and changes over time are more meaningful than absolute differences.

2.2 Differences Within Industrial Councils

The wage boards and industrial councils are vastly different bodies. It is therefore unreasonable to expect that their effects on wages should be directly comparable. Some of the differences were explained in Chapter 3. The industrial councils are not homogeneous organisations with uniform approaches to minimum wage regulation. Some are more effective than others, but this may be more as a result of the individuals in the industrial council than the nature of the industry. From Marshall's laws of derived demand, it might be expected that wages negotiated by unions should be highest where substitution by firms in production and by consumers in consumption is most difficult. This conclusion would only be realistic if the parties represented in the industrial councils were all equally representative and equally committed to the same cause. The operation of an industrial council is important when analysing the final agreement. For example, the Iron, Steel, Engineering and Metallurgical Industry industrial

council comprises several parties. Seifsa represents the employers. Until 1983 the Metal and Allied Workers' Union (MAWU) had refused to join the industrial council. Before 1983, the employees were represented by 14 unions all of which were affiliated to the Confederation of Metal and Building Unions (CMBU) except the Suid-Afrikaanse Yster-, Staal en Verwante Nywerhede Unie (Y&S) and the Steel, Engineering and Allied Workers' Union (SEAWU). Subsequently an IMF grouping has been formed. The IMF unions are those united in the Co-ordinating Council of the International Metalworkers Federation. MAWU belongs to the IMF grouping, but has always refused to sign the industrial council agreement. The various unions will thus fight for varying interests: Y&S will be particularly interested in its (White) members' wages. CMBU represents many skilled workers whereas the IMF unions are concerned with about 100 000 mainly unskilled workers (Saldru Quarterly Bulletin, 3/1985: 37). MAWU has adopted a different bargaining stance at meetings of the National Industrial Council for the Iron, Steel, Engineering and Metallurgical Industry (NIC), in that MAWU has been represented by a number of its members all of whom participate in discussions. This is in contrast to the centralisation of negotiations on the part of the other parties to the extent that only one spokesperson from each side actually negotiates. MAWU has achieved limited success on the NIC, so it has also extended its bargaining to individual factory floor levels.

The different approaches to negotiation do not mean that negotiation is on a racial basis, but rather, that such unions will press for

higher wages in those categories in which their members are employed.

On the other hand, certain industrial councils represent a small group of workers. For example, the parties to the Chemical Industry, Cape industrial council are one union (Chemical and Allied Workers' Union) and one employer organisation (Cape Manufacturing Chemists' and Druggists' Association). This industrial council is thus pharmaceutical rather than chemical (in the industrial chemical sense), and the wages negotiated cannot be compared with those paid in the industrial chemical sector.

The wage boards have at times tended to respond to situations (such as the 1973 strikes), and have not been particularly successful in keeping wages abreast of the inflation rate. An analysis of Saldru's minimum wages studies revealed that in a random sample of 87 sectors covered by the wage board, the wages of 50% of the sectors had not kept up with inflation in the period 1973 to 1984. One third of these sectors was subject to a wage determination within 18 months of the 1973 strikes, having had no adjustments in the period 1971 to 1973.

2.3 Socio-Political Influence

Certainly since the Durban strikes in 1973, there have been pressures to improve working conditions and to increase the wages of

South Africa's Asians, Blacks and Coloureds. The reasons for this are varied. Du Toit (1981: 345) comments:

> "'liberal' employers in South Africa are quick to agree that the wages and working conditions of their workers should really be improved ... it (is) necessary (quoting de Necker) 'to put our house in order as quickly as possible in order to limit our vulnerability against that day when foreign investors and banks would be forced against their will to cease conducting business with us'".

Saul and Gelb (1981: 26) believe there is no altruism in moves to improve the lot of the worker:

> "Here one might note, ... Anglo American's recent urging that all mining houses raise black wages by 60 to 120% - because, as the Financial Mail (May 30, 1980) put it, of its 'concern for workers'! Needless to say, the reason lies elsewhere, in part in a blatant attempt to buy off these same workers. But we can see that this ploy is also crucial to overcoming the limitations on economies of scale and consumer demand ... imposed by the size of the white consumer market."

Whatever the reasons behind pressures for increasing particularly Black unskilled labourers' wages, it is evident that certain forces have been behind such trends. The forces have not been purely economic arising from labour shortages at the unskilled level. Socio-political influences, whether caused by genuine altruism, trying to buy off workers, limiting vulnerability against outside world pressure, or whatever, have played some role. How successful these socio-political forces have been is another matter. A simple example of comparing the wages of Whites and Blacks in 1974 and 1984

will illustrate (figures have been taken from the Central Statistical Services):

	1974	1984	% Increase
Average Monthly Earning for Whites	398	1403	250
Average Monthly Earning for Blacks	72	363	400
Difference	326	1040	

These figures illustrate the well known widening of the wage gap in rand terms, but the percentage increases for the two categories are significant.

Another feature of the labour market has been the movement of Asians, Blacks and Coloureds into positions previously held by Whites. The reasons for this could be any of those given for changes in wages paid to these groups. Businesses found it essential, because of the skills' shortage, to use Asians, Blacks and Coloureds in categories which had traditionally been the domain of the Whites. It is difficult to assess to what extent this has happened, but it is interesting to compare the occupational distribution of the economically active population in 1970 and 1980. Table 6.1 shows the percentage of each racial group in the various occupational groups.

Table 6.1 shows that the percentage of Blacks in the professional, technical and related workers' group increased from 26 to 30%; similarly the proportion of Black clerical workers as a percentage

TABLE 6.1

OCCUPATIONAL DISTRIBUTION OF THE ECONOMICALLY ACTIVE POPULATION (1970 and 1980)

Occupational Group	Year	Total	% of Total W	A	B	C
Professional, Technical and Related Workers	1970	360 524	64	3	26	7
	1980	644 060	58	4	30	8
Management and Administrative Workers	1970	86 234	94	3	2	1
	1980	152 542	91	4	3	2
Clerical Workers	1970	559 684	72	5	17	6
	1980	846 482	61	6	25	8
Sales Workers	1970	288 846	55	10	27	8
	1980	426 913	44	9	39	8
Service Workers	1970	1 261 918	9	1	80	10
	1980	1 429 436	10	1	78	11
Farm, Forestry and Fishery Workers	1970	2 525 587	4	,3	91	5
	1980	1 380 068	7	,4	81	11
Mine, Production and Transport Workers	1970	2 535 267	16	3	68	13
	1970	3 052 510	14	3	70	13
Other	1970	491 335	9	3	75	13
	1980	757 715	4	2	84	10
Total	1970	8 109 405	19	2	70	9
	1980	8 689 726	22	3	64	11

Source: Central Statistical Services.

W = White; A = Asian; B = Black; C = Coloured

of the total increased from 17 to 25% between 1970 and 1980. This illustrates, rather crudely, that there has been movement of Asians, Blacks and Coloureds up the hierarchy.

2.4 Relationship Between Wages and Employment

It is useful to consider the general relationship between wages and employment in the context of wage determination. The Central Statistical Service's figures in Table 6.2 give the relative levels of employment in private manufacture and total employment (with 1975 = 100) (Columns 1 and 2). Columns (3), (4) and (5) respectively give the remuneration per employee in the non-agricultural sector for 'Whites', 'non-Whites' and all races combined. Column (6) indicates the hours worked by production workers. Columns (7), (8) and (9) show GNP, the coincident business cycle indicator and the CPI figure, respectively. The period 1977 to 1984 has been taken as the market and minimum wage figures used in this study fall within this period. Table 6.3 shows the percentage increase in one year over the previous year, for each item.

Inspection of the figures in Tables 6.1 and 6.2 shows that there is a lag of certainly one year between the peaks of the employment levels and peaks of the remuneration levels. It is significant that remuneration has been used rather than wages, since the latter will include all bonuses and overtime. It may well be that total

TABLE 6.2

EMPLOYMENT AND ECONOMIC PERFORMANCE FIGURES

Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1977	100,5	101,9	118,9	128,1	123,0	98,5	25 969	98,6	123,6
1978	100,8	102,8	129,9	143,6	135,8	99,7	27 021	93,0	136,2
1979	103,2	104,9	145,4	162,2	152,2	103,9	28 567	99,0	154,0
1980	107,5	108,4	170,8	194,6	179,7	109,4	31 775	114,3	175,3
1981	111,5	111,5	208,1	234,7	216,7	113,4	32 044	120,3	201,9
1982	111,0	111,9	243,3	280,6	257,1	110,2	30 877	104,8	231,6
1983	106,1	110,3	270,2	317,2	289,7	103,4	30 421	89,4	260,1
1984	105,8	111,9	311,8	370,2	335,5	103,9	31 895	90,8	290,4

Notes

Column (1) - Employment in the private manufacturing sector, seasonally adjusted (1975=100).
Column (2) - Total employment in the non-agricultural sectors (1975=100)
Column (3) - Remuneration per employee in the non-agricultural sectors (1975=100) - Whites
Column (4) - As for (3), but remuneration for 'non-Whites'
Column (5) - As for (3), but all races combined
Column (6) - Hours worked by production workers
Column (7) - Gross National Product (at 1975 prices)
Column (8) - Coincident business cycle indicator which takes the following into account: total mining employment, production and income, consumption, trade and orders, fixed investment, inventories, prices, costs and profits, money and credit extension
Column (9) - Consumer prices seasonally adjusted (1975=100).

TABLE 6.3

PERCENTAGE INCREASES OVER PREVIOUS YEAR

Year*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1978-1977	Ø,3	Ø,9	9,3	12,1	1Ø,4	1,2	4,1	3,8	1Ø,2
1979-1978	2,4	2,Ø	11,9	13,Ø	12,1	4,2	5,7	6,5	13,1
198Ø-1979	4,2	3,3	17,5	2Ø,Ø	18,1	5,3	11,2	15,5	13,8
1981-198Ø	3,7	2,9	21,8	2Ø,6	2Ø,6	3,7	Ø,1	5,3	15,2
1982-1981	-Ø,5	Ø,4	16,9	19,6	18,6	-2,8	-3,6	-12,9	14,7
1983-1982	-4,4	-1,4	11,1	13,Ø	12,7	-6,2	-1,5	-14,7	12,3
1984-1983	-Ø,3	1,5	15,4	16,7	15,8	Ø,5	Ø,5	1,6	11,7

*This indicates the percentage increase of the 1978 figures over the 1977 figures, 1979 over 1978, and so on

remuneration is a better measure than basic wages, but only the latter are available for the purposes of this study.

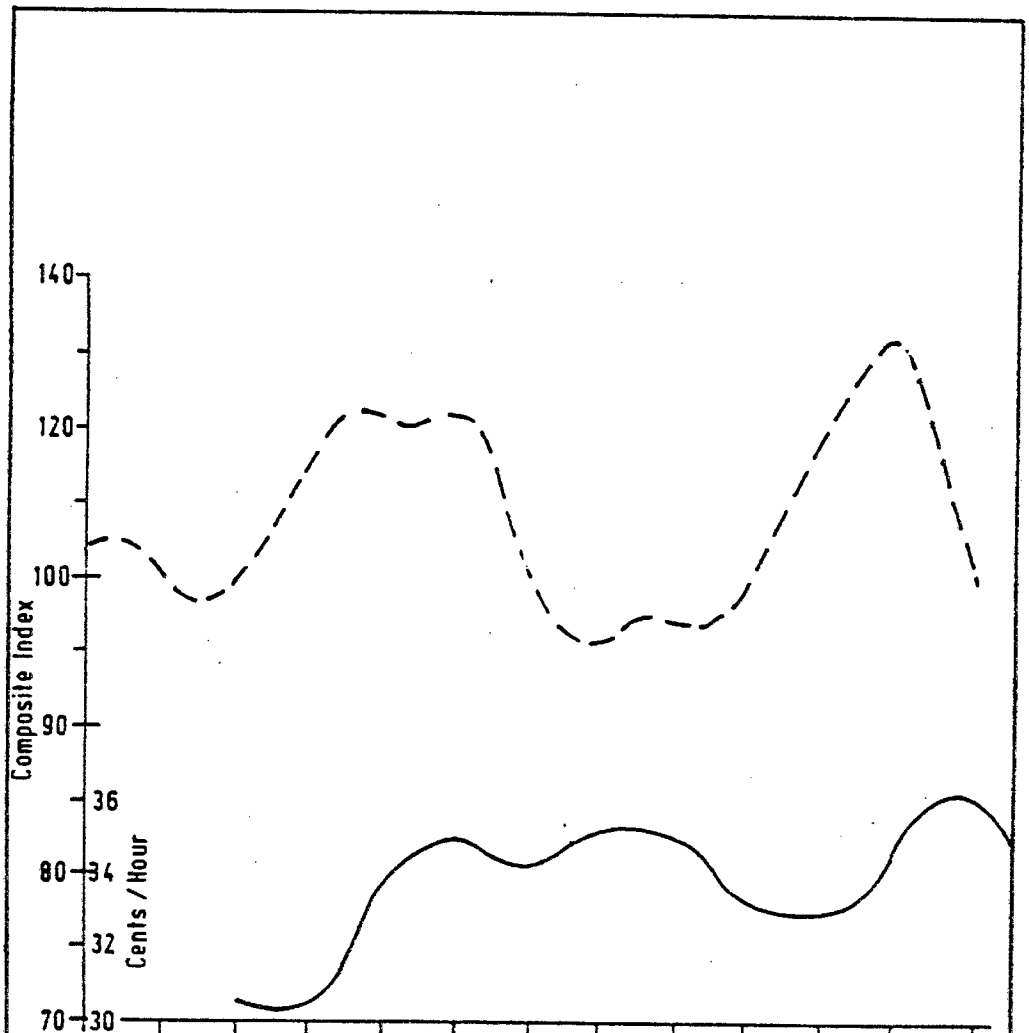
The figures in Tables 6.2 and 6.3 generally show that 1980 and 1981 represent the peak of the economic cycle, with an economic downturn from 1981 to 1983. A 'real median minimum wage rate' for labourers, which has been taken from the Saldru Minimum Wage Analysis (1983: 12), has been plotted on the same axes as the economic cycle composite index, as shown in Figure 6.1. Saldru's finding is that

> "movements in current real minimum wages vary inversely with current business cycle developments, resulting in minimum real wages rising during downward phases and falling during the upswings. This apparent anomalous result can be resolved if real minimum wages are lagged by 1 year. A very close relationship between the movement of real minimum wage rates and real economic activity is then found. In other words it would appear that wage increases are granted on the basis of the performance of the economy in the previous year, rather than on the basis of current or expected conditions in the economy. Alternatively, this could reflect the lag between the negotiation of the minimum wage and its implementation."

This section does not purport to discuss in detail the relationship between employment, the economic cycle and wages, but it is interesting to note several findings by Nattrass (1977: 418) who shows that the White wage bill in the manufacturing sector during the period 1960-1975 grew by an average of 6% per annum, whereas the Black (Asians, Africans and Coloureds) wage bill increased by 8,3% per annum. This leads her to comment:

FIGURE 6.1

THE ECONOMIC CYCLE AND THE MEDIAN WAGE 1973-1983



> "One comes to the almost paradoxical conclusion that so long as firms substitute Black labour for White labour in an effort to reduce labour costs per unit of output, then as Black wage rates rise so Black employment opportunities actually increase rather than decrease as one would expect ..."

2.5 Sequence of Discussions

Bearing these general points in mind, the results for each sector in Chapter 5 will be discussed under various headings:

- market and minimum wages by grade over time
- variation of market and minimum wages over time for each grade
- divergence between market and minimum wages
- gradients within wage curves.

Tables and figures in the appendices are numbered with two components: a Roman numeral and an Arabic numeral. The former refers to the appendix, the latter indicates the sequence within that appendix. Thus, Table II.3 refers to the third table in Appendix II.

3. MARKET AND MINIMUM WAGES BY GRADE OVER TIME

The results given in Appendices I to V are discussed for each sector. This is followed by an overall summary.

3.1 Iron and Steel Main Agreement (Industrial Council)

Table I.1 contains the results for the market and industrial council wages for the Iron and Steel Main Agreement. These figures are shown graphically in Figure I.1 (in Appendix I).

Several points emerge from these figures. From 1978 the 'dog-leg' effect is evident in the IC rates: the curve is flatter between grades A1 and A2, than between grades A2 and A3. In the market curves, this effect is not visible in 1978, but becomes more pronounced with time. It should be noted that the A2 grade in the salary survey traditionally includes hard, physical, manual labour. Although the job evaluation theorists propose that additional allowances should be paid for adverse working conditions and hard labour, little evidence of such allowances is available. Indeed, the figures indicate that the differential between A2 and A1 is decreasing, with an increasing differential between A2 and A3 (the top unskilled category). Both the market and IC rates indicate an upward pressure on the lowest (A1) wages. It is unlikely that A2 rates have decreased because of the dilution of occupational skills, as proposed by Reder (1955: 833-852), since this only occurs during times of labour shortages, and there has certainly been no shortage of labour at this level. Rees (1979: 162) puts forward a case for explaining the reduction in differentials at the completely unskilled level: "No-one can be promoted ... from below, and workers can be attracted from outside the firm only by raising entry wages". Again, this explanation may only apply if there is a

shortage of workers. A simple supply and demand approach can thus not explain the upward pressure on wages at the unskilled (A1) level, since unemployment in South Africa is rife in the unskilled categories. The effects of union negotiations at plant level are considered small even though MAWU has encouraged negotiation at this level. The literature (see Section 7.5 of Chapter 2) presents diverse opinions as to the effect of unions on differentials. The dog-leg effect would indicate that unions are primarily concerned with raising the wages of the lowest level workers, relative to other unskilled workers, as opposed to raising, say, the level of wages of all groups of unskilled workers relative to semi-skilled workers.

One reason for this upward component of pay compression is socio-political. The fact that Black wages have risen faster, for example, than those of Whites (in percentage terms) cannot be explained in hard economic terms. (The 1982 Survey of Race Relations in South Africa (1982: 126) gives annual increases for the period 1971 to 1981 as: Asians 6,5%, Blacks 5,5%, Coloureds 3,4% and Whites 1,5%.) The calls for reducing the wage gap between Whites and Blacks have been made on socio-political grounds or for reasons of self-interest as has been discussed earlier in this chapter, rather than for direct economic reasons, although these non-economic forces will clearly be manifested ultimately in economic behaviour.

A further reason for the 'dog-leg' effect at Grade A2 is a general blurring of the distinction between jobs at this level. Technological developments have made the task components at the unskilled levels less distinctive. This could be referred to as 'technological dilution' as opposed to the 'economic dilution' proposed by Reder (1955: 833-852). This has further made it more difficult to assess the differences in decision making of jobs at the A1 and A2 levels. There is therefore an element of confluence between these two grades which will naturally lead to a reduction in the differentials between the two of them. It is likely that the more technological developments that have taken place in an industry, the more likely that such trends will emerge. (It will be seen later that the narrowing of the differential between A1 and A2 is not apparent in all sectors.)

There is evidence of the downward component of pay compression at the upper semi-skilled level (B3 and B4 grades). It was mentioned in Chapter 4 that the upper bands in the Paterson system represent the supervisory level, as well as more complex levels of decision making. The difference in job content is thus one of degree, such as the number of subordinates or intricacy of job operation. The differences between the positions classified into these grades are not necessarily as large as, say, the differences between grades B2 and B3. When the gradients between grades are analysed, it will be seen that the flattening off between grades B3 and B4 becomes more pronounced towards 1983.

The curves (both market and IC) between A3 and B3 are rather more linear indicating a smoother progression from one grade to the next. With time, the difference between the market and IC rates reduces, as will be seen later.

Figure I.2 shows the variation of wages over time for each grade. It reflects the effective increases or decreases in real terms from 1978 to 1983, as shown in the last column of Table I.1. Grades A1, A2, A3 and B1 all show a positive real increase in wages over the period, with the percentages highest for the A1 market and IC rates. After B1, that is from B2 upwards, real rates reflect small positive increases, or usually decreases. The decreases are largest for the higher grades.

The incidence of upward pressure at the lowest level can be further illustrated by deriving a linear line of best fit for the actual data, calculating the wage estimate from this line for each grade, and indicating whether the actual (market or IC) figures are above or below the best fit line calculations. The regression lines for 1978 and 1983 market and IC data are:

1978 market : $y = 0{,}0045x + 2{,}0$

1978 IC : $y = 0{,}0047x + 1{,}96$

1983 market : $y = 0{,}0033x + 2{,}09$

1983 IC : $y = 0{,}0038x + 2{,}02$

where y = log wage

x = grade

(Paterson's proposition has been used: the wage curve will be linear if log pay (as ordinate) is plotted against grade (as abscissa) with constant band width. The non-linear abscissa depicted in illustrations such as Figure I.1 has been used.)

Table 6.4 gives the estimates for the market and IC rates, as derived from the above regression lines.

Table 6.4 shows that the A1 market rate has moved closer to the regression line estimate from 1978 to 1983. The A1 IC rate rose above the regression line estimate in 1983. Both of these indicate an upward movement of wages at the bottom end relative to the wage structure as a whole.

The relationship between the market and IC rates will be discussed further under the sections on divergence and gradients, but it is interesting to note that the B4 (Asian, Black and Coloured) market rate is 158% higher than the A1 figure in 1978, whereas the comparable factor in 1983 has reduced to 95%. The B4 IC figure is 148% higher than the A1 wage in 1978, and 109% higher in 1983. These figures show two trends: the differential between the unskilled and the upper semi-skilled rates has reduced over time; and, this reduction has been more marked in the market wages than in the IC wages.

TABLE 6.4

ESTIMATES OF MARKET AND IC RATES FROM LINEAR REGRESSION LINES
Iron and Steel Main Agreement (Industrial Council)

Grade	1978				1983			
	Market (ABC)	*Actual- Estimate	IC	Actual- Estimate	Market (ABC)	Actual- Estimate	IC	Actual- Estimate
A1	107	- 7	98	Ø	129	- 1	111	+ 3
A2	121	- 2	111	- 6	141	- 3	123	- 6
A3	137	+ 8	126	+ 8	155	+ 6	137	- 4
B1	160	+ 5	148	- 2	173	- 2	156	- 4
B2	193	+ 2	179	- 2	199	- 6	182	- 3
B3	233	+ 18	216	+ 21	228	+ 18	213	+ 18
B4	282	- 24	261	- 18	262	- 12	249	- 11

*A + sign indicates that the actual market or IC figure is above (greater than) the regression line estimate

The first trend in particular supports the view that the reasons for the changing patterns in wages do not lie predominantly in the economic sphere, but rather in the socio-political domain. Unemployment is most prevalent in the unskilled areas, yet these have received the highest increases. At the upper semi-skilled, or even the skilled (artisan level), where South Africa allegedly suffers from severe shortages of suitably qualified staff, there have been no real increases in the period under consideration. Of course, with more Asians, Blacks and Coloureds moving into the upper semi-skilled categories, there is now greater competition brought about by an effective increase in the supply of labour at this level.

So far no reference has been made to the market figures which include wages for Whites. Although the weighting for Whites is low, their inclusion does raise the weighted average figures for grades B3 and B4 by a few percentage points, as shown in Table I.1. The amounts by which the weighted average figures that include Whites exceed the IC rates decrease with time. This is mentioned later. The gap between the White pay curve and the IC rates for grade C1 widens with progression from 1978 to 1983. The White wages for grades B3 and B4 show the largest decrease in real terms over the period (10% and 7% respectively). The movement of Asians, Blacks and Coloureds into positions previously held by Whites will put greater pressure on the lower grades. White wages certainly remain consistently higher than the weighted average of all race groups, but the difference is smaller the lower the grade. It has

already been mentioned that inadequate data are available for Asian, Black and Coloured artisan (C1) market rates. Table I.1 does show that in Grade B4, White wages are considerably higher than the weighted figures for Asians, Blacks and Coloureds (in 1978 the market White figure is 62% higher; in 1983 the market White figure is 56% higher). The comparable figures by which market White wages exceed those of Asians, Blacks and Coloureds in Grade B3 are, respectively, 20% and 10%.

The weightings for each race remain constant for each year when calculating the weighted averages. This is not strictly correct since Asians and Coloureds, and to a lesser extent Blacks have been moving into the positions previously held by Whites, as suggested in Table 6.1. This obviously means that the weighting of Whites in 1978 should be higher than in 1983, but these changes in racial composition of the workforce are only available in the Census figures, published every five and 10 years. With the movement of Asians, Blacks and Coloureds into positions previously occupied by Whites, the former have received pay increases because of the enhanced status, but their wages are not what the White incumbents were earning. A further indication of the movement of Asians, Blacks and Coloureds into previously held White jobs comes from a comparison of the relative salary survey sample sizes for the different groups. The actual number of individuals whose wages are surveyed is not useful because participation varies from year to year. However, it is interesting to note how the proportions change. Table 6.5 shows the percentage of Whites in the positions

TABLE 6.5

PERCENTAGE OF WHITES IN POSITIONS SURVEYED FOR 1978 AND 1983

Grade	1978	1983
B1	22	13
B2	29	13
B3	40	23

used for grades B1, B2 and B3 in 1978 and 1983. One incentive for organisations to promote Asians, Blacks and Coloureds to positions previously held by Whites is that there will be a reduction in labour costs. Perceived necessity arising from an inability to recruit Whites is another reason. A true weighting of each year according to actual racial weightings would indicate that wage costs are falling with the upward movement of Asians, Blacks and Coloureds. One would thus expect a rather steeper reduction in real wages in the semi-skilled categories, than is shown in Table I.1 for the White, Asian, Black and Coloured weighted averages.

The National Productivity Institute (1984: 81) gives the turning point dates of the business cycle relevant to the dates of this study: the upward phase began in January 1978 and peaked in mid 1981. There is a lag between the turning points of the cycle and changes in both actual and minimum wages. If actual wages take, say, a year to respond, it would be expected that market rates would show an increasing trend from 1979/1980 until 1982. Minimum wage figures may take 18 months to respond which would mean an increase in IC figures from mid 1979 until 1983. These trends are not fully borne out by the data: the A Band market figures generally show a steady increase from 1978 to 1983, the lower B Band variation is rather flatter and the upper B Band and C Band show a decrease from 1978 to 1983. These figures all show a decrease in real terms in 1983, after all wages had increased from 1979 to 1982.

Workers in the unskilled categories (A Band) are predominantly Black, with some Coloureds in the Western Cape. These Blacks were specifically excluded from the collective bargaining process until after the Wiehahn recommendations were implemented from 1979 onwards, but as has been shown, MAWU for example only joined the industrial council in 1983. Reference to Table I.1 and Figure I.2 shows some evidence of an increase in real market and IC rates from 1980 until 1982. One cannot ascribe this solely to the effects of trade union pressure since any effects of Blacks having joined the bargaining process would only be evident rather later than this. The Saldru analysis of minimum wages (1983: 44) gives membership figures of the Metal and Allied Workers' Union (MAWU) as growing from 3 900 in 1973 to 8 400 in 1980, and to 24 300 in 1981. The SA Boilermakers' Society claimed 6 000 Black workers in 1981. The Council of Unions of SA (CUSA) claimed 4 507 members in 1981 of its Steel, Engineering and Allied Workers' Union. Wages for all levels were increasing at that time; the economy was performing well, with GDP growing at 5% in 1980 and 3% in 1981 in real terms; employment was between 3% and 4% higher in 1980/81 than in 1979/80 (NPI "Productivity Focus", 1984: 70); the general effects of the socio-political pressures were being felt. It is thus unlikely that negotiations were the main force behind the real increase in wages, although they may have been a relatively small contributing factor.

Although Black membership of unions was clearly growing, and although

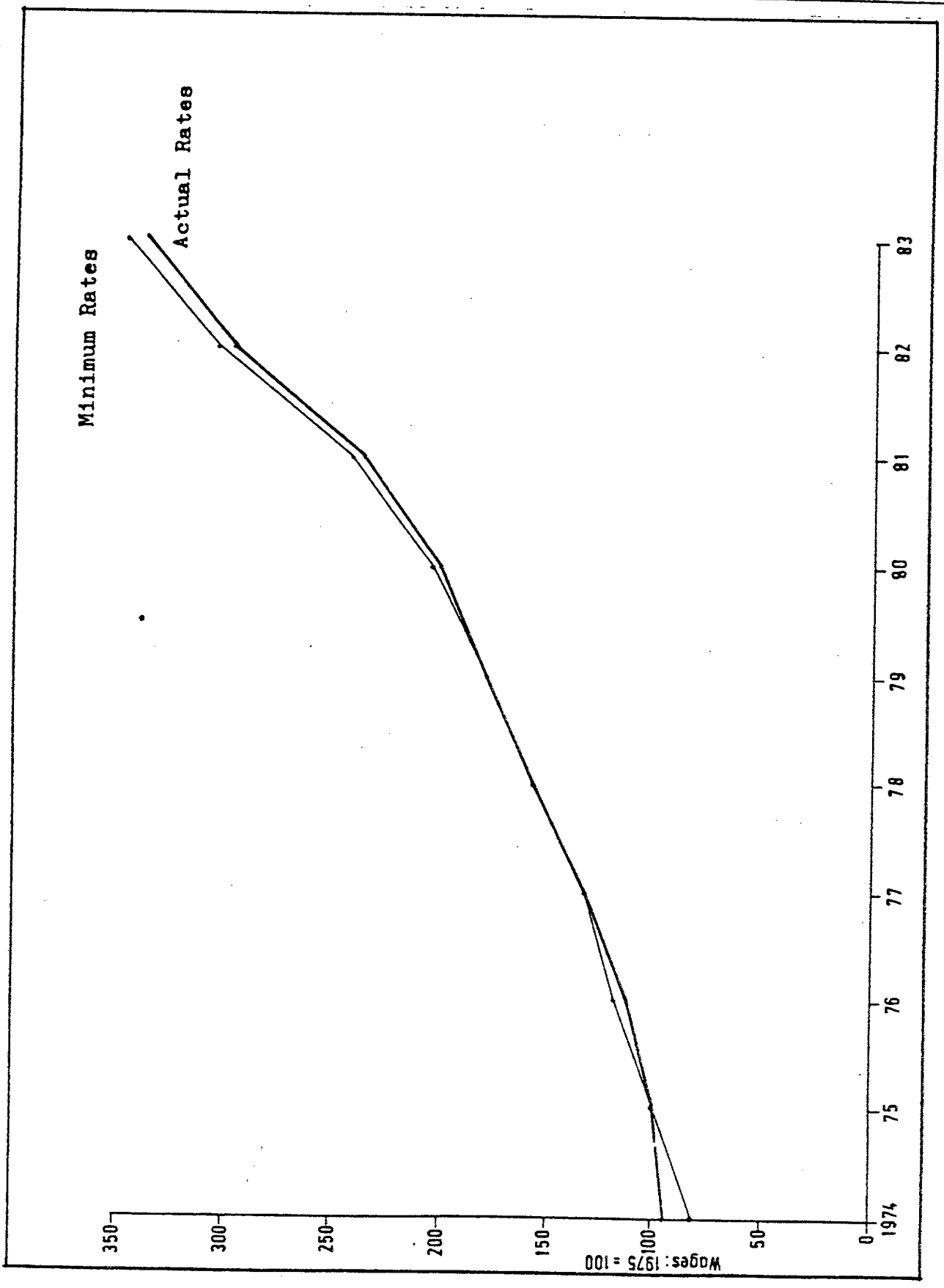
> "the influence of unions cannot be ignored, (the effect of unionisation) should not be thought of as having a single, direct relationship with wages. It would be necessary to explain why wages for (unionised) top grades fell in real terms, while real wages for (unionising) lower grades rose. Full account would have to be taken, too, of the abundant supply of low-skilled labour while shortages exist of skilled labour ... It would appear that the key variable has been militancy, rather than unionisation." (Saldru, Minimum Wage Analysis, 1983: 44).

This quotation from Saldru needs some qualification: the 'unionised'/'unionising' distinction coincides with the 'established'/'emerging' unions' distinction. Generally it has been the 'emerging' (independent) unions that have been militant (of course, this is not to say that all strikes have been organised by unions, or even been related to unions). It is therefore not possible to draw such a sharp distinction between militancy and emerging unions. Saldru's last sentence should more accurately read: it would appear that the key variable has been militancy on the part of emerging unions, rather than action on the part of established unions.

Although the general conclusions reached by Saldru concur with statements made previously, there is one area where Saldru figures do not agree with the results presented in Appendix I. Saldru has published an index of actual wage rates compiled by SEIFSA. Figure 6.2 (taken from Saldru's Minimum Wage Analysis, 1983: 46) compares minimum rates for labourers with the SEIFSA rates, both indexed to the same base year, 1975 = 100. Figure 6.2 shows that

FIGURE 6.2

LABOURERS' MINIMUM & ACTUAL WAGE RATES : IRON & STEEL MAIN AGREEMENT



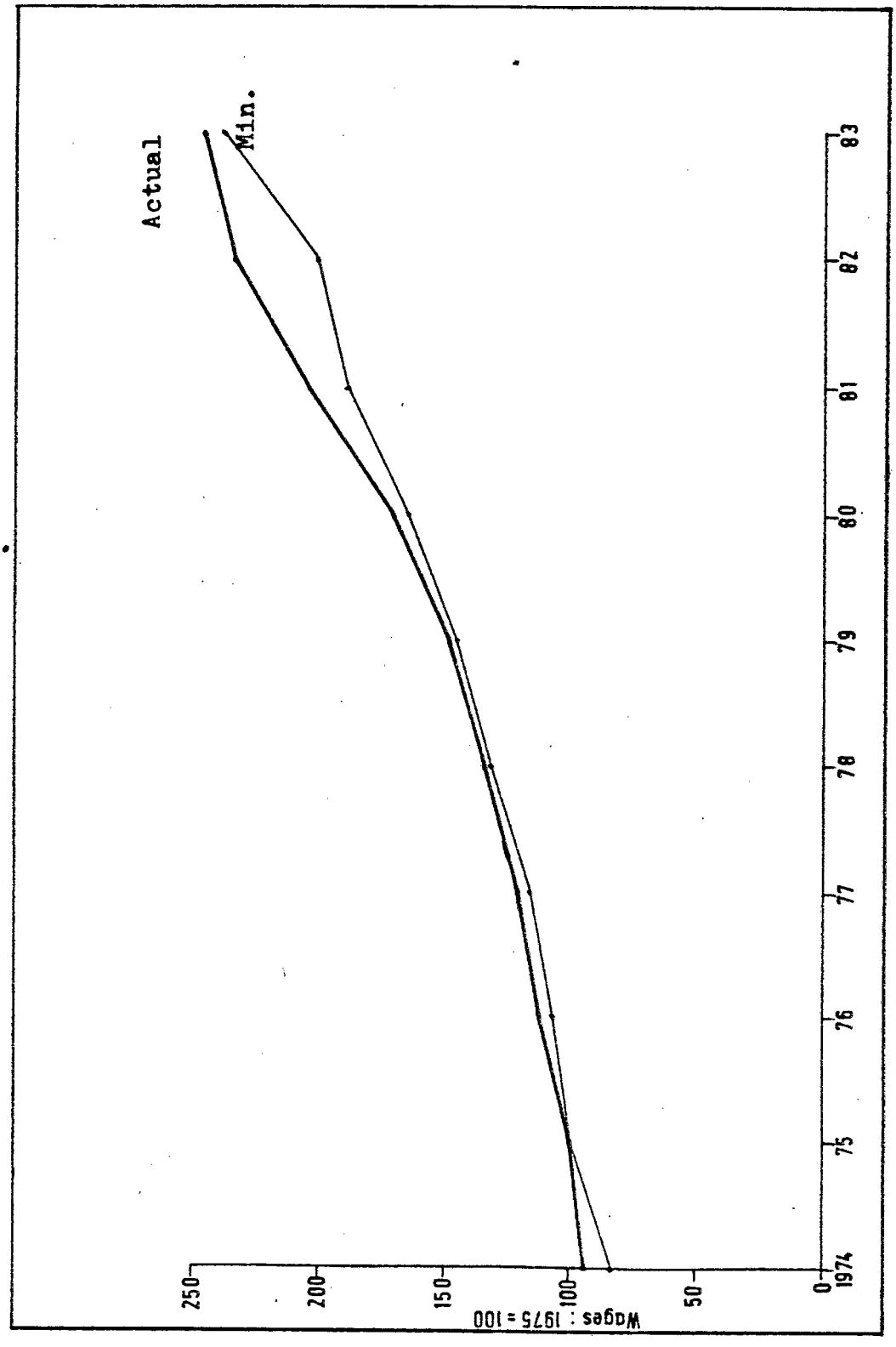
the two rates increased by much the same amounts until 1980, whereafter minimum rates increased at a greater rate than actual rates. The Saldru analysis gives three possible explanations: firstly, that the industrial council may "consciously have attempted to 'catch up' with actual rates"; secondly, labourers earning more than the minimum have not "benefitted from increases in that minimum"; thirdly, "minimum rates are normally set to suit the small employer, (and) increases in that minimum will have the effect of reducing the viability of small businesses without affecting the larger companies (who are already paying more than the minimum)". Presumably the third explanation means that more organisations will pay wages closer to the minimum rates.

Table I.1 and Figure I.2 in Appendix I both indicate that actual rates have increased by more than the minimum wages. This is probably because of the nature of the organisations that participate in salary surveys: they tend to be the larger employers who are able to pay rather more than the minimum rates.

Saldru's comparable actual and minimum rates for artisans are shown in Figure 6.3, which shows that actual rates have always increased more than the minimum wages. The figures in Table I.1 indicate that the market rates for artisans have decreased in real terms, but by less than the reduction in minimum real wages.

FIGURE 6.3

ARTISANS' MINIMUM & ACTUAL WAGE RATES : IRON & STEEL MAIN AGREEMENT



3.2 Metal Containers and Allied Products Industry (Wage Board)

The labour order covering this industry was chosen as being the most similar to the Iron and Steel Industry for the purpose of comparing wage board, industrial council and market rates. Table II.1 gives the wage board rates. These have been superimposed on the IC figures to yield Figure II.1.

The wage board figures are interesting in themselves for several reasons. Table II.1 shows that all grades subject to wage board determinations have received positive increases during the period 1978 to 1983, with grades B4 and C1 receiving particularly large increases (of 131% and 118% respectively). Yet, for the period 1978 to 1980, there is little equity at the upper semi-skilled (B3 and B4) and skilled (C1) levels. In 1978 the problem is that the B4 wage is lower than the B3 wage, yet the job descriptions clearly state that the B3 worker (a setter-up) works "under the general supervision of a foreman, assistant foreman (B4), or an artisan (C1)" (see Apppendix II). This situation becomes worse in 1979 and 1980 where the grade B3 setter-up earns more than both the grade B4 assistant foreman and the C1 artisan. The matter is rectified in 1981 when the grade B4 wage increases by 150% and the grade C1 wage increases by 135%. At this point the market rate and the IC wage board rates are all the same for grade B4. In 1983 the wage board rate for B4 exceeds both the market and IC wages.

Figure II.1 shows that apart from some anomalies, the wage board rate is consistently lower than both the market and the IC wages. This will be reinforced during the discussion on divergences. The relationship between the wage board rates and the market figures is largely the inverse of the situation between the IC and the market wages: the reverse of the dog-leg is evident in the wage board figures at the lowest unskilled grades, with the possible exception of 1978. In this case, it could be argued that the differences between the (largely technologically simple) A1 and A2 jobs are clearly identifiable, and so it would be expected that the differences in wages between these two grades would be significant (between 5% and 16%). (The curve in fact flattens between A2 and A3.) There is no evidence of pay compression at either end of the wage board pay curve, particularly at the B3/B4 interface, which shows a flattening off in both the market and IC wages.

There are two further differences in the behaviour of the wage board structure, and the market and IC pay curves. Increases in the unskilled categories over the six year period were higher for market and IC rates than for the corresponding semi-skilled and skilled categories. In the case of the wage boards, the reverse is true, with the semi-skilled and skilled categories obtaining by far the largest increases. The primary reason for this was probably to obtain some equity within the structure. Another difference is that the amount by which the B4 wage board rate exceeds the A1 rate in 1978 is 70%; the comparable figure in 1983 is 187%. This is the opposite to the IC and market situations.

The implication of these results is that trends identified and explanations offered for the industrial council figures cannot apply to the wage board situation. The latter show no evidence of pay compression, with the higher grades receiving the higher increases; further, the structure of the wage board rates is erratic.

It has already been mentioned that the salary surveys cannot isolate only those organisations subject to industrial council agreements or wage board determinations. The 'market rate' has thus far been used as being representative of what is actually paid to all employees (subject to either industrial council agreements or wage board determinations, or to neither). It is suggested that the role of the wage boards has changed in that they now tend to regulate the wages of the lower paid sectors. Assuming this to be the case, the 'market rates' represented by the salary surveys do not necessarily mean that these are the rates actually paid to workers subject to wage board determinations. It appears that the 'market rates' are generally more applicable, for comparative purposes, to the industrial council rates. A second set of market figures would be required for more meaningful comparisons with the wage board figures.

Thus, comparisons of the relative differences of (salary survey) market figures and the wage board figures are suspect, but the relative behaviours of the two wage universes are interesting and these are highlighted in this study as being more meaningful.

Comparisons between industrial council and wage board figures must also be placed in perspective in terms of the number of workers involved: the report of the wage board (1980: 8) states that 7 813 employees "represented almost the entire labour force in the Industry ..."; more than fifty times this number are subject to the industrial council agreement.

3.3 Chemical Manufacturing Industry (Witwatersrand) (Industrial Council)

Table III.1 gives the market and industrial council wages for the Chemical Manufacturing Industry (Witwatersrand). These are illustrated in Figure III.1. As with the Iron and Steel sector, over the period 1978 to 1983 the lower grades have received larger percentage increases (in real terms) than the higher grades. This is shown in the right hand column of Table III.1. Unlike the Iron and Steel sector, the chemical IC rates show considerably larger increases than do the market wages. The reason for this is probably that the IC figures in the chemical industry were so much lower than the market figures, whereas the rates for the Iron and Steel industry were rather closer.

The amount by which the B4 wages exceed the A1 figures also decreases from 1978 to 1983: the market B4 figure for Asians, Blacks and Coloureds is 138% higher than the A1 figure in 1978, and 93% in 1983; the comparable figures for the IC rates are 148% in 1978 and 92% in 1983. This indicates a general reduction in differentials between the higher and lower grades from 1978 to 1983.

The graphs in Figure III.1 show the inverse of the dog-leg effect for the market figures in the earlier years under consideration. This indicates that the differentials between grades A1 and A2 are easily identifiable, and as the market pay curve becomes more linear, the differential between A1 and A2 becomes only slightly less pronounced. The IC curve is linear until B2 in 1978 and 1979, and linear until B4 in the remaining years, with almost no indication of reduced differentials in the form of a dog-leg. An analysis of the job descriptions for these positions shows a rather more distinct difference in job content than was the case in the Iron and Steel sector. There is thus less chance of the dilution of tasks that may have caused a less steeply rising pay curve in certain areas in the Iron and Steel sector.

The IC figures show a definite flattening off at the artisan (C1) level. This will be illustrated more clearly when discussing the gradients. The market rate for the artisan level shows a steep increase simply because the artisan rate is for Whites only. The gap between White wages and those of Asians, Blacks and Coloureds at the B4 level increases between 1978 to 1983: White wages are higher by 8% in 1978 and by 48% in 1983.

The steady increases in wages over the period 1978 to 1983 as shown in Figure III.2 again indicate that wages did not respond radically to the economic situation with the cycle at its peak in 1981, nor is

any definite indication prevalent of the effects of Blacks entering the collective bargaining process at the beginning of the decade.

Linear lines of best fit for the market and IC data for 1978 and 1983 are as follows:

1978 market : $y = 0,0038x + 2,06$

1978 IC : $y = 0,0051x + 1,86$

1983 market : $y = 0,0030x + 2,13$

1983 IC : $y = 0,0030x + 2,04$

where y = log wage

x = grade

Table 6.6 gives the estimates for the market and IC rates, as derived from these regression lines.

The lack of evidence of upward forces specifically on the lowest level is illustrated by the actual market rates' remaining below the linear regression estimate. The IC figure reduces from being 4% above the estimate in 1978 to being equal to the estimate in 1983, indicating a trend towards a more linear IC pay curve.

3.4 Industrial Council for the Chemical Industry (Cape)

It has already been mentioned that there are problems associated with an analysis of this industrial council. A comparison of market and IC rates is not valid, since the IC refers to wages paid

TABLE 6.6

ESTIMATES OF MARKET AND IC RATES FROM LINEAR REGRESSION LINES
Chemical Manufacturing Industry Witwatersrand (Industrial Council)

Grade	1978				1983			
	Market (ABC)	*Actual-Estimate	IC	Actual-Estimate	Market (ABC)	Actual-Estimate	IC	Actual-Estimate
A1	122	- 8	78	+ 4	141	- 2	116	Ø
A2	135	+ 6	9Ø	+ 1	154	+ 1	126	Ø
A3	15Ø	+ 1	1Ø3	Ø	167	- 2	137	Ø
B1	171	+ 4	123	- 4	185	+ 1	152	+ 1
B2	2ØØ	+ 1Ø	152	- 6	2Ø9	+ 12	172	- 2
B3	235	- 9	188	- 16	237	- 11	195	- 2
B4	275	- 4	232	- 29	268	Ø	221	+ 2

*A + sign indicates that the actual market or IC figure is above (greater than) the regression line estimate

to workers in druggists and pharmaceutical organisations, and the available market figures are not directly comparable. The market and IC figures in Table III.2 and Figure III.3 should therefore not be used for comparative purposes.

It is to be expected that the trends identified in Section 3.3 are reinforced by the market figures of the chemical industry in the Cape: the increases in real terms over the period 1978 to 1983 decrease with the progression from unskilled to semi-skilled. Similarly, the amounts by which the B4 wages exceed the A1 rates decrease from 173% in 1978 to 118% in 1983.

The IC figures are erratic: with the exception of the B3 rates, all IC figures show a fairly gradual increase in real terms from 1978 to 1983; the 1983 B3 figures show a large 53% increase over the 1978 figure; further, whereas the trend has been a decrease over time of the amount by which B4 wages exceed A1 wages, the IC figures show that B4 wages exceeded A1 wages by 164% in 1980 (no figures are available for B4 prior to 1980), but the figure for 1983 is 184%. Generally, the IC figures are characterised by no systematic progression of wages over time, or over grade. Rather, there are dramatic rises in certain categories (for example, a 46% increase for grade B3 between 1980 and 1981) and steady declines in others.

Linear lines of best fit for the IC data for 1978 and 1983 are as follows:

1978 IC : $y = 0,0036x + 1,91$

1983 IC : $y = 0,0052x + 1,92$

where y = log pay

x = grade

Table 6.7 gives the estimates for the IC rates as derived from the regression lines. The table shows that, relative to the IC pay curve, the A1 wage has increased the amount by which it lies above the linear regression curve (+2 in 1978 to +8 in 1983). This indicates some upward pressure on the A1 rate, relative to the other grades.

3.5 Chemical and Allied Products Industry (Wage Board)

As was the case with the Metal Containers and Allied Products Industry (Wage Board), the wage board determinations for the Chemical and Allied Products Industry reveal many inconsistencies as shown in Table IV.1. There is a general trend of declining increases in real terms from the unskilled to the skilled categories. Also, the amount by which B4 rates exceed A1 rates decreases from 197% in 1978 to 193% in 1983.

It should be pointed out that although Table IV.1 shows figures for each year, there were no regular annual amendments or increases. The situation was in fact as follows: the wage determination of December 1970 was amended in October 1975, and an increase was granted in October 1976. The next wage determination was in

TABLE 6.7

ESTIMATES OF IC RATES FROM LINEAR REGRESSION LINES
Industrial Council for the Chemical Industry (Cape)

Grade	1978		1983	
	IC	Actual-Estimate	IC	Actual-Estimate
A1	86	+ 2	89	+ 8
A2	95	Ø	1Ø3	+ 4
A3	1Ø5	Ø	119	- 5
B1	118	- 6	143	-16
B2	137	- 3	177	-2Ø
B3	159	+ 7	22Ø	+34
B4	-	-	273	+ 3

January 1980, with an amendment in December 1982, and an increase in December 1983. The figures in Table IV.1 for 1978 and 1979 are the October 1976 figures in (declining) real terms. This would partially explain the large increase shown in 1980. The sharp decline in 1981 occurs because no adjustments took place in that year.

Figure IV.1 represents the superimposition of the wage board curves on the IC (Chemicals, Witwatersrand) rates and the market wages. The dog-leg is readily evident in the wage board curves in 1978 and 1979 in particular. This effect is reduced until 1983 when no evidence of the dog-leg effect is apparent. Over time the differentials between unskilled IC and wage board levels are reduced, as are those between the skilled IC and wage board figures. In 1983, for example, there is little difference between the wage board and IC figures at artisan (C1) level.

No comparative figures are given for the wage board and IC (Cape) rates because of the previously mentioned incomparability of the two sets of figures.

Again, the implication from these results is that the wage board figures are erratic with little evidence of pay compression. The point mentioned in Section 3.2 regarding the validity of comparisons of survey data with wage board figures must be repeated: the latter probably do not fall in the same wage universe as the survey figures.

Linear lines of best fit for the wage board figures for 1978 and 1983 are as follows:

1978 Wage Board : $y = 0,0071x + 1,51$

1983 Wage Board : $y = 0,0043x + 1,83$

where y = log pay

x = grade

Table 6.8 gives the estimates for the wage board rate as derived from the regression line. The table does not give much evidence of a meaningful upward movement of A1 rates relative to the wage board linear regression pay curve.

3.6 Printing and Newspaper Industry (Industrial Council)

Appendix V contains the results of the analysis of the market and IC rates for this sector. The same market figures are used for comparison with the Pulp and Paper Manufacturing Industry, which is discussed in Section 3.7.

The incidence of pay compression is not as evident in the printing industry as has been the case in certain other industries. The lowest unskilled market grade (A1) shows a larger increase in real terms (14%) than the other unskilled or the semi-skilled grades. Contrary to other industries, the upper semi-skilled market grades (B3 and B4) show a slightly larger increase than the lower semi-

TABLE 6.8

ESTIMATES OF WAGE BOARD RATES FROM LINEAR REGRESSION LINES
Chemical and Allied Products Industry (Wage Board)

Grade	1978		1983	
	Wage Board	Actual-Estimate	Wage Board	Actual-Estimate
A1	36	+ 1	72	+ 2
A2	43	- 3	81	Ø
A3	53	- 4	92	- 2
B1	67	+ 7	1Ø6	Ø
B2	9Ø	- 8	128	-1Ø
B3	121	- 7	153	- 6
B4	163	-16	183	- 9

skilled market grades (B1 and B2), but this is not a significant amount.

From 1978 to 1982 the amount by which the upper semi-skilled (B4) market rate exceeded the lowest unskilled (A1) rate remained relatively constant (148% in both 1978 and 1982). This percentage dropped significantly (to 126%) only in 1983.

The market pay curve is fairly linear through the period under consideration, with little indication of pay compression. The exception to this is the market rate for the C1 grade (artisans). The skilled rates for the 'journeymen' in this category have shown a 21% increase in real terms over the period 1978 to 1983, a fact which is completely opposite to the trend in other sectors. The reason cannot lie in an upsurge in demand for workers in the printing industry as a whole, because this would be reflected in other worker categories. Rather, it is likely that the particular shortage of artisans in this rather specialised sector has resulted in the increase in real wages. Artisans with general training cannot perform the particular work required for this sector for which training is also not as readily available.

The IC pay curves for the printing industry follow the broad trend evident in other sectors. As with the market figures, the incidence of pay compression is not as great as seen elsewhere, although the amount by which the IC upper semi-skilled (B4) rate exceeds the A1 rate reduces from 180% in 1978 to 143% in 1983.

No A3 grade positions were found in the IC printing rates. It is therefore doubtful that any comments can be made about the apparent dog-leg effect which appears in the pay curves in Figure IV.1. These curves show a linear extrapolation between A2 and B1. Apart from the possible dog-leg at the unskilled levels, the IC pay curve is fairly linear, even up to artisan (C1) level. It is clear that the industrial council has not taken into account the sharp increases in journeymen's rates.

Linear lines of best fit for the market and IC data for 1978 and 1983 (for both the printing and pulp and paper industries) are as follows:

1978	Market	:	$y = 0,0041x + 2,06$
	Printing IC	:	$y = 0,0037x + 2,04$
	Pulp and Paper IC	:	$y = 0,0052x + 1,94$
1983	Market	:	$y = 0,0037x + 2,11$
	Printing IC	:	$y = 0,0040x + 2,02$
	Pulp and Paper IC	:	$y = 0,0053x + 1,95$

where y = log pay

x = grade

Table 6.9 gives the estimates for the market and IC rates, as derived from the regression lines.

TABLE 6.9

ESTIMATES OF MARKET AND IC RATES FROM LINEAR REGRESSION LINES
Printing and Newspaper Industry, Pulp and Paper Manufacturing Industry (Industrial Council)

Grade	1978					
	Market (ABC)	*Actual-Estimate	IC Printing	Actual-Estimate	IC Paper & Pulp	Actual-Estimate
A1	122	- 2	115	- 19	94	-
A2	136	- 1	128	- 2	109	- 9
A3	153	- 3	142	-	126	+ 2
B1	176	+ 4	161	- 18	151	+ 11
B2	209	+ 1	188	- 6	187	+ 11
B3	247	- 8	219	+ 4	232	- 1
B4	293	+ 4	255	+ 14	288	- 15

Grade	1983					
	Market (ABC)	*Actual-Estimate	IC Printing	Actual-Estimate	IC Paper & Pulp	Actual-Estimate
A1	134	+ 3	111	- 4	95	-
A2	149	- 2	123	+ 8	110	- 12
A3	165	+ 3	138	-	127	+ 12
B1	187	- 3	158	+ 7	152	+ 2
B2	218	- 6	186	+ 4	189	+ 20
B3	254	- 8	219	- 2	235	- 14
B4	296	+ 14	258	+ 2	293	- 7

*A + sign indicates that the actual market or IC figure is above (greater than) the regression line estimate

The table shows that the market rates at the A1 level are subject to a greater upward force than other rates, with the actual rate being below the regression line in 1978, but above in 1983. The IC printing A1 rate also shows an increase relative to the regression line.

3.7 Pulp and Paper Manufacturing Industry (Industrial Council)

It has been mentioned in Appendix V that no industrial council position has been graded at the A1 level. An analysis of Table V.1 and Figure V.1 shows several instances where trends are opposite to those found in other sectors. This does not mean that all sectors should have the same trends, but the apparent anomalies defy explanation. There is no consistency in the real increases in wages from 1978 to 1983 for the different grades: A2, B1 and B3 show decreases in real terms; A3, B2, B4 and C1 show increases in real terms. The increases of grade B4 over A2 show no trend. The shapes of the IC pay curves show some evidence of an inverse dog-leg effect at the A3 level. The fair linearity of the curves from 1978 to 1982 does not continue in 1983.

To argue that the industrial council employee bodies are not representative of the workers in the industry does not explain the apparent anomalies in the wages. No specific categories have benefitted from possible vested union interests at certain levels. It is also clear that the IC agreements have not brought about any

systematic improvements or equity among the different categories of worker.

Table 6.9 shows that the bottom (A2) rate has reduced relative to the regression curve for the pulp and paper industry between 1978 and 1983, but the A3 rate has increased. No definitive conclusions regarding pay compression can be reached in this industry.

3.8 Summary of Wages by Grade Over Time

From the results presented in the appendices, and the discussions in the previous sections, several trends have emerged. It is unrealistic to expect that all industry sectors should behave in the same way. Different pressure groups, different economic forces, different employee and employer associations that are party to the industrial council agreements will all have different effects on the various sectors. Explanations that are relevant to some areas need not be widely applicable. However, there do appear to be some general comments which are pertinent:

1. Pay compression is evident in several sectors; there is an upward movement of wages in real terms at the lowest levels of skill; there is a decreasing trend in real wages at the semi-skilled (and sometimes at the skilled) level. Pay compression is further illustrated by a larger differential between the upper semi-skilled (B4) and the lowest unskilled

(A1) levels in 1978 than in 1983. These trends apply to both market and IC wages.

2. A definite relationship between economic activity and market wages is not readily apparent from the figures in the appendices and Table 6.1, although some grades and sectors do indicate such a trend. For example, market rates in grades B1, B2, B3 and B4 in the Iron and Steel sector do show a decline in real terms during the economic upswing (1980 - 1981), but this is not the case with the IC minimum rates which continue to show a steady increase. On the other hand, the Chemical Industry (Witwatersrand) shows an increase in market rates in all grades in 1980 - 1981, but a decline in minimum rates (IC).

The market rates in the printing, and pulp and paper sectors show a rise in rates throughout except for grades B3 and B4. However, the minimum rates for both sectors show a decrease in 1980 - 1981.

Saldru's "very close relationship between the movement of real minimum wage rates and real economic activity" (see Section 7.4 of this chapter) cannot be identified.

The conclusion from this discussion is that there appears to be a tenuous relationship between wages and level of economic activity. However, the fact that only one economic cycle is

analysed, and the definite trends in pay compression detract from the identification of a definitive relationship. It would therefore appear that in terms of Dunlop's analysis of wage theory (discussed in Chapter 2), of the four factors (economic development and wage-setting determinants, contemporary economic theory and contemporary policy issues), the last factor (contemporary policy issues) would seem the most significant. This supports the view that Corina's third typology of the labour market ("... (requiring) special analytical techniques ... of 'social determinants' as explanatory variables or constraints" - see Chapter 2) is largely applicable in explaining the developments under consideration.

3. The anomalies in, and irregularity of reviews of the wage board figures do not permit any reliable analysis from one year to the next. Both sets of wage board figures do indicate real increases in wages over the period 1978 to 1983, but the large variations in increases granted, and the inconsistencies of pay structure cannot prove any meaningful relationships.

4. DIVERGENCE BETWEEN MARKET AND MINIMUM WAGES

The concept of divergence that was defined in Chapter 5 seeks to provide a measure for the relative differences in market and minimum

wages across all categories under consideration. The results given in Appendices I to V are discussed for each sector.

4.1 Iron and Steel Main Agreement (Industrial Council)

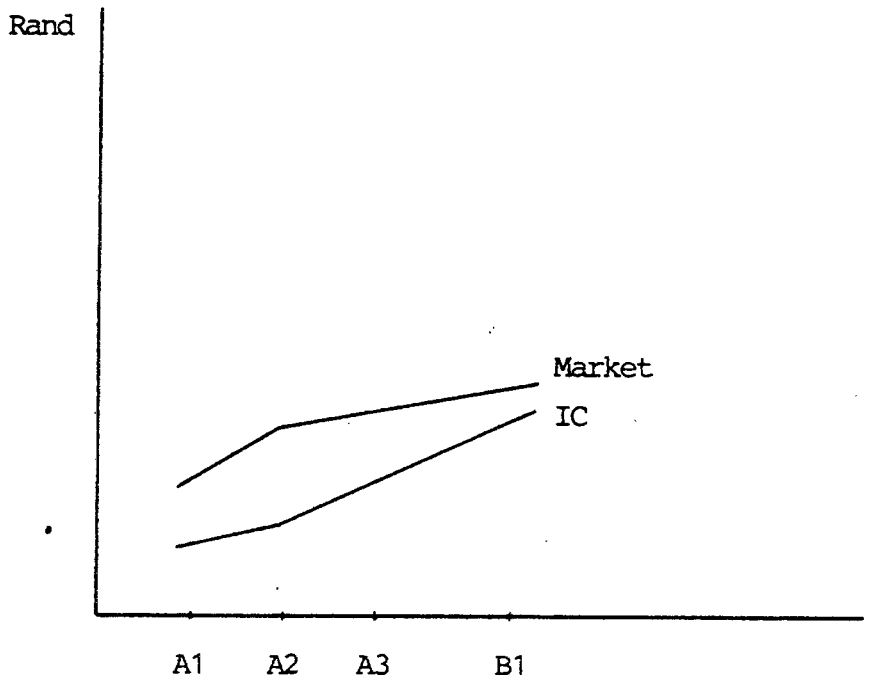
Table I.2 and Figure I.3 in Appendix I give the divergence between market and minimum rates for this sector. The divergence (considering only the weighted Asian, Black and Coloured market rates) shows a decrease from A2 to B4. The lower divergence for A1 compared to that of A2 arises because of the dog-leg effect discussed previously: this effect is apparent in the IC rates for each of the years under consideration, whereas the market rates only exhibit this effect from 1980. In other words, the situation is as shown in Figure 6.4.

This rather exaggerated illustration indicates why the divergence should increase for grade A2: the divergence at A1 is less than the divergence at A2, which in turn is greater than the divergence at A3.

The general decreasing divergence from unskilled to semi-skilled levels can be explained numerically by the trend presented in the preceding section: market wages in the unskilled categories have increased rather more rapidly in relation to comparable minimum wages than has been the case with the lower increase on the part of market rates in the upper semi-skilled grades relative to their comparable minimum wages.

FIGURE 6.4

ILLUSTRATION OF DIVERGENCE BETWEEN MARKET & MINIMUM WAGES



Upward pressure on rates at the lower levels appears to have been more effective on market rates than on minimum rates. This is contrary to Saldru's findings with the SEIFSA figures of actual rates, but, as has been mentioned, the larger organisations whose figures tend to be used in salary surveys, have increased the actual wages of their unskilled workers more rapidly than the increase in minimum wages.

At the upper semi-skilled level, the entry of Asians, Blacks and Coloureds into what were traditionally 'White' positions as suggested in Table 6.1, has resulted in an effective lowering of the market wages in these categories. The effect of this is to bring market and minimum wages closer together in the semi-skilled grades.

The rapidly increasing divergence between White market rates and the minimum wages clearly arises because of the large differences between 'White' and minimum wages.

The nature of the calculation of the divergence figures in Table I.2 detracts from a 'feeling' for the relative magnitudes of these figures. The question therefore arises: are the differences in the divergence figures significant? A rigorous statistical test of significance is inappropriate, so it remains to see what is the order of magnitude between the market and minimum rates. Table 6.10 gives the percentages by which the market rates exceed the minimum rates for the years 1978 and 1983.

TABLE 6.1Ø

PERCENTAGES BY WHICH MARKET RATES EXCEED MINIMUM RATES
(Iron and Steel - Industrial Council)

Grade	Racial Category	1978	1983
A1	ABC	2	12
A2	ABC	13	18
A3	ABC	8	14
B1	ABC	13	13
B2	ABC	1Ø	8
B3	ABC	6	6
B4	ABC	6	5
B3	WABC	9	8
B4	WABC	21	18
B3	W	27	17
B4	W	72	63
C1	W	29	35

Table 6.10 considers only the extreme years, but (apart from the low figure of 2% for grade A1 in 1978), the market rates exceed the minimum rates by at least 5%, so it is felt that the divergence figures in Table I.2 are of such a magnitude that the trends in the divergence are significant.

4.2 Metal Containers and Allied Products Industry (Wage Board)

Table II.2 shows the divergence between the market and wage board rates. For purposes of comparison the divergences between market and industrial council rates, and between industrial council and wage board rates have also been given. These are illustrated in Figure II.3.

The results are erratic in all cases. A line of best fit drawn for the market and the wage board divergence shown in Figure II.3 has the form: divergence = $5,56 \times 10^{-4} \times$ grade + Ø,15 with a correlation r^2 = Ø,22 (a non-linear horizontal axis has been used for grade, with divergence on the vertical axis). This mathematical relationship does not permit any conclusion about the relationship between market and wage board rates. This is not surprising considering the inconsistencies of the wage board figures.

4.3 Chemical Manufacturing Industry (Witwatersrand) (Industrial Council)

Table III.3 and Figure III.5 show the divergence between the market and the IC minimum wages for the chemical manufacturing industry (Witwatersrand). As with the iron and steel sector (IC), there is a rise in divergence from A1 to A2. The reverse dog-leg effect for the market curves, illustrated in Figure III.1, can offer a partial explanation for the larger divergence of A2. It will be shown in the next section that the gradients between A1 and A2 are considerably steeper than between A2 and A3.

Apart from a larger divergence at grade B2 (caused by market rates that are up to 20% higher than B1 rates, but only some 6% lower than B3 rates), the trend is for the divergence to decrease with increasing level of skill. This was also the case in the iron and steel sector.

The divergence figures in the chemical industry (Witwatersrand) are more significant than those in the iron and steel sector in that the percentage differences between market and minimum IC rates are larger. This is illustrated for 1978 and 1983 in Table 6.11.

The magnitude of the divergence figures shows that the market rates are considerably higher than the IC rates. This divergence is likely to reduce since the minimum rates have increased at a much faster rate than the market figures. (No divergence figures have

been given for the chemical industry (Cape), as was discussed earlier.)

4.4 Chemical and Allied Products Industry (Wage Board)

Table IV.2 and Figure IV.3 show the divergences between market and wage board minimum rates, and for comparative purposes, between market and IC rates. The divergence at A2 exceeds that at A1, as has been the case previously. Further, there is a decreasing trend of divergence as level of skill increases (with an exception, again, at B2). The divergence between wage board and IC minima also decreases with increasing skill levels.

The significance of the higher divergence figures can be assessed by referring to Table 6.12 which gives the percentage differences between market and wage board minimum rates.

With percentages by which market rates exceed wage board rates as high as those shown in Table 6.12, the sensitivity of the analysis is such that a relatively small change in any one figure could have a profound effect on an associated divergence figure. Greater importance should be attached to the vast difference in market and wage board rates than to trends in divergence. Nevertheless, the effects of pay compression will produce the divergence trends shown in Figure IV.3. Again, it must be emphasised that the market figures used in this study and the wage board figures fall into two different pay universes.

TABLE 6.12

PERCENTAGES BY WHICH MARKET RATES EXCEED MINIMUM RATES
(Chemical Industry - Wage Board)

Grade	Racial Category	1978	1983
A1	ABC	208	88
A2	ABC	253	91
A3	ABC	208	83
B1	ABC	136	75
B2	ABC	114	87
B3	ABC	77	54
B4	ABC	84	54
B4	WABC	92	90
B4	W	100	128
C1	W	143	148

4.5 Printing and Newspaper Industry (Industrial Council)

Table V.2 and Figure V.3 in Appendix V show the divergence between market and minimum IC wages for the printing and newspaper industry. Any identification of trends is marred by a low divergence for grade A2, and no figure for A3. The low A2 divergence, followed by a higher divergence can be ascribed to the A2 IC rates being up to 30% higher than the corresponding A1 wages, whereas the B1 rates are only some 15% higher than the A2 wages. The reasons for this are not apparent, but this does illustrate a poorly structured pay curve. The amounts by which the market rates exceed the IC rates are given in Table 6.13.

These percentages show significant variations in the amounts by which market rates exceed the IC figures. Nor is there any consistency in the relationship. This would reinforce the view above of a poorly structured pay curve on the part of the IC rates, and possibly the market curve as well, not that the latter is 'structured' in the true sense of the word.

Figure V.3 cannot be considered to support the trend that divergence decreases with increasing level of skill. There are simply too many exceptions to such a trend, or any other trend that may be identified.

The increasing divergence from B3 onwards is not surprising after inspection of the wages in Table V.1: in grades B3, B4 and C1, the

TABLE 6.13

PERCENTAGES BY WHICH MARKET RATES EXCEED MINIMUM RATES
(Printing Industry - Industrial Council)

Grade	Racial Category	1978	1983
A1	ABC	25	28
A2	ABC	7	12
A3	ABC	-	-
B1	ABC	26	22
B2	ABC	15	12
B3	ABC	7	13
B4	ABC	13	19
C1	W	29	61

market rates show an overall increase, whereas the IC Printing rates decrease over the period.

4.6 Pulp and Paper Manufacturing Industry (Industrial Council)

Table V.2 and Figure V.3 also give the divergence for the pulp and paper industry. It has already been explained that no A1 position was identified in the industrial council positions. The divergence figures show a decrease in divergence from A2 through to B2, whereafter (for B3 and B4) the divergence increases again. The amounts by which the market rates exceed the IC figures are shown in Table 6.14.

Apart from the small percentages in B2 and B3, there are significant differences between the market and IC rates. Excluding these two grades, the trend towards lower differentials between market and minimum rates as skill increases is evident.

There are no comparable wage board figures.

4.7 Summary of Divergences

The iron and steel industry (IC) shows a distinct reduction in divergence between market and minimum wages as the level of skill increases (with the exception of the lowest unskilled grade A1 which shows a lower divergence than A2). The Witwatersrand chemical industry (IC) follows much the same pattern with one anomaly at B2.

TABLE 6.14

PERCENTAGES BY WHICH MARKET RATES EXCEED MINIMUM RATES
(Pulp and Paper Industry - Industrial Council)

Grade	Racial Category	1978	1983
A1	ABC	-	-
A2	ABC	35	50
A3	ABC	22	21
B1	ABC	11	19
B2	ABC	6	1
B3	ABC	3	11
B4	ABC	9	8
C1	W	30	47

The printing industry (IC) appears to exhibit no trends at all. The pulp and paper industry (IC) shows a reducing divergence from A2 until B2, whereafter the divergence increases. The results are only for Asians, Blacks and Coloureds market rates.

It would appear that the reasons for these findings are twofold:

- At the lower unskilled levels market rates have been consistently higher than minimum rates, and they have held this position due to socio-political forces, rather than strong direct union negotiation. Blacks were hardly organised into unions during the first few years of this study period.

- At the upper semi-skilled levels, minimum rates have come closer to the market rates for Asians, Blacks and Coloureds. The likely explanation, already mentioned, is that the Asians, Blacks and Coloureds have moved into previously held 'White' positions (as suggested in Table 6.1) without the commensurate remuneration. (This is illustrated by the difference in market wages for Whites, and Asians, Blacks and Coloureds at the B3 and B4 levels.) This has resulted in a general lowering of labour costs at the semi-skilled levels.

This trend is contrary, for example, to the results found by Rudolph (1977) in the hotel industry. The introduction to the December 1977 (p.2) issue of the South African Labour Bulletin states:

> "Rudolph demonstrates the excess of the average wage over the Industrial Council minimum increases as the level of skill of the occupational category rises. African, Asian and Coloured workers in the unskilled categories receive earnings almost equal to the Industrial Council minima. On the other hand workers in semi-skilled and skilled categories earn considerably higher wages than the minima with the excess wage increasing as a proportion of the minimum wage as the skill level rises."

It should be remembered that Rudolph's study was done before Blacks were included in the negotiation process for industrial councils. Rudolph's analysis regarding the semi-skilled and skilled categories currently only applies to Whites.

It has already been mentioned that there is increasing evidence of companies supplying their wage data to the salary surveys on a 'non-racial' basis: this means that they do not give a racial classification because they claim to have a non-racial pay policy. Their data are then included in the surveys in the 'White' tables. An analysis of such data frequently reveals two distinct wage groupings for each grade: the higher is the White level of payment, and the lower rates are paid to Asians, Coloureds and Blacks respectively at decreasing rates. This means that divergence figures which compare market rates that include Whites to IC rates are actually understating the issue. In other words, if Whites could truly be isolated, their wages would be even higher than those given in the surveys (and this study), and the gaps between White wages and those of Asians, Blacks and Coloureds on the one hand and between White wages and minimum wages on the other would be even higher. Unfortunately, it is not possible to quantify the extent to

which this submission of Asian, Black and Coloured data as White data is occuring.

These findings are largely contrary to the findings of Steenkamp (1983: 64) who comments:

> "Where whites and blacks perform the same job in the same environment in this country, the earnings of the former usually are higher - often very much higher - than those of the latter. The smallest differences are found in the skilled and the higher semi-skilled jobs covered by collective wage agreements and by wage determinations on the principle of 'the wage for the job'. But even here there is a tendency towards greater wage drift in the case of whites than the blacks. The result is that the earnings of the blacks lie nearer to the fixed minima than do those of the whites."

The differences between the two racial groups increase in the skilled and higher semi-skilled jobs. No White data are available for comparative purposes at the lower grades.

5. GRADIENTS WITHIN WAGE CURVES

The gradient of a pay curve refers to the amount by which the wage paid at one grade exceeds the wage paid at the preceding grade. In Chapter 4 it was mentioned that Paterson had postulated a linear pay curve if the vertical axis was on a log scale and the scale on the horizontal axis indicated constant grade widths (the width of the A Band would be the same as B1 and B2 together, and so on). In this analysis, the gradient between two grades has been calculated over

time in order to see how the gradients of the market and minimum wage curves vary over time. The sectors analysed in Appendices I to V are considered below. Gradients have been expressed as the percentage by which the wage at one grade, say A2, exceeds the rate at the preceding grade, say A1.

5.1 Iron and Steel Main Agreement (Industrial Council)

Table I.3 shows the slopes of the market and IC pay curves for each year for each gradient: A2/A1, A3/A2, and so on. Separate calculations have been made for the two racial weighted averages at the B3/B2, B4/B3 and C1/B4 levels. The IC gradients and the B3, B4 and C1 levels are, of course, independent of race.

Figure I.4 illustrates these slopes graphically. There is a definite trend in that the slopes of the pay curves decrease from 1978 to 1983. This is a clear indication of a reduction in differentials between the grades. For example, the A2 market wage was 19% higher than A1 in 1978, but this reduced to 8% in 1983.

The results do not indicate whether the slopes are higher for the market curves or for the minimum wage curves: the market slopes are larger for the A2/A1 situation; the minimum wage slopes are greater for the A3/A2 gradients, and so on. There are some exceptions to the general trend, in that the gradient in one year may be higher than that in the previous year. These cases are few and are considered to be anomalies, rather than constituting a plausible

exception. The gradients which relate a wage that includes Whites to one that excludes them shows steep curves, as would be expected. Most anomalies appear in these cases. For example in the situation C1(W)/B4(ABC), the market gradient increases from 79 in 1978 to 93 in 1982, and it then drops to 81 in 1983. This would indicate a widening of the gap between White artisans and Asian, Black and Coloured (upper) semi-skilled workers, as opposed to a rather flatter gradient for the C1(W)/B4(WABC) case, where Whites are included in the B4 category. The former case reinforces the view that Asians, Blacks and Coloureds in the upper semi-skilled categories are receiving rather lower wages than their White counterparts: the total labour cost in these categories has reduced with the introduction of Asians, Blacks and Coloureds in these positions.

The trends in the IC gradients are more orderly (and obviously they do not directly suffer from racial considerations): the only exceptions to the trend of reducing gradients with time are A3/A2 (1981), B1/A3 (1978, 1979 and 1980), B2/B1 (1981), B4/B3 (1980).

5.2 Metal Containers and Allied Products Industry (Wage Board)

The problems associated with the wage board rates have already been mentioned several times, and these are again manifested in the gradient figures for the metal containers and allied products industry (Wage Board), as shown in Table II.3 and Figure II.3. There is no clear pattern that emerges from these figures.

5.3 Chemical Manufacturing Industry (Witwatersrand) (Industrial Council)

The figures in Table III.4 and Figure III.6 in Appendix III generally show the same pattern that was apparent in the iron and steel sector: the gradients of both market and IC curves reduce from 1978 to 1983. The same explanation appears reasonable: that there is considerable pressure to reduce the differentials between grades, thereby effectively flattening the pay curve. Except for the A2/A1 gradients and partially the B4/B3 gradients, the IC gradients are larger than the market gradients. This indicates that the differentials are less in the market figures than in the IC rates. An exception to the general trends so far identified is that the gradient between the skilled (C1) White wage over the all races B4 grade shows an increase over time. This also occurred in the Iron and Steel sector. In the Chemical Manufacturing sector this results from a larger increase in C1 rates over the period (21%) than in the B4(WABC) rates (17%). (In the case of Iron and Steel, the decrease in C1 rates (-2%) is less than the decrease in B4(WABC) rates (-4%)). The gradient will thus depend on the relative increases or decreases for the two grades.

5.4 Industrial Council for the Chemical Industry (Cape)

Reservations have already been expressed concerning the data for this industrial council. The gradient figures in Table III.5 show

no overall pattern. In some cases the gradient figures increase with time; in others, the gradients decrease.

5.5 Chemical and Allied Products Industry (Wage Board)

Table IV.3 and Figure IV.3 show the gradients for the wage board figures for this industry. The results are perhaps slightly more orderly than other wage board figures in that they do show a general trend that gradients for all grades (except B4/B3) decrease with time. There is a narrowing of some large differentials (such as 51 for B1/A3 in 1978 and 1979).

5.6 Printing and Newspaper Industry (Industrial Council)

Table V.3 and Figure V.4 show the gradients for this sector. The market figures follow the trend identified previously, albeit with some minor exceptions, and the notable exception at the C1/B4 level. The increasing tendency here has been seen before and it represents a widening of the differential between the (White) artisan and the upper semi-skilled levels. The special skills required by artisans in this sector would help to explain the increasing differentials. The IC figures also show reducing differentials between grades with the progression from 1978 to 1983. The gradient C1/B4 is flatter than most others, but it does not show the same increasing trend evident in the corresponding market gradient.

5.7 Pulp and Paper Manufacturing Industry (Industrial Council)

Table V.3 and Figure V.4 also show the rates for this sector. There is no general trend that will support the findings of previous sectors in identifying reducing differentials with time. Of the six sets of IC gradient figures, four show a general increase in differentials, one a reduction, and one a rather flat gradient. Clearly this industrial council has not been aiming at reducing differentials, nor has it been forced to reduce differentials.

5.8 Summary of Gradients With Wage Curves

The general socio-political forces which have been effective in increasing unskilled wages at a greater rate than those in the skilled categories will clearly have the effect of reducing differentials between the grades. The gradients between the C1 and B4 levels generally show an increasing trend because of a widening of the actual rates paid to artisans and the upper semi-skilled grades, that now contain an increasing number of Asians, Blacks and Coloureds, paid at lower rates than their White (upper semi-skilled) counterparts. This occurs simply because organisations lower their wage bill by employing, at lower rates, Asians, Blacks and Coloureds in positions previously held by Whites. This trend is clearly evident in most sectors, both for market and IC wages (the exceptions are the pulp and paper sector and, of course, the wage boards: the former shows an increasing trend in differentials; the latter show no definite trends). The problem of the survey's

containing some companies' Asian, Black and Coloured wages in the 'White' category will naturally also affect gradients. Gradients with White figures in the numerator will be understating the actual situation in that true 'White' wages would be higher than those given, thereby increasing the gradient.

There is no theoretical basis for analysing the magnitude of pay curve slopes. Paterson and others (as mentioned in Chapter 4) have merely observed that slopes are generally between 5% and 30%. The gradient figures presented in Appendices I to V and discussed above are generally within these limits (although there are some notable exceptions). There is no theoretical reason to expect that they should be between 5% and 30%. In practice the implementation of a pay system with gradients below 5% or above 30% would create difficulties in rewarding workers according to their relative skills and contributions because progression from one grade to the next would result in very low or very high increases in wages.

6. INTERINDUSTRY COMPARISON

Previous sections have dealt with the various industry sectors largely in isolation, with limited cross-industry comparison. This section presents a more direct comparison of the wages in the industries under consideration. Table 6.15 gives the market, industrial council and (where applicable) the wage board wages for 1978 and 1983 for grades A1, A2 (unskilled), B1 (lower semi-skilled)

TABLE 6.15

COMPARISON OF MARKET AND MINIMUM WAGES BY INDUSTRY

Grade	Industry	1978			1983		
		Market	IC	WB	Market	IC	WB
A1	Iron & Steel	100	98	73	128	114	100
	Chemical (Wits)	114	82	37	139	116	74
	Printing	120	96	-	137	107	-
	Pulp & Paper*	120	-	-	137	-	-
A2	Iron & Steel	119	105	77	138	117	106
	Chemical (Wits)	129	95	40	140	107	81
	Printing	135	126	-	147	131	-
	Pulp & Paper	135	100	-	147	98	-
B1	Iron & Steel	165	146	88	171	152	140
	Chemical (Wits)	175	119	74	186	153	106
	Printing	180	143	-	184	151	-
	Pulp & Paper	180	162	-	184	154	-
B4**	Iron & Steel	258	243	124	250	238	287
	Chemical (Wits)	271	203	147	268	223	174
	Printing	297	269	-	310	260	-
	Pulp & Paper	297	273	-	310	286	-

* No A1 figure available for IC
** ABC

and B4 (upper semi-skilled). No figures for Whites have been included.

The Iron and Steel market figures are consistently lower than those of the other sectors at all levels. In 1978, the Iron and Steel IC figures are higher than the Chemical and Printing wages and the A1 and B1 levels, but lower than the Pulp and Paper figures at grade B1. In 1983 the IC figures for A1 and B1 are much closer. At the B4 level, Printing and Pulp and Paper are rather higher. There tend to be greater variances at the A2 level.

The wage board figures are consistently lower than the market and IC figures (as would be expected if it is accepted that they are representative of a different pay universe) with the exception of the Metal Containers and Allied Products (deemed comparable to the Iron and Steel figures) at B4 level in 1983.

The workers in the sectors investigated in this study, as well as all others 'covered' by minimum wage regulation may be considered to constitute a certain 'internal' labour market, which will interact with the uncovered, 'external' market thereby providing several ports of entry to the covered market. At the bottom, unskilled level, whatever skills are required will be general, so it would be expected that the wages at the unskilled A1 level would not differ significantly. At the higher levels, skills become more specific, so there should be less uniformity in wages at the upper semi-skilled levels. Table 6.16 gives the percentage spreads of wages

TABLE 6.16

PERCENTAGE SPREAD OF WAGES BY GRADE
(% by which highest wage in a grade exceeds the lowest wage)

Grade	1978			1983		
	Market	IC	WB	Market	IC	WB
A1	20,0	19,5	97,3	8,6	8,4	35,1
A2	13,5	32,6	92,5	6,5	33,7	30,9
B1	9,1	36,1	18,9	8,8	2,0	32,1
B4 (ABC)	15,1	34,5	18,6	24,0	28,3	64,9

in each grade given in Table 6.15 in order to assess whether any trends in uniformity are evident. For example, the highest A1 market wage (which happens to be R120 - Printing, and Pulp and Paper) is 20% higher than the lowest A1 market wage (which is R100 - Iron and Steel). Similarly for the IC rates: R98 (Iron and Steel) is 19,5% higher than R82 (Chemical (Witwatersrand)).

Table 6.16 shows that in 1978 the spread in market wages is higher at A1 (20,0%) than at B4 (15,1%), with both the A2 and B1 percentage spreads lower. The IC figures show a progressively widening spread in 1978 from 19,5% (at A1) to 34,5% (at B4). The wage board figures indicate the reverse, but because there are only two sets of figures, this becomes a direct comparison between the Metal Containers and Allied Products' wage determination and the Chemical and Allied Products' wage determination.

In 1983 (if only the A1 and B4 wages are considered), all three of the market, IC and wage board figures indicate the expected widening of the spread between the wages at the unskilled and upper semi-skilled levels. It should be noted that the progression from a narrower to a wider spread is not a smooth one, highlighted particularly by the 33,7% IC spread at A2 followed by a 2% IC spread at B1. Comparing the A1 spreads of 1978 and 1983, it would appear that both market and minimum wages exhibited greater uniformity across industries in 1983 than was the case in 1978. The spread widens at the B4 level.

Apart from general economic and political conditions, there are two additional factors which may influence wages in the period under consideration: greater unionisation following the Wiehahn Commission, and changes in employment in the various sectors. It has been argued that the pressures on wages are greatest at the lower levels. This may result in an upward movement in the wages of unskilled workers until a more acceptable wage which is commensurate with the general skills that are required at the lower levels. Wage levels in one industry will doubtless have an effect on other industries (just as wages in the covered sector do have a bearing on the uncovered sector). There is no evidence that consensus between industries is sought in setting such wages, but a more uniform wage at the unskilled level reflects some recognition of lack of interindustry differentials at the lowest levels. At the upper semi-skilled (and skilled) levels, the external pressures on wages are in any event less, but attempts to reduce interindustry differentials would deny the existence of specific skills unique to certain industries.

Of the four industries studied, it is interesting to note that two showed little increase (3%) in employment over the period, while two showed increases in excess of 25%. Table 6.17 gives the figures, which have been taken from the Quarterly Bulletin of Statistics (March 1979 and 1985). These figures are for the entire industries, and do not necessarily correspond exactly to the sectors chosen in the salary survey or the industrial councils and wage boards. Nevertheless, the Chemical sector, which shows a 25,3%

TABLE 6.17

PERCENTAGE INCREASES IN EMPLOYMENT (1978-1983)

Industry Sector	% Increase in Employment 1978 - 1983
Manufacturing - basic metals, metal products, machinery, etc.	+ 3,4
Manufacturing - chemical, petroleum and coal products	+ 25,3
Manufacturing - printing	+ 32,3
Manufacturing - paper and paper products	+ 3,2

increase in employment, also shows amongst the largest percentage increases in wages. Apart from the B4 IC figure, the Printing industry, with a 32,3% increase in employment, also shows amongst the highest percentage increases in wages.

7. COMPARISON OF WAGES PAID TO MALES AND FEMALES

As stated in Chapter 5, minimum wage legislation does not permit discrimination on the grounds of sex or race. It is therefore not possible to compare minimum rates in the same way. Table VI.1 presents the real wages of Black males and females in the manufacturing sector (grades A1, A2, A3, B1). Both Table VI.1 and Figure VI.1 show a narrowing of the gap between males and females. In order to achieve this, it is natural that the percentage increases received by females will be larger than those received by males. The differential between B1 and A1 is much the same for males and females. The dog-leg effect is clearly evident until 1980 whereafter the reverse occurs, but with a flattening of the curve beyond A2.

CHAPTER 7

SUMMARY AND CONCLUSIONS

1. INTRODUCTION

The previous chapter discussed the results presented in Chapter 5. The results have indicated certain trends some of which would agree with aspects of the theory presented earlier; others yield somewhat surprising results for which no definite explanations are readily evident. This chapter summarises the overall trends identified, and discusses these in terms of the hypothesis presented in Chapter 1: are minimum wages influential in determining market rates?

2. SUMMARY OF RESULTS

The results need to be considered under two headings: industrial council agreements and wage board determinations.

2.1 Industrial Council Agreements

Several trends were generally evident in all sectors analysed. (Market rates refer to weighted averages of Asian, Black and

Coloured wages, that is, Whites are excluded, unless otherwise stated):

1. There is a narrowing of the differentials between unskilled and skilled workers in all sectors with a time progression from 1978 to 1983. This applies to both the market and industrial council wage rates.

2. The unskilled categories have received higher increases in real terms than the semi-skilled and skilled categories. In certain cases the skilled workers have seen their wages (actual and minimum) decrease in real terms.

3. The gradients of the wage curves show a flattening off with time and with the progression from the unskilled to skilled categories. This is a corollary of the first two points.

4. The divergence between market and minimum rates generally decreases with a progression from unskilled to skilled workers. In other words the minimum rates are closer to the market rates at the higher levels of skill.

5. The explanations for these findings are not easily explained by the theory. The discussion on differentials did indicate that differentials were dropping in other countries, but the reasons therefor showed a wide diversity of opinion. The relatively higher differentials between South African

unskilled and semi-skilled workers when compared to those of other countries such as the United Kingdom or the United States of America give South Africans greater scope for reducing such differentials. The pay compression that is evident can best be explained in terms of socio-political factors, because pure economic explanations would predict the reverse occurring: the relative shortage of skilled workers (who require a greater investment in human capital in terms of both general and more so in specific skills) should result in an increase in their wages, relative to the abundance of unskilled workers who should receive far smaller increases.

6. In seeking an answer to the questions posed by Turner and Jackson in Chapter 2, the results of Chapter 5 indicate that the differentials depend on certain 'non-market' conditions: trade union organisation appears to have only an indirect effect, to the extent that unions exert social and political pressures, rather than as a direct result of collective bargaining; the institutional apparatus of wage determination through wage structuring based on job evaluation principles has had little effect on differentials, as can be judged by a lack of structure in minimum wage curves, and indeed, in the market wage structures. The expectation of any structure based on job evaluation grade assumes a precise correspondence (or fit) between job evaluation grades and industrial council (or wage board) positions.

The changes in the wages of Whites relative to those of Asians, Blacks and Coloureds show that real increases over the period 1978 to 1983 have been lower for Whites. The National Manpower Commission (1984: 313) shows that in this period for all sectors, the increases in wages in real terms were: Whites 10,3%, Asians 24,5%, Blacks 20,4% and Coloureds 16,7%. However, White wages remain much higher than the wages of the other racial groups.

2.2 Wage Board Determinations

The wage board figures show so little consistency, with such irregular dates of review, that it is extremely difficult to detect any meaningful trends or to offer explanations therefor. It is difficult to see what useful function the wage boards are playing: many wage board figures have shown decreases in real terms, and there is little structure to these figures.

The infrequency of determinations is illustrated by a report of the National Manpower Commission (1982: 35) which states:

> "It appears that ... the average period between determinations was between 3,9 and 6,6 years. This is of course historical information and wages are now (according to the Wage Board) investigated approximately every three years. The target is nevertheless (according to officials of the Wage Board) to revise wages every two years."

It has been suggested that the wage board generally covers a lower paid group of workers, employed in organisations whose size and ability to pay may not be comparable to those that are party to the

industrial councils. This does not excuse the infrequency of determinations, nor does it explain the rise in wage board figures which have come closer to market rates in the later years of the study.

3. THE HYPOTHESIS

The hypothesis stated that minimum wage legislation is influencial in determining market rates. The starting point is to determine what is meant by 'effective', and what criteria should be used for assessing this.

Indications of effectiveness will be found if the minimum wages lead the market wages in any way: are the minimum wages exhibiting any characteristics in the early years which the market wages assume in subsequent years and can the apparent following of market wages be attributed to the trend? If this leading is not readily evident, then it means that the trends in the two cases are either occurring simultaneously or that the market rates are leading, or, of course, that there is no direct (obvious) causative relationship between them. Again, the hypothesis should be considered for the industrial council and the wage board situations.

3.1 Industrial Council Agreements

The results of this study have shown that the iron and steel sector minimum rates exhibited the 'dog-leg' effect in 1978 (the first year of the study), at the unskilled level. This indicates the upward component of pay compression, in agreement in principle with income distribution as stated by Kantor (1984: 46): "... it would appear that the share of the top 20% tends to fall slightly and the share of the bottom 20% tends to rise with increases in per capita incomes". The percentages have not been verified, but the concept is confirmed. Market rates also show the 'dog-leg' effect in the later years covered by the study. (Of course, there are many more mechanisms which affect the situation discussed by Kantor.) In this sense the market rates lag the minimum wages, but it is not possible to conclude that the 'dog-leg' effect in the market rates is caused by the 'dog-leg' effect that appeared in the minimum rates a few years previously. If the reason for this 'dog-leg' effect can be attributed to socio-political forces, it is reasonable to assume that these forces will affect market and minimum rates simultaneously, rather than saying that the one affects the other.

The reduction in differentials between skilled and unskilled workers is more prevalent in the market figures than in the minimum wages. It is therefore more likely that the explanation for the reduction in divergence between market and minimum rates with progression from unskilled to skilled levels arises from the greater reduction in market differentials.

The gradients of the wage curves show reductions in both market and minimum rates, but there is insufficient consistency to conclude which gradients lead the trend. Again, extraneous forces may affect both market and minimum rates simultaneously with no evident mutual interaction.

The flattening of the curves at the upper semi-skilled and skilled levels is more pronounced in the market curves. This is because of the relatively lower wages paid to Asians, Blacks and Coloureds who have moved into positions previously held by Whites, yet they receive lower real rates than their White predecessors. That the minimum rates do not exhibit the same degree of flattening is indicative of an element of independence between the two sets of figures.

The relationship proposed by Saldru in its Minimum Wage Analysis (1983: 12), discussed in Section 2.4 of Chapter 6, that there exists a "very close relationship between the movement of real minimum rates and real economic activity" if minimum rates are lagged by one year, is not evident if market rates are substituted for minimum rates. (With the limited number of years studied and the relatively few industrial councils considered, this 'very close relationship' is also not clearly apparent with the minimum rates.)

From the above summary of the results of Chapter 5, it is not possible to accept the hypothesis that minimum rates (as determined

by industrial council agreements) are effective in that they set the trend which is followed by market rates, and that any common trend is caused by the regulation of the minimum rates.

3.2 Wage Board Determinations

Discussion of the wage debate suggested that the wage board had had a considerable effect on wages up to the Sixties. The situation more recently would appear to have changed.

While some wage board determinations show similar trends to the market figures, it is impossible to see how the wage board figures can in any way affect market rates in the pay universe under investigation in this study: the wage board minima are generally so much lower than the comparable market figures and their frequency of review has at times resulted in substantial reductions in real wages. The hypothesis that wage board minimum wages are influential in determining the market wages (as identified in the salary survey) must be rejected. A limitation of this study is that market data on the pay universe that corresponds to the wage board figures are not available. The hypothesis could thus not be tested at this lower pay universe level.

4. GENERAL CONCLUSION AND AREAS FOR FUTURE RESEARCH

Labour economic theory has limited use in explaining the behaviour of market and minimum wages and the relationship between the two. The marginal productivity theory (its shortcomings notwithstanding), the radical theories and human capital segmentation theories are useful in providing a conceptual framework. However, this empirical investigation could not incorporate the research needed to test these theories. Hence, economic theories cannot directly explain the results obtained. This view is reinforced by Steenkamp (1983: 64) who comments:

> "It is impossible to explain (racial) differentials with the help of the theory of wages. This is because the theory of wages assumes the existence of a homogeneous unit of labour, a homogeneous labour market, full employment and free competition, which are all assumptions that do not accord with the realities of the South African situation or, for that matter, of any other country."

Job evaluation can also not explain wage levels. It is a technique used in South Africa at the level of the firm in order to structure wages for the sake of management's perception of internal equity. Salary surveys seek to introduce the external market levels to enable competitiveness in wage policies. Again, job evaluation and wage structuring according to salary surveys do not explain wage levels: they merely reflect the situation in a relatively orderly fashion. It may be pertinent to question the validity of using the Paterson system (or any other job evaluation system for that matter) as the basis of comparison between market and minimum rates. It

may be that the job evaluation system itself establishes trends or anomalies. The principle of wage structuring partly counters the criticism of effectively combining dissimilar jobs in one grade by being non-prescriptive in providing a range of wages for each grade. Job evaluation, despite its shortcomings, has been used because it does form the basis of remuneration systems in so many organisations.

The direct effect of trade unions on wages is difficult to determine. There are too many other variables which cannot be isolated. Also, the comparatively short time that unions have been open to all workers means that their effects have not been fully felt. An increase in the wage rate due to union pressure is analogous to the introduction of minimum wages: the influence of minimum wages or unions can only be truly assessed once their effect on employment, poverty, productivity, differentials, and so on has been measured. This is beyond the scope of this study.

The results of this investigation over the period 1978 to 1983 for the industry sectors studied show similar trends in market rates and industrial council minimum wages, but the hypothesis regarding the influence of minimum wages in determining market rates cannot be accepted from the available evidence. The hypothesis concerning the influence of wage board minimum rates in determining market wages as represented by the salary survey can be rejected in the two sectors studied. This means that wage board rates have not affected the wages paid by the type of organisation that subscribes to salary

surveys. Even though minimum wage levels do not appear to influence differentials between grades, it may be that they do have a very overall effect on the general level of wages. Minimum wages have increased dramatically in some isolated cases, and the market has not followed them, but this study cannot conclude that the overall level of market wages is entirely independent of the long-term effects of minimum wages.

Future research needs to consider a larger time span than the six years taken in this study. The effect of unions had not been fully felt by 1983 (the last year of this investigation). Although the weightings of the combined Asian, Black and Coloured figures are generally heavily biased towards Blacks, it would be useful to assess the trends in the wages of each of these groups once Blacks have been more involved in the collective bargaining process at industrial council level. From an economic point of view total earnings would be a more meaningful measure of income, since wages are only one part of total earnings. Wages are just one of the aspects affecting employment, and this effect will become increasingly difficult to isolate in the volatile South African situation. Nevertheless, further research is needed to consider each of the innumerable forces which affect the level of payment made to individuals.

BIBLIOGRAPHY

Books

Bailey, K.D. (1978). Methods of Social Research. New York: The Free Press.

Belcher, D.W. (1963). Wage and Salary Administration. New York: Prentice Hall.

Biesheuvel, S. (1985). Work Motivation and Compensation, Volumes 1 and 2. Johannesburg: McGraw-Hill.

Brennan, C.W. (1963). Wage Administration. Illinois: Irwin.

Burgess, L.R. (1984). Wage and Salary Administration. Columbus: Charles E. Merrill.

Cartter, A.M. (1959). Theory of Wages and Employment. Illinois: Richard D. Unwin.

Cartter, A.M. and Marshall, F. (1976). Labour Economics. Illinois: Richard D. Unwin.

Corina, J. (1972). Labour Market Economics: A Short Survey of Recent Theory. London: Heinemann Educational Books.

Desai, M. (1974). Marxian Economic Theory. London: Gray-Miller Publishing.

Doxey, G.V. (1961). The Industrial Colour Bar in South Africa. Cape Town: OUP.

Dunlop, J.T. (Ed.). (1966). The Theory of Wage Determinationa. New York: Macmillan.

Du Toit, D. (1981). Capital and Labour in South Africa - Class Struggle in the 1970s. London: Kegan Paul International Ltd.

Ehrenberg, R.G. and Smith, R.S. (1982). Modern Labor Economics. Illinois: Scott, Foresman and Company.

Griffiths, H.R. and Jones, R.A. (1980). South African Labour Economics. Johannesburg: McGraw-Hill.

Hirsch, B.T. and Addison, J.T. (1986). The Economic Analysis of Unions. London: Allen and Unwin.

Hunt, E.K. and Sherman, H.J. (1975). Economics: An Introduction to Traditional and Radical Views. New York: Harper.

Jaques, E. (1970). Equitable Payment. London: Heinemann Educational Books.

Johnson, H.G. (1973). The Theory of Income Distribution. London: Gray-Mills Publishing Ltd.

Kaufman, J. and Foran, T. (1971). The Minimum Wage and Poverty in Burton, Benham, Vaughn and Flanagan, Readings in Labor Market Economics. New York: Holt, Rinehart and Winston.

King, J.E. (Ed.) (1980). Readings in Labour Economics. Oxford: Oxford University Press.

Leffler, K.B. The Unanswered Question: Why are union wages popular with the poor? In: Rottenburg, S. (Ed.). (1979). The Economics of Legal Minimum Wages. Washington, D.C.: American Enterprise Institute for Public Policy Research.

Lipsey, R.G. and Steiner, P.O. (1981). Economics. New York: Harper and Row.

Livy, B. (1975). Job Evaluation: A Critical Review. London: Allen and Unwin.

Lydall, H. (1968). The Structure of Earnings. Oxford: Clarendon Press.

Lydall, H. (1979). A Theory of Income Distribution. Oxford: Clarendon Press.

Mackay, D.I. (1970). Internal Wage Structures in D. Robinson (Ed.), Local Labour Markets and Wage Structures. London: Gower Press.

Marx, K. (1906). Capital . New York: The Modern Library.

Meade, J.E. (1982). Wage-Fixing. London: George Allen and Unwin.

Meek, R.L. (1977). Smith, Marx and After. London: Chapman and Hall.

Milkovich, G.T. and Newman, J.M. (1984). Compensation. Plano: Business Publications Inc.

Paterson, T.T. (1972). Job Evaluation, Volumes 1 and 2. London: Business Books.

Paterson, T.T. (1981). Pay: For Making Decisions. Vancouver: Tantalus Publications.

Rees, A. (1979). The Economics of Work and Pay. New York: Harper and Row.

Robinson, D. (Ed.). (1970). Local Labour Markets and Wage Structures. London: Gower Press.

Rock, R.H. (Ed.). (1984). Handbook of Salary Administration. New York: American Management Association.

Rothschild, K.W. (1954). The Theory of Wages. Oxford: Basil Blackwell.

Rottenburg, S. (Ed.). (1979). The Economics of Legal Minimum Wages. Washington, D.C.: American Enterprise Institute for Public Policy Research.

Sattinger, M. (1980). Capital and the Distribution of Labor Earnings. Amsterdam: North-Holland Publishing Company.

Saul, J.S. and Gelb, S. (1981). The Crisis in South Africa. New York: Monthly Review Press.

Truu, M.L. (Ed.). (1976). Public Policy and the South African Economy. Cape Town: Oxford University Press.

Van den Bogaerde, F. (1974). Elements of Price Theory. Pretoria: J.L. van Schaik Limited.

Van der Horst, S.T. (1976). Labour Policy in South Africa (1948-76): A Sketch in M.L. Truu (Ed.), Public Policy and the South African Economy. Cape Town: Oxford University Press.

Van der Horst, S.T. (1942). Native Labour in South Africa. Norwich: OUP.

Wilkinson, F. (Ed.). (1981). The Dynamics of Labour Market Segmentation. London: Academic Press.

Journals

Benjamin, P., Cheadle, H. and Khoza, M. (1981). A Guide to the Labour Relations Amendment Act, South African Labour Bulletin, Vol.7, No.182, September 1981.

Bowey, A.M. and Eccles, A.J. Relativities, National Job Evaluation and Collective Bargaining, The Journal of Management Studies, Vol.XII, February 1975.

Cogill, C.J. Job Evaluation - The role of management and unions in four countries, South African Journal of Business Management, Vol.15, 1984.

Cowan, B. Is Job Evaluation Scientific?, South African Labour Bulletin, Vol.10, No.4, January-February 1985.

Gregory, M.B. and Thomson, A.W.J. The Coverage Mark-Up, Bargaining Structure and Earnings in Britain, 1973 and 1978, British Journal of Industrial Relations, Vol.XIX, 1981.

Hamermesh, D.S. Wage Bargains, Threshold Effects, and the Phillips Curve, Quarterly Journal of Economics, Vol.84, February 1970.

Hipkin, I.B. and Naude, P. A Market Pricing Model for Executive Remuneration, IPM Manpower Journal, January 1985.

Hollander, S. Marx and Malthusianism: Marx's Secular Path of Wages, The American Economic Review, Vol.74, No.1, March 1984.

Kaufman, R.T. and Woglom, G. The Effects of Expectations on Union Wages, American Economic Review, Vol.74, No.3, June 1984.

Mellow, W. Employer Size, Unionism and Wages, Research in Labour Economics, Supplement 2, 1983.

Meyer, R.H. and Wise, D.A. The Effects of the Minimum Wage on the Employment and Earnings of Youth, Journal of Labor Economics, Vol.1, No.1, January 1983.

Nattrass, J. The Narrowing of Wage Differentials in South Africa, South African Journal of Economics, Vol.45, 1977.

Osborne, M.J. Capitalist-Worker Conflict and Involuntary Unemployment, Review of Economic Studies, January 1984.

Pursell, D.E. Bantu Real Wages and Employment Opportunities in South Africa, South African Journal of Economics, Vol.36, 1968.

Pursell, D.E. South African Labour Policy - 'New Deal' for Nonwhites?, Industrial Relations, Vol.1, 1971.

Ray, R.S. A Note on Income and Employment, International Institute for Labour Studies Bulletin, No.8, 1971.

Reder, M.W. The Theory of Occupational Wage Differentials, American Economic Review, December 1955.

Rudolph, R. The Industrial Council Agreement and Wage Levels in the Hotel Trade - A Cape Peninsula Case Study, South African Labour Bulletin, Vol.3, No.10, December 1977.

Spandau, A. South African Wage Board Policy: An Alternative Interpretation, The South African Journal of Economics, Vol.40, 1972.

Steenkamp, W.F.J. Labour Policies for Growth During the Seventies: in the established industrial Areas, The South African Journal of Economics, Vol.39, 1971.

Steenkamp, W.F.J. Labour Problems and Policies of Half a Century, The South African Journal of Economics, Vol.51, 1983.

Turner, H.A. and Jackson, D.A.S. On the Determination of the General Wage Level - A World Analysis, The Economic Journal, Vol.80, December 1970.

Tylecote, A.B. Determinants of Changes in the Wage Hierarchy in U.K. Manufacturing Industry 1954-70: A Test of a New Theory of Wage Determination under Collective Bargaining, British Journal of Industrial Relations, Vol.XIII, 1975.

Wilson, F.A.H. Unresolved Issues in the South African Economy: Labour, The South African Journal of Economics, Vol.45, 1975.

Papers and Unpublished References

Cassim, F. (1982). Poverty, Discrimination and Segmentation. (Paper delivered at the South African Institute of Race Relations Urbanisation Commission, Johannesburg.)

Central Statistical Services. (March 1979, March 1985). Quarterly Bulletin of Statistics. Pretoria: Government Printer.

Department of Manpower. (1982). Annual Report of the National Manpower Commission. Pretoria: Government Printer.

Department of Manpower. (1984). Annual Report of the National Manpower Commission. Pretoria: Government Printer.

Department of Manpower Utilisation. (1980). Report by the Wage Board: Metal Containers and Allied Products Industry, 1980. Pretoria: Government Printer.

FSA Remuneration (Pty) Ltd. (1985). General Staff Salary Survey, 1985. Johannesburg: FSA Remuneration (Pty) Ltd.

Hipkin, I.B. (1985). Results of survey of job evaluation and salary structuring techniques.

International Labour Office. (1968). Minimum Wage Fixing and Economic Development. Geneva: I.L.O.

Kantor, B. (1984). Racial Income Differences and the South African Labour Market. Conference on Economic Development and Racial Domination, University of the Western Cape, Paper No. 9.

National Manpower Commission. (1982). Report of the National Manpower Commission on The Principle and Application of a National Minimum Wage with Specific Reference to the Republic of South Africa. (Chairman: H.J.J. Reynders). Pretoria: Government Printer.

National Productivity Institute. (1984). Productivity Focus. Pretoria: National Productivity Institute.

Nicol, M. (1986). Cape Town Clothing Manufacturers and the Industrial Legislation of the 1920's, Centre for African Studies, University of Cape Town.

Open University. (1979). Research Methods in Education and the Social Sciences. Milton Keynes: The Open University Press.

P-E Consulting Group (Pty) Ltd. South African Salary Surveys - 1978, 1979, 1980, 1981, 1982, 1983, 1984. Johannesburg: P-E Consulting Group (Pty) Ltd.

South African Institute of Race Relations. (1982, 1983, 1984). Annual Survey of Race Relations in South Africa. Johannesburg: South African Institute of Race Relations.

Southern African Labour and Development Research Unit. Industrial Council Wage Rates. A comprehensive analysis of the minimum wage rates set by South Africa's industrial councils. Cape Town: University of Cape Town.

Southern African Labour and Development Research Unit. (1984). Wage Board Determinations in South Africa: an analysis of the wage rates set by the Wage Board. Cape Town: University of Cape Town.

Southern African Labour and Development Research Unit. Quarterly Bulletin, No.4, 1984.