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STUDIES IN A LOCAL LABOUR MARKET

WITH SPECIAL REFERENCE TO PAY AND WASTAGE

by Alan George Cowling

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T A B L E   O F   C O N T E N T S

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A C K N O W L E D G E M E N T S

ABSTRACT

Research was carried out into the structure of inter and intra plant standard weekly earnings and the labour wastage of workers in eight manual occupations employed by a sample of 20 manufacturing plants located in North West London covering the period Autumn 1969 to Spring 1975. Information on travel to work patterns and the accuracy of information concerning pay rates within the local labour market area was also investigated. The results have been compared with earlier studies into local labour markets in an attempt to clarify the degree of economic rationality that prevails in the earnings of manual workers. (Analysis of the travel to work patterns of a sub sample of these manual workers established the practical usefulness of the concept of the local labour market).

Whilst a wide range of median standard hourly earnings was found for similar jobs, the coefficient of variation was appreciably lower than that found in earlier local labour market studies. Most of the 20 firms retained their general rank order in relation to each other over the period, and a common internal hierarchy of earnings by manual workers was displayed. During the period inter and intra occupational differentials decreased in a marked fashion.

The labour turnover and completed length of service patterns of the manual workers showed wide variations as between firms, in line with earlier studies. However significant differences between occupations was uncovered, which points to the importance of occupational analysis. In the case of certain manual occupations a statistically significant negative correlation was found to exist between variations in standard hourly earnings and labour turnover. Local unemployment levels appeared to exert little influence on labour wastage, but again some variation between occupations was discernable.

Taken together these results indicate a more economically rational structure of earnings and labour mobility than had been found in earlier studies, but also suggest that the 20 firms together form a 'submarket' within the local labour market. These results also underline the importance of local labour studies in understanding pay structures and the phenomenon of labour wastage, and indicate a need for further research in this area.

CHAPTER 1

I N T R O D U C T I O N

This dissertation presents the results of an investigation into pay and wastage amongst manual workers employed in twenty manufacturing plants in North West London over the five year period 1970 to 1974. Between them these plants employed in excess of 20,000 workers on locations in and around the London Borough of Brent. The map of Greater London provided overleaf shows Brent and its surrounding boroughs.

Major features of this investigation included research into the standard hourly earnings and the labour wastage of workers in these firms in eight manual occupations common to the engineering industry in this country. Evidence was also collected in an effort to define the relevant local labour market area or areas, and an investigation into the accuracy of information concerning local pay rates held by a section of the local population was executed.

The motivation to carry out this project stems largely from two sources. The first is a personal interest in the topic that derives from some years spent in working in the field of personnel administration. The second is the challenge to the concepts formulated during these years of practical experience presented at seminars on Industrial Relations of the Graduate Business Centre of the City University where the work of research into local labour markets by the teams led by Derek Robinson and Donald MacKay was discussed (References 15 and 16).

The opportunity to carry out this research was created by a number of factors. These included employment in North West London, and the opportunity to develop good personal

Map 1.1   Greater London, five sectors

Map 1.1 Location of Borough of Brent
within Greater London

relationships with personnel and industrial relations managers in a number of local manufacturing organisations. Access to the confidential reports on an extensive and systematic pay survey amongst local manufacturing organisations carried out on a number of occasions by the central industrial relations department of one of these firms provided the major breakthrough.

In its style the research project presented in the dissertation represents an attempt to focus on a strictly limited but interrelated number of problem areas within a specific labour market area. This is seen as being in accordance with Herbert Parnes' recommendations at the conclusion of his major review of labour market studies in the United States, when he said: (Ref 1, pg. 197)*.

'A final suggestion may be made concerning methodology. It is clear from the illustrations in this chapter that progress on research in Mobility will depend on the careful adaptation of research designs and methods of analysis to specific problems..... the explanation of individual motivation and of the institutional forces that condition labor market behaviour will only be achieved through sharply focused studies'.

The method of enquiry discussed in chapter three follows this line of reasoning in attempting a sharp focus on the specific problems outlined as a set of propositions below.

Aims, Objectives and Propositions

The general aim of the investigation and of this dissertation is to throw new light onto the operation of local labour markets in this country. In pursuit of this aim, a number of propositions have been tested against the evidence arising from this research. Those of most general significance are as follows:

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*n.b. Numbered references and bibliography presented at the conclusion of the dissertation.

1. Problems encountered in defining the boundary of a local labour market area can be overcome by making the definition specific to a major employer, and by making a distinction between manual and non-manual employees.

2. The pay structure of manual workers in medium to large manufacturing plants operating in the same local labour market area will exhibit a coherent pattern* of inter and intra firm pay relativities.

3. Different manual occupations exhibit significantly different patterns of labour wastage.

4. The labour turnover of manual workers in medium to large manufacturing plants is significantly influenced by relative levels of pay offered by these firms within the local labour market.

This dissertation is not directed towards a general revision of economic theory concerning the determination of wage levels. Wage levels and standard hourly earnings within the local labour market have been treated as independent variables in the investigation of their structure and likely impact on labour wastage.

A distinctive feature of this study is the emphasis placed upon an occupation-related analysis. Past research has frequently treated manual occupations as relatively homegeneous, or made simplistic distinctions between skilled, semi-skilled and unskilled workers. Wherever possible data has been analysed separately for each of the eight different manual occupations.

In the course of this investigation, various other interesting areas of enquiry have been thrown up, including, for example, the progress women are making towards equal pay and the squeeze that has taken place on differentials over the last few years in this country.

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* The term 'coherent pattern' is defined in Chapter 5.

The need for Research into Pay and Labour Mobility

Useful data on the operation of local labour markets, particularly in this country, is sparse. A few quotations from authorities on the subject illustrate this vividly.

'We probably know more about conditions on the surface of the moon than we do about the operations of local labour markets' - Derek Robinson (Ref.29)(pg.36).

'In Britain, very little research on the operation of labour markets has been undertaken despite the fact that many aspects of labour market behaviour are the subject of debate and controvessy' - Donald MacKay (Ref.16)(pg.18).

'.....local labour markets have been almost completely ignored in the United Kingdom' - S.W.Lerner, J.R.Cable and S.Gupta (Ref.19)(pg.6).

This situation is to some extent understandable. It is difficult to persuade employers to part with information concerning rates of pay and individual earnings. Employers and their representatives within personnel departments are also reluctant to co-operate in the provision of data concerning labour wastage. (In spite of the fact that the author had a background in personnel work and was well acquainted with many personnel managers in North West London, he met considerable resistance and a refusal to co-operate from a number of personnel departments. A purely 'academic' researcher might have been even less fortunate). Then again, personnel records are sometimes inadequate, inaccurate, and badly maintained. The extraction of useful and reliable data from such records frequently needs a degree of inside knowledge as well as considerable perseverence. Nevertheless it is still rather disturbing that sweeping generalisations concerning local labour markets are still made without reference to adequate empirical studies.

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Such studies as have been carried out have paid too little regard to likely differences in behaviour between occupational groups, particularly in the area of labour mobility. As has been mentioned, workers are frequently lumped together, or simply divided into male or female, or into skilled and unskilled categories.On the few occasions where job titles have been used, there is little evidence of adequate standardisation of the interpretation of the corresponding jobs' contents.

This project was largely inspired by the earlier investigations carried out by Derek Robinson and Donald MacKay referred to. MacKay in justifying his research states: (Ref.36, pg.36).

'It appears that only one previous study has attempted to obtain such information on a similar scale'.

He was referring to the study by C.A.Myers and W.P.Maclaurin on 'The Movement of Factory Workers' in the United States (Ref.8).

The need for such research is as great as ever, as chapter two will substantiate further.

Layout and Presentation

The presentation of data, its analysis, and subsequent findings are written up in separate chapters that can be grouped into two related areas of enquiry. The major thrust in this project is to do with relative pay levels and labour wastage, and is covered by chapters 5, 6, 7 and 8. Defining the geographical limitations of the local labour market turned into a major exercise in its own right, and is covered in chapter four. In the penultimate chapter, chapter 9, some further considerations, including the crucial role of information within the local labour market,

are dealt with, and the final conclusions concerning the propositions put forward in the Introduction are presented in chapter 10.

CHAPTER 2

A Review of local labour market studies concerning manual workers in manufacturing industry, paying special attention to research findings on the topics of pay, labour wastage, and definition of 'markets'.

This chapter is designed to serve a dual purpose. Relevant research findings on the major topics dealt with in the dissertation are brought together in order to provide a context and an introduction to the chapters which follow.* Gathering these findings together in one chapter also avoids the insertion of frequent gobbets of information in the later discussion.

The systematic study of local labour markets has been slow to achieve recognition as a major field of enquiry and a discipline in its own right. There are good historical reasons for this state of affairs. Traditionally, labour markets have been the academic preserve of labour economists, and the local labour market has been viewed as a test-bed for academics courageous enough to try to refute or support general economic theories. Even today a number of textbooks make little or no use of the term 'local labour markets', although reference is made to the fruits of such research. The subject has now ceased to be the near monopoly of economists, and major contributions have been made in recent years by industrial relations specialists, social scientists, manpower planners, and officially sponsored enquiries.

Local Labour Market Studies in their historical context

The history of serious investigation into local labour markets is somewhat brief and chequered. Brief because it is less than half a century old, and chequered because the

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*This review is presented as chapter 2 as it was considered to comprise part of the general introduction to the dissertation, and provides a natural lead into the next chapter on 'Method of Enquiry'.

extent of the research has ebbed and flowed with the pop-
ularity of the subject and the resources available. Credit
must be given to labour economists in the United States for
their pioneering work, and for having made such a major
contribution to our stock of knowledge. The earliest study
referred to by Herbert Parnes in his review of research on
labour mobility in the United States (Ref.1) is entitled
'How Workers Find Jobs' by Dorothea de Schweinitz, published
in 1932 (Ref.2). This was followed by the more widely
reported study carried out by Gladys Palmer and her colleagues
into the local labour market comprised of weavers and loom
fixers in Philadelphia (Ref.3). Shortly afterwards she
collaborated with Evelyn Kitagawa in a study of labour
mobility in six cities, carried out during the nineteen-
forties.

A number of local labour market studies ensued in the
States following these early initiatives. Herbert Heneman
investigated labour mobility in the cities of St.Paul (Ref.5)
and Minneapolis (Ref.6), Clark Kerr the city of Seattle
(Ref.7), and Myers and MacLaurin carried out a more general
study of labour mobility and rates of pay (Ref.8). The post-
war decade saw a spate of major investigations. This 'golden
age' of local labour market studies is linked with the names
of such prominent researchers as Lloyd Reynolds (Ref.9),
Wight Bakke (Ref.10), Herbert Parnes (Ref.1) and George
Schulz (Ref.11). It was to be followed by a temporary lull
until the nineteen sixties.

In this country a limited amount of research into local
labour markets had been carried out during the post-war
decade. Economists at the Department of Commerce at
Birmingham University showed considerable initiative, and
useful studies were carried out by Joyce Long (Ref.12) and
Hilda Behrend (Ref.13). Labour wastage attracted the atten-
tion of Social Scientists at this time, and a well-known

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study was carried out by Rice, Hill and Trist at the
Tavistock Institute (Ref.14). But we had to wait until
the nineteen-sixties for the two outstanding contributions
to our understanding of local labour markets provided by
Derek Robinson and his team of researchers from Oxford
University (Ref.15) and the Glasgow University group led
by Donald MacKay (Ref.16). During this period research
was also carried out by Jefferys (Ref.17), L.C.Hunter
(Ref.18) and S.W.Lerner, J.R.Cable and S.Gupta (Ref.19).
The nineteen-seventies have provided us with studies by
Richard Hyman (Ref.20) and William Brown (Ref.21) at
Warwick University, and at the London School of Economics
by Addison (Ref.60). Research at the Manchester Business
School by Gowler and Legge (Ref.22) and Angela Bowey
(Ref.23) has improved our understanding of the working of
internal labour markets. These recent studies have
frequently been carried out by social scientists rather
than labour economists, and are symptomatic of the widened
interest in local labour markets. The importance of our
Industrial Relations problems has prompted relevant research,
which in turn has underlined the need for further informa-
tion on plant bargaining and wage determination procedures
at the local level. Manpower Planning specialists are also
beginning to make a contribution to the theory of local
labour markets by developing statistical techniques that
model the flows of manpower into, within, and out of
organisations (Ref.24). The most useful results to date
concern the analysis of labour wastage, discussed in some
detail in chapters 3 and 7.

During the last decade interest seems to have revived
in the United States, and major studies have been published
by Albert Rees (Ref.25) and George Stigler (Ref.26).
Conferences are publications organised by the O.E.C.D. in

Paris (Ref.27) provide evidence of some interest in Europe, although most references are to general rather than local labour market studies and trends. An exception is the study by Bengt Rundblad in Sweden (Ref.28).

Whilst this brief record shows that much has been achieved in the last forty years, a great deal still remains to be done. Derek Robinson was probably employing journal-istic licence when he stated (Ref.29) that 'We probably know more about conditions on the surface of the moon than we do about the operations of local labour markets', but he had a point. More empirical research is needed. This need will be underlined by the ensuing sections which report on the fruits of local labour market studies in the key areas of definition, information, inter-firm pay differentials, internal wage structures, and the inter-relationship between labour wastage, pay, and unemployment.

The Definition of Local Labour Markets

The precise definition of the term 'local labour market' is by no means clear. It can be taken as simply referring to a Labour Market study in a geographically defined district in which a number of employers have created a demand for a localised supply of labour. And yet local labour market studies possess a flavour not to be found in typical large scale labour market studies. Inevitably they are concerned with the interactions of the labour policies being pursued by a limited number of firms. And just as inevitably, no two districts seem exactly alike. Just as the study of small groups in social psychology has shown marked differences from the study of crowd behaviour, so too the study of local labour markets has had to develop its own frame of reference.

Definitions offered by authoritative writers show some variety. Adam Smith (Ref.30) referred to localised neighbour-hoods when he wrote:

'The whole of the advantages and disadvantages of the
different employments of labour.... must in the same
neighbourhood be either perfectly equal or continually
tending to equality. If, in the same neighbourhood,
there was any employment evidently either more or less
advantageous than the rest, so many people would crowd
into, in the one case, and so many people would desert
it in the other, that its advantages would soon return
to the level of the other employments. This, at least,
would be the case in a society where things were left
to follow their natural course, where there was perfect
liberty, and where every man was perfectly free both to
choose what occupation he thought proper, and to change
it as often as he thought proper. Every man's interest
would prompt him to seek the advantageous and to shun
the disadvantageous employment'.

Whilst ideas as to what constitute a neighbourhood
have undergone considerable change in the last two hundred
years, community studies carried out by sociologists
indicate that it still retains considerable significance
(Ref. 31). Clark Kerr (Ref. 32) goes along with this approach
when he suggests that the boundaries are largely determined
by the ideas in people's minds, and puts forward the view
that local labour markets are '......merely an area of
indistinct geographical and occupational limits within which
certain workers customarily seek to offer their services and
certain employers to hire them'. Labour economists do not
appear to have been drawn into a stampede to measure custom
and practice in neighbourhood labour markets. Lloyd Reynolds
seeks a way out of the problem by focussing on the employer
rather than the neighbourhood, and states (Ref.9): 'The
firm is the hiring unit and....... each company employment
office is really a distinct market for labour'.

Derek Robinson ambitiously attempted to define both of
the terms 'Labour Market' and 'Local Labour Market' and came
up with (Ref. 15):

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'A Labour Market concerns the activities of hiring
certain labour to perform certain jobs, and the
process of determining how much shall be paid to
whom in return for performing what taks. In addition
the way in which wages move and the mobility of
workers between different jobs and employers falls
within the meaning of the term Labour Market', and

'A local labour market is the geographical area con-
taining those actual or potential members of the
labour force that a firm might induce to enter its
employ under certain conditions, and other employers
with which the firm is in competition for labour'.

An attempt is made in chapter four to see whether
Robinson's definition of a local labour market can be use-
fully applied to the local labour market situation in N.W.
London. J.F.B.Goodman introduces a realistic note when he
says Ref.33):

'The Labour Market is a term which is often used loosely
and which suggests a unity absent in practice. In the
real world it is composed of a multiplicity of sub-
markets demarcated by various criteria, but linked by
mobility'.

The concept of mobility, or willingness to travel a
certain distance to work, has much to commend it. It is
both measurable and observable. Whilst it might seem to
place the emphasis upon the supply side of local labour
markets, being primarily concerned with the individual
decisions of workers or potential workers, this is a limita-
tion imposed from the outset on employers, although they
may attempt to influence the situation by, for example,
providing company financial transport. Also employers may
limit their recruitment to workers who live within easy
travelling distance of the factory. Reynolds, in commenting
on 'Distance as an Obstacle to Movement' (Ref.9) refers to
a study of residential location where the addresses of
employees were plotted on a block map of a city, and says:

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'This revealed a strong tendency for employees to live within walking distance either of the plant itself or of a bus line leading directly to the plant'. Rees investigated the hiring standards of employers (Ref.34) and found a preference for employees who lived within easy travelling distance of work. But hiring standards varied, and whilst one employer laid down the rule of 'No more than one hour one way and no more than two transfers when using public transportation', another said 'our hiring standards are very flexible. They depend on the job to be filled and the state of the labour market'.

It seems reasonable to conclude from these observations that whilst the concept of a local labour market is a meaningful one, the meaning is given by the actors in the situation. Thus, each employer is likely to have his own view of what comprises the local labour market, whilst each worker or potential worker in turn has his own ideas. A further dimension is brought in by using the concept of 'occupations'. We would expect a professional worker to be willing to travel further to work than a manual worker, and studies in this country bear this out. For example, journey to work data based on a 10 per cent sample is published in the Workplace Tables of the Census Report. The data is presented by local authority areas, which means that journeys which necessitate crossing local authority boundaries are enumerated, but journeys within local authority areas are not shown up. A study carried out by Dugmore for the G.L.C. on the distribution of socio economic groups (Ref.35) underlined the obvious fact that professional workers are willing to commute long distances into the centre of towns. What we do lack is research in travel to work patterns by differential occupational groups, particularly manual workers. Clark Kerr talks sensibly

about the 'Balkanisation' of local labour markets, but little practical mapping out appears to have taken place.

Yet another dimension to the dilineation of local labour markets is provided by obstacles to the communication of information about work opportunities to potential workers. Because of its importance, the question of information in local labour markets is treated separately in the section below.

Information within Local Labour Markets

The extent to which workers and employers are well informed about the working conditions prevailing within their own locality is frequently discussed by labour economists, but almost invariably the conclusion is reached that a high degree of ignorance prevailed. As Derek Robinson put it (Ref.27), 'The general view, however, is that workers' knowledge of conditions in alternative employment is poor'. However, when we examine the foundation for this view, we find a disturbing shortage of empirical research.

Turning first to the workers side of the picture. We must take account of Lloyd Reynolds' study of a New England factory city in the nineteen-forties (Ref.9). He interviewed a sample of the working population, and found that approximately two-thirds knew nothing about the availability of jobs and terms of employment in areas of the city other than their own. The remainder had picked up a certain amount of information '.....through working in other areas, through their Trade Union, through friends and acquaintances, or from odd items in newspapers. Thus knowledge was meager.....'. In general, he found skilled workers to be better informed than unskilled.

George Shultz had already concluded in 1951 that 'Workers knowledge of job alternatives if fragmentary and

imperfect' (Ref.36), but he leant heavily on Reynolds' findings. At a later date he carried out a study of the labour market behaviour of textile workers in co-operation with Myers (Ref.11) and stated that the findings 'Suggest that in a small compact labor market, at least, displaced workers are likely to have a pretty good knowledge of job characteristics of other available jobs in the community! Over half the workers '.....had fairly specific job information about their new job prior to being hired'.

The difficulties which workers face in obtaining information about working conditions in local factories have been described on a number of occasions, e.g. Robinson (Ref.27),Stigler (Ref.26), Reynolds (Ref.9), MacKay (Ref.16). But such inference cannot take the place of direct investigation of the extent and accuracy of the knowledge held by workers or potential workers, and we must conclude that more research is badly needed.

If we turn to the employers side of the picture, we find much the same kind of situation. Employers' associations do sometimes carry out systematic surveys, and both Robinson and MacKay made extensive use of such a survey. National, regional and industrial pay statistics are published by official bodies in this country such as the Department of Employment, but it is not based on an adequate occupational breakdown or on local labour market areas. We are left to fall back upon inference from the results of investigations into inter-firm wage levels, which we now turn to.

Inter-Firm Pay Differentials

Inter-firm pay comparisons have been a central feature of a number of local labour market studies. In general, this interest has been stimulated by a desire to test out general economic theories concerning the price paid for

labour as a factor of production, and more particularly
to try to prove or disprove views held by Adam Smith and
the classical economists. But many of their research
studies have finished with a conclusion similar to the
view expressed by Richard Lester (Ref.37) that 'No satis-
factory explanation has been developed for the continued
existence locally of genuine inter-firm wage differentials'.

Because Pay Differentials are a central feature of
the research project to be presented and discussed later,
the findings of selected major investigations are set out
in some detail below, using material taken directly from
the published results. A discussion of such obvious
methodological points as to whether starting rates of pay,
average hourly rates, or weekly earnings are the best bases
for comparison is also left until later.

STUDY I - Lloyd Reynolds

In the study already referred to (Ref.9), Reynolds investigated starting rates of pay, and discovered the considerable variation between firms illustrated in his Tables 26 and 27 below.

Dispersion of Plant Starting Rates:- Table 26 (Reynolds)

TABLE 26

Dispersion of Plant Starting Rates, 1940, 1942, 1945 and 1948*

Dollars Per Hour	1940	1942	1945	1948
Range, Lowest to Highest	0.35-0.625	0.35-0.78	0.50-0.78	0.69-1.185
Median (M)	0.43	0.55	0.60	0.80
Interquartile Range $(Q_3 - Q_1)$	0.087	0.11	0.10	0.15
$\dfrac{Q_3 - Q_1}{M}$ (per cent)	20.3	20.0	16.7	18.9

*Data are as of 1st July in each year. The sample for 1940 is not strictly comparable with that for later years, since only fifteen of the twenty-five companies were able to furnish data as far back as 1940. A tabulation using these fifteen companies only, however, showed the same tendencies over the years 1940-1948 as does Table 26.

TABLE 27 (Reynolds)

Ranking of Companies by Starting Rate,
1942 and 1948

Company No.	Rank July 1, 1948	Rank July 1, 1942
1	1	1
2	2	6
3	3	7
4	4	4
5	5	19
6	6	15
7	7	22
8	8	8
9	9	9
10	10	13
11	11	14
12	12	21
13	13	3
14	14	2
15	15	11
16	16	17
17	17	18
18	18	16
19	19	20
20	20	10
21	21	5
22	22	12

A summary of Reynolds' conclusions on this subject is as follows:

i.   The data does not support the hypothesis that inter-plant wage differences tend to become narrower during periods of high employment.

ii. Low wage firms were able to hire and retain enough labour to meet their production schedules.

iii. Over a six-year period there was considerable change in the relative position of individual firms, although '.....some of the shifts are not very significant when one takes into account also the behaviour of job rates and average hourly earnings in the companies concerned'.

iv. 'A considerable number of employers stated that it
     is necessary to keep up with the area wage level
     in order to attract an adequate quantity and quality
     of labour'.

v.   'There is little evidence that a high wage level
     causes more workers to apply at a particular
     plant.....'.

vi. The main advantage of a high wage level is in
     persuading those who do apply to accept employment
     with the company.

Whilst acknowledging the significance of Reynolds'
study, it cannot escape criticism because of its dependence
on starting rates of pay, which can vary considerably from
average earnings, and because it does not distinguish
between different job categories.

STUDY II - Myers and Shultz

In a study of 39 major manufacturing firms (Ref.11),
Mayers and Shultz also found pronounced wage differentials.
They were able to collect data on both minimum rates of
pay and average hourly earnings. The highest minimum rate
was twice as great as the lowest, and the same was true
when the firms were ranked by average hourly earnings for
a standard working week. They differed from Reynolds in
finding that the relative ranking of the firms in the wage
structure of the community remained about the same from
1940 to 1949.

STUDY III - George Stigler

Although not a local labour market study (Ref.26),
being based on official returns for specific occupational
groups, his findings are relevant to the issue. The
appropriate table is given overleaf:

TABLE 5 (Stigler)

COEFFICIENTS OF VARIATION OF HOURLY WAGE RATES OF MALE
EMPLOYEES IN SELECTED MANUFACTURING INDUSTRIES BY
CLASS OF WORKER

Industry and Employer	No. of Plants	Coefficient of Variation (per cent)		
		Skilled	Semi-skilled	Unskilled
Radios:				
Two largest companies	2	12.8	16.7	13.8
Other companies	22	24.6	24.9	20.9
Soap:				
Large companies	13	15.1	16.8	17.2
Other companies	59	25.6	24.5	23.3
Explosives:				
Three largest companies	28	16.2	14.1	15.8
Other companies	23	19.8	17.4	19.5
Meatpacking:				
Four largest companies	59	–	20.4	–
Small companies	182	–	28.1	–

Source: Hourly Earnings of Employees in Large and Small
Enterprises ("Temporary National Economic Committee
Monograph," No.14, 1948), pp.21, 54, 59, 66, 70. The
same pattern holds without exception for female employees.
The meatpacking data refer to the northern wage district,
and to all employees.

He also found the coefficient of variation of the
1949 earnings for plumbers and pipefitters to be 40.8 per
cent, and for machinists and toolmakers to be 30.1 per cent.
The principal merit of this study is that wage rates are
analysed by occupational groups, crude though the distinc-
tion between skilled, semi-skilled and unskilled might be.
Again we note wide variation between firms.

STUDY IV - Rees and Shultz

In their study of a labour market in Chicago in 1963,
Rees and Shultz (Ref.34) came to the conclusion that
employers did tend to distinguish between occupational
groups as they developed their wage and manning strategies.

A correlation analysis was carried out in an attempt to
find pairs or clusters of occupations in which a firm that
paid high wages in one was likely to dos so in others.
Amongst manual workers statistically significant relation-
ships were found only between the wages of punch-press
operators and material handlers. No significant correlation
was found between maintenance electricians and tool and die
makers. Their general conclusion is summed up in their
comment 'We do not find many firms that are consistently
high wage or low wage firms across the whole spectrum of
operations'.

STUDY V - Derek Robinson

Data from returns by member firms to the Engineering
Employers Federation was used by Derek Robinson (Ref.15)
in his well publicised labour market study. As he summarised
his own study so well in the O.E.C.D. Report that bears his
name (Ref.27), it is quoted verbatim below.

A. Occupational Earnings in a Local Labour Market

Details were obtained of the average standard hourly
earnings of specified grades of workers in engineering
plants in the same local labour market towards the end of
1964 and 1965. Some ninety-two separate occupational
grades of manual workers in 40 firms were identified.
The co-efficient of variation of the factory average
earnings for specific occupations tended to lie between
the range of 20-35%. This reinforces the now widely held
view that wage levels within a single local labour market
display considerable variation. In this example it is
possible that some of the variation in standard hourly
wages would be reduced if it were possible to obtain
details of gross weekly earnings including overtime.
On the other hand overtime need not be inversely corre-
lated with the relative level of standard week wages.
The range of average standard hourly earnings for specific
occupations was very high in some cases. For example,
fitters in the highest paying firm received 15s.7d. an
hour and those in the lowest paying from 7s.11d., a
difference of 97%. The narrowest range of standard hourly
earnings was for patternmakers; 11s.3d. to 12s.10½d., a
range of 14.4% (ten firms included). The greatest spread

was for stores assistant: 3s.5d. to 8s.5d., a range of
146.3% (24 firms). Out of 79 occupations studied, in
only two cases was the range less than 30%. Both of
these were for highly-skilled grades of labour.

Much more detailed analysis was carried out on
twelve firms which all had twelve occupations in common,
although some minor details were unobtainable for the
first date. These firms had smaller co-efficients of
variation for each occupation than did the local labour
market as a whole. They varied from 3.3% for toolroom
operatives to 15.7% for packers and despatchers.

It was not possible to ascertain the exact dates
of increase of wages within the thirteen months covered
by the two surveys, but the increase over the full
period was known. The amount of increase in individual
firms, and the percentage equivalent of these increases,
varied considerably from firm to firm and from occupation
to occupation within a firm. Thus the percentage
increase in standard hourly earnings of fork-lift truck
operators varied from 4.5% (4½d.) to 21.2% (1s.6¾d.).
Turners had increases ranging from 5.1% (7¼d. an hour)
to 25.2% (2s.8-7/8d. an hour). There were some firms
which obviously were changing their relative position
within the local market by giving above-average increases.
These increases were not uniform between occupations in
either money or percentage terms.

A striking feature of the analysis of the twelve
firms at a specified date in 1965 was the apparent lack
of market structure in relative wage levels. Ranking
coefficients of each of the twelve occupations against
each of the other eleven occupations were calculated.
The highest coefficient was .90 for machine shop labourers
and forklift truck operators and also for these labourers
and wash-house attendants and for grinders and fitters.
Generally the coefficients between skilled grades and
unskilled grades were low, less than .5. That between
fitters and labourers was only .37, yet these are the two
main grades on which national negotiations are based.
This brings out clearly the impact of plant wages structures
on the supposed national one. Of the 66 ranking coeffici-
ents (twelve occupations each ranked with every other)
only 24 were significant at the 5% level.

Correlation coefficients were calculated on the same
basis, every occupation against every other occupation.
The highest R^2 was 0.964 for machine shop labourers and
wash-house attendants. Again coefficients tended to be
considerably lower between skilled and unskilled grades

than for two different occupations within the same broad
skill range. Fitters and labourers had an r^2 of only +
.081. The overall picture is clear: firms which pay
relatively high wages for certain occupations do not
necessarily do so for all their occupations. Thus,
while there are such things as 'high wage' firms, they
are not as uniform or as marked as might be expected.
Similarly some of the 'low wage' firms might well pay
average or above-average wages to some of their occupa-
tions. The same conclusion emerges from a study of the
relative occupational earnings within a firm on an index
based on Fitters. The spread of the internally based
index between different firms for the same occupation
was quite marked. Again using Student's t test, only
sixteen correlation coefficients were significant at the
5% level.

A different study of the standard hourly average
earnings of skilled production workers in twelve
engineering companies in Coventry showed that from 1952 to
1960 the coefficient of variation of companies' average
earnings, calculated each month, tended to rise from
about 8% to a little over 10%. A detailed study of the
average earnings each month shows that on the whole,
companies tended to maintain rather stable relative
positions over periods of four or five years. Some
changed their ranking, and occasionally a company made
rather dramatic movements in relative earnings. In 1960
the range of plant averages for the twelve firms was from
eight shillings an hour to a little over eleven shillings,
a differential of 35-40%. The great majority of the
workers included as skilled production workers were on
piece work.

B. Increases in Earnings within a Local Labour Market

A detailed study of the increases in standard hourly
earnings of 79 occupations in forty firms in the same
industry and locality was made. A wide variation in the
range of increase was noted. Over a two-year period,
end-1964 to end-1966, the percentage increase in the
average hourly earnings of labourers in individual firms
ranged from 8.9 to 43.6. In money terms the spread was
from 7.5 pence to 35.25 pence. For fitters the increases
ranged from under 5% to 55.6%, or from less than sixpence
to 75 pence. For painters and sprayers on production work
the corresponding figures were less than 5% to 62.5%, and
less than sixpence to 75 pence. It was not possible to

obtain details of changes in the numbers employed in each occupation over the period for all firms, but details were available for the great majority. On some occasions firms with relatively large increases in wages reduced the number employed in that particular occupation. In other cases the reverse situation was found; firms increased the numbers in an occupation but did not give particularly high wage increases.

These results are summarised in turn in the much quoted statement in his article in the Journal of the Institute of Personnel Management (Ref.29): 'It is just not true that firms pay the same wages for specific occupations as are paid by other, competing employers in their locality', and again 'Above all, there is little evidence, if any, to support the view that more intensive competition in a local labour market, through wage levels, is the way to increase a labour force, or even that this is a necessary defensive tactic in order to retain a labour force'.

Whilst Robinson's points will be taken up for closer examination and more detailed discussion later, the following limitations to his study are worth noting here:

   i. An assumption that the employers' returns were accurate;

  ii. Use of a very crude system of occupational classification. To persons knowledgable about the engineering industry there can be little surprise that some fitters are paid vastly more than others on the basis of skill alone, to quote one example. The term 'fitter' covers a considerable range of tasks and skills.

 iii. No information on weekly earnings. Overtime earnings and a host of hidden 'perks' might have accounted for many of the differences.

  iv. This comment about retaining the labour force quoted above does not rest on the evidence of his study (see later discussion on wastage).

Labour markets in Glasgow, North Lanarkshire and
Birmingham were investigated by MacKay and his colleagues
from Glasgow University (Ref.16) during the years 1959-66.
A number of plants in each of these areas had supplied
confidential information about wages to the Department of
Employment showing average plant earnings for males and
females over the period 1959-66 and average occupational
earnings for males over the period 1963-66. These were
made available to the researchers, as were employers'
returns to the E.E.F. Further information was provided
by a few 'case study' plants. Unfortunately data on the
spread of earnings within occupations was not available.

Selected tables are reproduced below on the basis of
their relevance to the N.W. London research project, as
well as to MacKay's own conclusions.

<div align="center">

TABLE 4.1 (MacKay)

INTER-PLANT EARNINGS DIFFERENTIALS:
GLASGOW MALES,
JUNE 1959 AND OCTOBER 1966

</div>

A. Standard weekly earnings				
Weekly earnings	Fitters	Turners	Labourers	All workers
1959 Range, lowest to highest (£)	9.3 to 15.6	9.4 to 15.9	7.8 to 12.9	9.1 to 15.3
Inter-quartile range (£) (Q_3-Q_1)	2.3	1.6	2.2	2.1
Coefficient of variation	14.1	13.2	12.2	13.8

TABLE 4.1 (Contd.)

Weekly earnings	Fitters	Turners	Labourers	All workers
1966 Range, lowest to highest (£)	12.7 to 22.8	14.6 to 22.5	10.2 to 15.3	13.8 to 22.0
Inter-quartile range (£) (Q_3-Q_1)	9.3	7.0	4.2	6.5
Coefficient of variation	22.7	19.9	16.0	17.5

TABLE 4.2 (MacKay)

INTER-PLANT EARNINGS DIFFERENTIALS:
BIRMINGHAM MALES,
JUNE 1963 and JUNE 1966

A. Standard weekly earnings				
Weekly Earnings	Toolroom	Semi-skilled	Labourers	All workers
1963 Range, lowest to highest (£)	13.0 to 24.1	11.6 to 20.7	7.7 to 13.6	11.9 to 20.3
Inter-quartile range (£) (Q_3-Q_1)	7.6	5.3	1.4	5.1
Coefficient of variation	20.1	17.8	13.0	16.3
1966 Range, lowest to highest (£)	14.1 to 31.5	14.3 to 25.4	9.9 to 17.4	15.1 to 25.7
Inter-quartile range (£) (Q_3-Q_1)	9.3	7.0	4.2	6.5
Coefficient of variation	22.7	19.9	16.0	17.5

TABLE 4.3 (MacKay)

COEFFICIENT OF VARIATION OF PLANT EARNINGS: GLASGOW AND BIRMINGHAM (GROSS WEEKLY EARNINGS) AND OCCUPATIONAL GROUPS (STANDARD WEEKLY EARNINGS); AND MALE UNEMPLOYMENT RATES, 1959-66.

| Quarter | G L A S G O W | | | | B I R M I N G H A M | | | |
| | Coefficient of variation | | | | Coefficient of variation | | | |
	All males	Turners	Lab-ourers	U%	All males	Tool-room	Lab-ourers	U%
2	16.9	14.2	15.4	5.7	15.6	–	–	0.7
4	14.2	–		5.6	17.9	–	–	0.5
6	18.7	15.6	18.2	4.7	17.0	–	–	0.3
8	17.5	–	–	4.4	15.9	–	–	0.7
10	15.0	14.9	18.1	3.8	16.3	–	–	0.7
12	15.0	–	–	4.7	18.4	–	–	1.0
14	15.9	15.0	14.5	4.9	17.9	–	–	1.3
16	18.2	–	–	6.6	17.3	–	–	1.7
18	16.7	–	–	6.9	22.6	–	–	1.5
20	18.5	–	–	6.4	21.2	20.1	13.0	1.1
22	10.7	19.9	15.9	5.2	14.9	20.9	16.9	0.7
24	15.1	–	–	4.7	14.9	20.2	13.0	0.5
26	15.1	17.2	12.5	3.9	14.9	19.3	13.6	0.5
28	15.2	–	–	4.1	14.6	18.7	14.4	0.5
30	20.2	13.2	12.2	3.8	16.7	21.7	17.8	0.4
32	13.2	–	–	5.2	13.1	22.7	16.0	2.0

TABLE 4.7 (MacKay)

RANKING OF PLANTS BY STANDARD WEEKLY EARNINGS:
BIRMINGHAM MALES, JUNE 1963 AND JUNE 1966

Plant Number	PLANT RANKING							
	Toolroom		Semi-skilled		Labourers		All Workers	
	1963	1966	1963	1966	1963	1966	1963	1966
B1	1	2	3	2	1	1	2	1
B2	2	1	1	1	2	2	1	2
B15	3	5	2	3	11	3	5	6
B16	4	4	5	5	8	7	4	5
B3	5	3	4	4	4	5	3	3
B4	6	6	1	1	10	6	6	4
B5	7	7	6	6	9	8	7	7
B12	8	8	8	12	6	13	9	11
B7	10	12	10	8	3	10	10	10
B11	11	11	12	11	12	11	11	12
B6	12	10	11	9	7	12	12	9
B14	13	13	9	10	13	9	13	13
Rank correlation	+0.95		+0.90		+0.38		+0.94	
	(+0.91)		(+0.94)		(+0.44)		(+0.92)	

Derek Robinson had noted a range of coefficient of
variations for specific occupations within the local labour
market of between 20-35%, and within the twelve firms with
twelve common occupations of from 3.3 to 15.7%. MacKay's
coefficients of variation range from 12.2 to 22.7% for
specific occupations. They therefore both agree in finding
considerable variation in the rates paid for similar jobs.
MacKay comments 'In each market examined, substantial plant
wage differentials existed for all the groups of manual
employees considered. Moreover there is no evidence to
suggest that wage differentials were narrower in a "tight"
labour market such as Birmingham, or that the spread of
differentials within a market was responsive to short-run
changes in employment conditions'.

Robinson had found that '.....companies tended to maintain rather stable relative positions over periods of four or five years', and MacKay came to a similar conclusion '....over the long run, where the appropriate wage variable is standard weekly earnings, major shifts in the inter-plant wage structure are relatively rate'. Robinson had also found that firms did not have to pay the same wage for the same job. This agrees with MacKay's general conclusion that 'There is nothing which resembled a market wage for a particular occupational group.....'

Whilst MacKay's study is probably more soundly based than Robinson's in that it uses data on wage rates from two independent sources, it still suffers from over reliance on a crude system of occupational classification. The terms Toolroom, Fitter, Labourer etc. all describe a very wide range of jobs when analysed in terms of skill, experience, effort and working conditions.

Note: Richard Hyman in his more recent study of two engineering plants in the Midlands (Ref.20) also found large differences in rates of pay.

Internal Wage Structures

We have already noted that research on inter firm pay differentials indicates that wide variations frequently exist between firms in the rates paid for jobs with similar titles. Frequently this is explained in terms of processes taking place within the plants themselves which create special systems of internal pay differentials, unique to each individual firm. To attempt to explain in a satisfactory manner all these social, financial and technical processes is a highly complex task involving the behavioural sciences, economics, the physical sciences and so on. It is described by Robertson (Ref.62) as '.....the interaction of forces related to wage systems, the factory technology, the actions of management and the work force and so on that determine

the utilisation and deployment of manpower within the firm itself, given its existing workforce'. Before we can launch into explanations, however, we need to ascertain certain facts, of which the actual wage structures within firms are a primary concern to researchers into local labour markets.

Few systematic studies have been carried out into internal wage structures within a local labour market and subsequently been reported, in spite of the importance of the subject. Lerner Cable and Gupta were led to comment (Ref.19) that there has been 'an almost complete absence of empirical investigation into plant-level wage structures'. There are, of course, major obstacles to be overcome if such a survey is to be carried out, not least of which is obtaining co-operation from employers on a matter which many of them consider to be private and confidential. In this section we will concentrate once again on the studies by Robinson and MacKay which have already been described because they managed to acquire a great deal of useful data on internal wage structures. Before we turn to them note must be made of D.J.Robertson's study reported in 1960 and again in his O.E.C.D. article in 1968, where the general conclusion emerged that a process of narrowing pay differentials between skilled and semi-skilled workers within firms appeared to be taking place (Ref.86).

Study I - Derek Robinson

The average standard hourly earnings of different categories of worker employed within the same firms in the areas studied were analysed to see if any clear pattern emerged of internal differentials. Robinson failed to find such a pattern, except of the most general nature, and concluded that:

'While there are some general relationships in
internal wages structures, for instance skilled
men generally receive more per standard hour than
semi-skilled men, and while some occupational
differentials are fairly constant between firms
in their relative ranking in the hierarchy, there
is little similarity in the actual relative
differential as opposed to general ranking'.
(15,pg.242) and that:

'If the earnings of selected occupations are plotted
on cumulative frequency diagrams it becomes clear
that in many British companies, in a number of
different types of industries, there is considerable
overlap between the earnings possibilities of men in
different skill grades which apparently run counter
to the implied wages structure of basic national
rates'.   (27, pg.71).

The structure of internal rates which Robinson
uncovered is illustrated by his Table 7.8 below, covering
25 firms in a labour market:

Unskilled labourers in each firm = 100

Firm	Skilled fitter	Skilled toolmaker	Skilled maintenance fitter	Skilled maintenance electrician	Skilled turner and machinist	Semi-skilled operatives
A	–	–	–	125.3	–	119.1
B	–	152.5	139.2	143.6	–	135.9
C	140.6	143.8	143.8	143.8	142.8	121.1
D	–	–	140.3	–	–	181.8
E	179.2	190.2	158.0	154.7	157.4	133.2
F	–	177.7	157.8	157.8	142.4	212.7
G	117.9	122.3	110.4	112.1	117.9	116.4
H	–	164.9	–	159.6	145.2	126.2
I	156.5	162.4	148.2	–	150.6	120.0
J	161.9	146.3	123.8	132.5	144.4	108.8
K	147.6	165.3	146.1	147.3	163.8	162.1
L	151.2	–	–	–	152.4	140.2
M	140.3	156.4	156.4	146.3	135.6	115.8
N	137.4	137.4	139.0	137.4	136.3	119.4
O	–	270.5	165.8	–	–	123.6
P	144.0	167.7	150.7	156.4	–	121.5
Q	172.9	176.4	158.4	164.6	172.9	151.4
R	120.8	–	120.8	–	120.8	111.8
S	132.4	158.2	135.2	135.2	132.4	128.6
T	133.3	128.6	111.1	114.0	–	127.0
U	132.8	154.6	–	127.3	148.0	130.4
V	129.0	–	–	–	139.8	–
W	148.1	–	148.1	148.1	194.8	128.6
X	–	–	–	–	–	112.6
Y	146.3	165.0	135.0	142.5	–	132.5
All	144.0	161.2	142.2	142.0	146.7	133.1

Table 7.8: Internal Wage Structures in LM2.
Average Standard Hourly Earnings
(November 1967) (Robinson)

Robinson claims that this shows '....no clearly established uniform wage structure common to all', with the differentials changing and sometimes being reversed as one moves from one firm to the next.

Whilst Robinson's conclusions will be discussed in greater detail at a later stage when comparison is made with the North West London local labour market, a general

comment needs to be made here. The ability to see a pattern when presented with data falls into the subject area of 'perception' which has received considerable attention from psychologists.

What is perceived is a product of factors such as personality, experience, group influences, and so on. In this case, experience is clearly an important factor. The researcher is all to liable to perceive the situation as an 'outsider', as someone from the academic world visiting the world of the engineering industry, and who then claims that all is confusion. But an 'insider' to the engineering industry, one who has spent many years in a responsible position dealing with a variety of jobs, perceives instead that pattern and order exist. To the 'outsider' a 'skilled fitter' may appear to be a distinct trade which should have its own place in a tidy hierarchy - particularly to someone used to the tidy academic world of carefully graded research assistants, lecturers, senior lecturers, etc. To be fair it should also be noted that the 'outsider' may sometimes see the overall situation more clearly than the 'insider', who may not be able to see "the wood for the trees". But to the 'insider' the title 'skilled fitter' can cover a great variety of jobs, as measured in terms of experience and training, effort skill and working conditions. This point about occupational classification has been made before and will be made again. Having achieved a better system of occupational classification, it may well be that a variety of pay rates for different 'jobs' are uncovered, but as it stands, the data on Table 7.8 would evince little surprise from a trade union official or manager steeped in the ways of the engineering industry. In the majority of firms a general hierarchy can be said to exist (discussed in Chapters 5 and 6), with toolmakers at the top and labourers at the bottom. However, certain 'fitting' jobs are extra-

ordinarily demanding and the toolmaker may give way to the
precision fitter. If a system of payment by results is in
operation, then further complications arise. These have
been amply documented by research into payments by results
systems and wage drift (see, for example, William Brown
(Ref.21), Lerner (Ref.19) and the N.B.P. & I. (Ref.38)).
These point to the necessity for studying plant bargaining
procedures in order to unravel what to the 'outsider'
seems at times a confusing pattern.

Study II - Donald MacKay

MacKay echoes the last point made above when he con-
cluded from his study of internal labour markets that:

> 'It is also apparent that the internal wage structure
> shows such considerable variation from one unit to
> the next that it is extremely difficult to establish
> any general rules.....', and '....there appears to
> be as many internal wage structures as there are
> plants (op.cit.pg.118).

This study again showed a general hierarchy of skilled;
semi-skilled; unskilled, with toolroom workers more often
than not at the top of the pyramid. This structure was
usually underpinned by the negotiated basic rates of pay.
However, because of payment by results systems and overtime
working, many examples could be found of semi-skilled
workers actually earning more than skilled workers.

The structure of standard weekly earnings is illustrated
in the table shown below:

TABLE 5.3 (MacKay)

STANDARD WEEKLY EARNINGS OF OCCUPATIONAL GROUPS AS A
PERCENTAGE OF THE STANDARD WEEKLY EARNINGS OF LABOURERS
ON TIMEWORK: GLASGOW AND BIRMINGHAM MALES, JUNE 1966

A. Glasgow Plants

Occupational Group	PLANT NUMBER								
	G1	G2	G4	G5	G11	G16	G18	G19	G21
Timeworkers									
Fitters	141		132	121	138	173	153		
Turners			135	141		149	140		
Toolroom			144	141		178	167	152	174
Semi-skilled	106	115	113	110	116	123	126	118	123
Pieceworkers									
Fitters		174			158			143	
Turners		173			147		171	152	153
Toolroom		161			163				
Semi-skilled		139		136		171	142	129	152
Labourers				144		129	121	111	

TABLE 5.3 (Continued) (MacKay)

B. Birmingham Plants

Occupational Group	PLANT NUMBER													
	B1	B2	B3	B4	B5	B6	B7	B9	B11	B12	B13	B14	B15	B17
Timeworkers														
Fitters		177	191		157						135		171	
Turners			206		157		130				130			
Toolroom	166	190	200	152	166	165	131		161	211	159	108	169	175
Semi-skilled	127	125	121		124	144	112		122	125	128	107	122	125
Pieceworkers														
Fitters		157	183	193							151		183	
Turners		181	187		189						149			148
Toolroom				193				133	172					
Semi-skilled	164	163	165		179		122	134	136	167	130	134	162	161
Labourers													173	

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One peculiar figure in Table 5.3A standards out,
namely the earnings of labourers in plant G5, which appear
to be higher than any other category within that firm,
and are above earnings levels in a number of other firms.
One explanation might be that very long hours are worked,
or another might be that the term 'labourer' in certain
Glasgow plants has a different meaning from Birmingham
plants. In the Birmingham plants only one firm appears
to employ labourers on piecework. This illustrates further
the ambiguous nature of the occupational titles used. Even
the job of 'labourer' can vary considerably.

One conclusion to this section in our summary must
the be that the two major studies which have been under-
taken in this country point to a complex system of internal
wage differentials. Difficulty in establishing a coherent
pattern is associated with the point made by Hunter and
Reid (Ref.18) in their discussion of 'Wages and Occupational
Allocation of Labour' when they said: *imprecision*

> 'Part of this problem stems from the impression of
> occupational classifications...... The precise
> identification of what one is measuring is obviously
> difficult, and the subjectivity and inaccuracy of
> job and occupation titles is a constant problem in
> the analysis of this type of mobility'.

This point is repeated frequently in the ensuing report
and analysis of the research project.

Labour Wastage, Pay and Local Unemployment

The subject of Labour Wastage has attracted attention
from many quarters, and a voluminous literature has been
developed (see Pettman, 39). Data on labour wastage has
been collected in a number of Local Labour Market studies,
frequently motivated by a desire to test the production in
classical economics that workers will tend to leave low
paying jobs in the search for higher pay. Fortunately the

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basic data is usually accessible to the researcher in the form of the personal records kept by employment departments within firms. In spite of this, there are few recorded systematic studies of wastage within local markets in this country, and there has been an over reliance on the particular case study of the Glacier Metal Company conducted in the nineteen forties and fifties which will be referred to in greater detail later.

After considering the more important studies of labour wastage that have taken place within the context of local labour markets, we will go on to summarise relevant findings on observed relationships between pay and wastage, and then between wastage and local unemployment levels.

I - Labour Wastage Studies

Early local labour market studies collected data on wastage analysed by the sex of leavers. Gladys Palmer and her associates found in their study of hosiery workers in the nineteen thirties that women changed jobs less frequently than men (Ref.3). A study of Ohio and Michigan workers by Bogue in 1947 showed no significant difference between the proportion of men and women who made changes within the local labour market, but a substantially higher proportion of men than women who made inter-county changes. Heneman's study of workers in St.Paul (Ref.5) found men to be more mobile than women. The results of Kitagawa's six city study indicated that women were less likely than men to change their occupations when they shifted from one employer to another, but were about as likely as men to change industries. She also found a positive relationship between age and length of service. Subsequently studies of the relationship between sex and wastage have been conducted at a more general level, and with greater sophistication as marital status, age etc., although the results are still inconclusive (Pettman, Ref.39).

One problem when analysing labour wastage figures
lies in establishing whether leavers went of their own
volition or were expelled by the company. If we wish to
test some hypothesis to the effect that employees are
more likely to leave if, for example, pay rates within the
firm lag behind those of other firms, then we are mainly
concerned with voluntary leavers. In practice we may
find that the numbers accounted for by dismissal or
redundancy are so small, or more in the same way as the
general trend of leavers, that such a distinction need not
be made. Lloyd Reynolds analysed labour separation rates
in 39 manufacturing companies over the period 1945-1949,
and found the pattern shown show (op.cit).
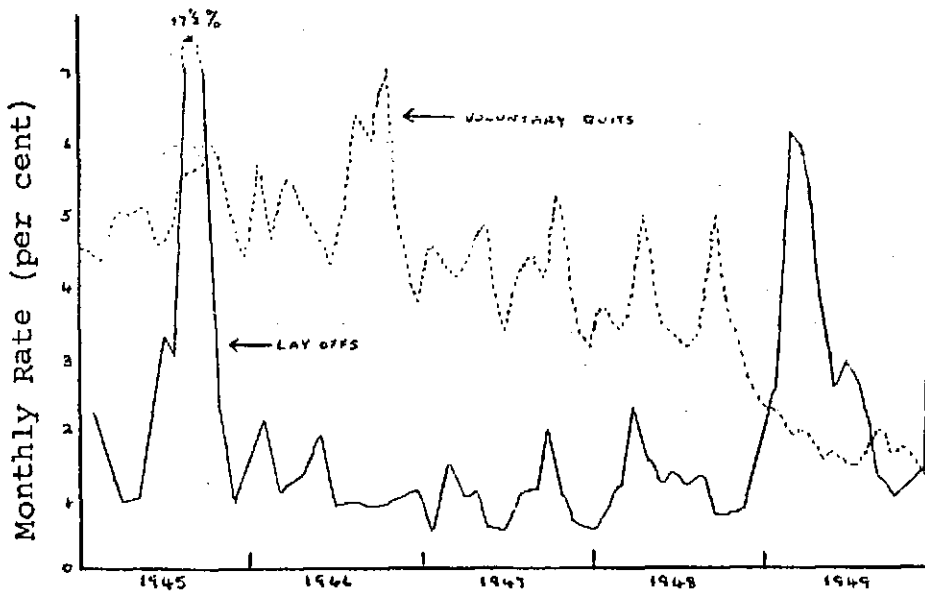
Chart 3 - Lay-off and Voluntary Quit Rates,
          39 Mfg. Companies, 1945-1949. (Reynolds)

Here we notice that the data for lay-offs and voluntary
quits corresponds very well for 3 out of the 5 years, but
that in two years economic conditions led disproportionate
lay-off figures. When measured in the manner shown above,

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monthly variations tend to obscure long term trends. Here
the long-term trend is downward, which Reynolds ascribes
to the fact that workers were settling down after the war
years whilst at the same time, excess demand for labour in
this labour market was declining.

Reynolds also reached other general conclusions con-
cerning labour wastage that were to be borne out by later
studies.

i   'Most labour turnover occurs within a small segment
        of the labour force. Only a minority of the labour
        force changes jobs in a given year'.

ii   'Unskilled workers change jobs more frequently than
        the semi-skilled, and these, in turn, move more
        frequently than skilled workers'.

iii   'The propensity to change employment diminishes
        rapidly with increasing length of service'.

One serious limitation to Reynolds' study, a limitation
which is found time and again in later studies, is the lack
of attention to particular occupations. It is unfortunate
that later researchers did not take note of Reynolds'
comment that: 'There is reason to suspect that the relation
between mobility rate and occupational level is actually
even stronger than our statistics suggest. The relationship
is blurred in our tabulations by at least two factors:
first, the skilled group is heterogeneous, including such
mobile people as building construction workers and such
immobile groups as the railroad operating trades. A similar
heterogeneity appears among semi-skilled and unskilled
workers'.

Turning to studies in this country, special note must
be made of the research carried out by a team from the
Tavistock Institute that concentrated on the Glacier Metal
Company, a medium to large sized light engineering firm

located in North West London (specific reference to this
company will be made again later when we consider the North
West London labour market project). Whilst this study by
Rice Hill and Trist (Ref.14) was not strictly speaking a
local labour market study, it did take note of the local
labour market situation. It also marked a turning point
in the study of labour wastage. Because of the limitations
inherent in the traditional method of simply measuring
labour wastage as an index based on the numbers leaving
in any one year, expressed as a percentage of those employed,
leavers were also expressed as a percentage of total
entrants. Tables 1 and 5 are shown below:

<u>TABLE 1</u> (Rice, Hill & Trist)

The Glacier Metal Company, London Factory
Monthly Labour Turnover Rates Summarised Annually

Year	Per cent leaving at own request	Per cent leaving at Company request	Total turnover per cent	Own request as per cent of total turnover
MALE				
1943	15.4	6.0	21.4	72.0
1944	12.5	6.7	19.2	65.1
1945	18.1	6.9	25.0	72.4
1946	23.1	3.9	27.0	85.6
1947	19.0	1.9	20.9	90.9
1948	11.5	3.2	14.7	78.2
1949	10.4	12.4	22.8	45.6
1950(1st 3 mths.)	3.9	0.5	4.4	88.6
FEMALE				
1943	29.0	9.2	38.2	75.9
1944	31.2	5.1	36.3	86.0
1945	46.7	7.0	53.7	87.0
1946	46.0	5.4	51.4	89.5
1947	31.8	3.3	35.1	90.6
1948	29.3	6.3	35.6	82.3
1949	34.6	14.9	49.5	69.9
1950(1st 3 mths.)	3.9	0.5	4.4	88.6

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TABLE 5 (Rice, Hill & Trist)

The Glacier Metal Company

Frequency Distribution of Leavers and Stayers for 1942-1945 Entrants

Survival Period, Weeks	Number leaving	Per cent Entrants leaving in each Period	Per cent Entrants leaving, cumulative	Per cent Entrants remaining
0-25	491	30.61	30.61	69.39
26-51	257	16.02	46.63	53.37
52-77	173	10.78	57.41	42.59
78-103	110	6.86	64.27	35.73
104-129	87	5.42	69.69	30.31
130-155	60	3.74	73.43	26.57
156-181	82	5.11	78.54	21.46
182-207	56	3.49	82.03	17.97

Total number of Entrants = 1,604

THE GLACIER METAL CO. LTD. Fig.5

No. of Entrants: 1604
Entering from January 1942 to December 1945

Equation of Fitted Curve
$y = 30.83 \, e^{-1.041}$

21-Week Periods

Leavers as a percentage of total entrants

Weeks periods: 0-25 (1), 26-51 (2), 52-77 (3), 78-103 (4), 104-129 (5), 130-155 (6), 156-181 (7), 182-207 (8)
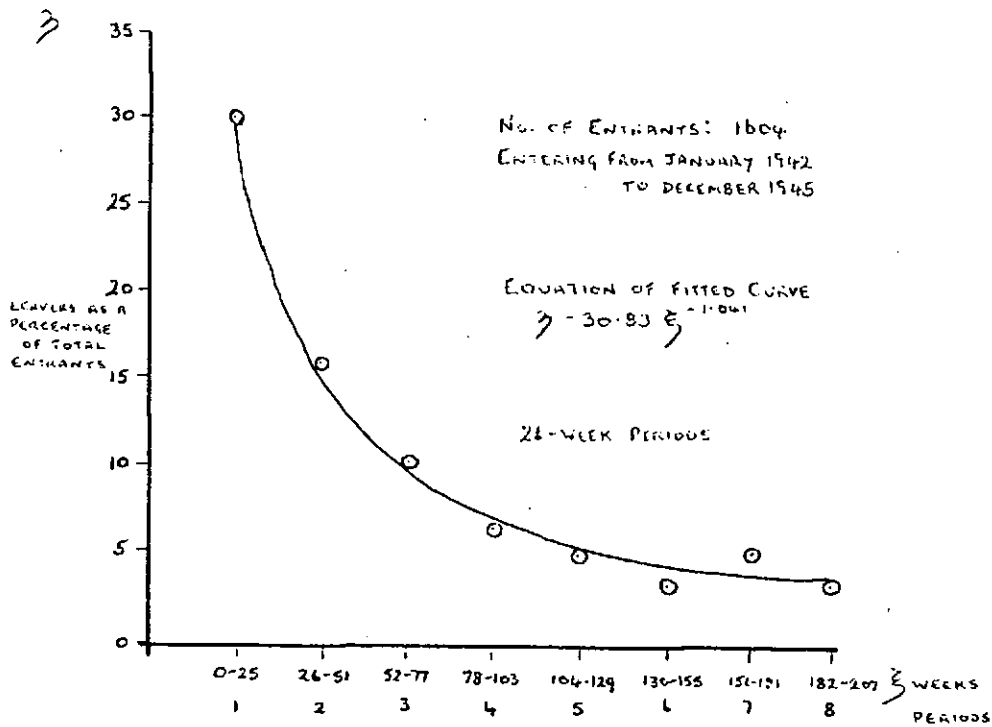
Table 1 shows considerable fluctuations from year to year, while female wastage appreciably higher than male. The low number of leavers dismissed by the company each year suggests that their exclusion or inclusion would make little significant difference to the final result. Table 5, including Fig.5 show the by well known survival curve fro new employees, with propensity to leave decreasing rapidly with length of service over the first two years.

As the title of their paper suggests, they concluded that labour wastage could be viewed as a 'Social Process'. This immediately leads us into fairly complex social models if we are to account adequately for labour wastage, with the implication that a knowledge of the social sciences is essential for the study of local labour markets. They claimed to have demonstrated that labour turnover '....has the character of a quasi-stationery process' and '....that this process is a function of the factory itself as an industrial institution'.

Major limitations to this study include the aggregation of all occupational categories of employee into one general total of leavers, the dependence on data from only two firms (data from a second local firm was also used, but the firm remained anonymous), the fact that it was an unnusual period in our history covering the war and immediate post-war years, and that other relevant data, such as pay levels were not included.

Subsequent studies of labour wastage have been carried out in this country. On the one hand official government bodies such as the Department of Employment publish data based on national, industrial and regional trends, but little, alas, on specific occupations. On the other hand, the Tavistock Institute have carried out further studies under the algis of the National Economic Development

Organisation (well summarised by P.J.Samuel, Ref.40).
These have been industrial rather than local labour market
studies, and have suffered from the limitations noted on
their original study.

II - Pay and Wastage

The relationship between pay and wastage goes to the
heart of the theory put forward by classical economists,
even if we adopt Rottenberg's liberal version which is to
the effect that 'The money wage becomes the determinant of
choice only when other attributes are compared. This does
not say that choice is made only in terms of relative
prices' (Ref.41). In the well known essay from which this
quotation is taken, Rottenberg, relying heavily on the
research already referred to by Reynolds, Myers and MacLaurin,
Shultz and Clark Kerr, went on to state that 'Empirical
research has found that workers who leave a present employ-
ment with another specific employment already arranged move
to higher gross weekly earnings, more often than do workers
who leave without a specific alternative arranged'.

Testing whether choice is made in terms of price can
take a number of forms. One approach to the problem is to
ask workers their preferences and reasons for making job
changes. This approach has a number of difficulties,
including that of obtaining truthful statements, and then
making psychological assumptions about the likely connection
between stated opinions and eventual actions. Another
approach is to attempt to measure whether high paying firms
attract more applications and recruit more successfully
than low paying firms. A major weakness to this approach is
that high paying firms may not need to recruit many new
workers, and therefore do not set out to attract large
numbers of applicants. The third approach, and one which
is favoured in this study on the grounds of its straight-
forwardness and practicality, is to test to see whether high

paying firms enjoy less labour wastage than low paying
firms, within the same local labour market area.

Clearly the issue is a complex and difficult one to
resolve. This has not prevented labour economists from
making sweeping assertions! Reynolds (Ref.9) tackled the
problem by asking employers their opinions, based upon
their practical experience, and came to the conclusion
that 'The problem which faces the employer who lags behind
an upward wage movement is not mainly one of labour turn-
over......Without quitting the job, they (the workers) can
make their discontent felt in the quantity and quality of
their output and in their personal relations with super-
visors'. Myers and MacLaurin found in their study of the
Fichtburg labour market (Ref.8), that 'In terms of total
inter-factory moves, differences in wage rates were not an
important cause of movement'. Rees and Shultz (Ref.34)
concluded that 'Firms that pay high wages and that advance
wages substantially with length of service will have fewer
quits and hence less need to train new workers'. Hunter
and Reid concurred with the last view after analysing the
relation between labour turnover and earnings level in 4
different countries (Ref.18). This was not a local labour
market study, being based upon official statistics, but is
sufficiently important in this context to be given below:

TABLE 13 - THE RELATION BETWEEN LABOUR TURNOVER AND EARNINGS LEVELS (Hunter & Reid)

Coefficients of Correlation

Year	UNITED STATES 20 Manufacturing Industries		CANADA 17 Manufacturing industries	FRANCE 13 Manufacturing Industries		25 industries	UNITED KINGDOM 14 Manufacturing Industries	
	Quits	Separations					Both Sexes	Men
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1949	..	..	..	..	..	..	-.57	-.42
1950	-.43	-.36	-.52	-.34	..	..	-.58	-.51
1951	-.43	-.50	-.59	-.41	..	..	-.63	-.59
1952	-.56	-.46	-.60	-.52	..	..	-.76	-.69
1953	-.52	-.27	-.68	..	..	..	-.66	-.64
1954	-.75	-.24	-.57	-.43	..	..	-.65	-.68
1955	-.73	-.43	-.61	-.50	-.46	-.42	-.58	-.67
1956	..	-.41	-.62	-.36	-.46	-.49	-.65	-.71
1957	-.81	-.45	-.60	-.35	-.38	-.39	-.76	-.77
1958	-.77	-.62	-.56	-.41	-.44	-.44	-.87	-.84
1959	-.76	-.62	-.60	-.32	-.33	-.20	-.81	-.79
1960	-.79	-.64	-.52	-.34	-.40	-.31	..	(-.73)
1961	-.79	-.67	-.56	..	..	..	..	(-.89)
1962	-.79	-.70	..	..	..	..	..	..

NOTE: The numbers shown are coefficents of correlation calculated between the annual numbers of separations per 100 occupied jobs and the earnings level:

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Hunter & Reid Table 13 (Contd.)

a) Annual quit rate (all employees) and annual average hourly earnings of production workers. (Source: "Monthly Labour Review," "Employment and Earnings").

b) Annual separation rate (all employees) and annual average hourly earnings of production workers. (Source: "Monthly Labour Review," "Employment and Earnings").

c) Annual separation rate (all employees) and weekly average earnings. (Source: "Hiring and Separation rates in Certain Industries," "Employment and Payrolls").

d) Annual separation rate (all employees) and hourly earnings of wage-earners in September. (Source: "Etudes Statistiques," "Revue française de travail").

e) and f) Annual separation rate (all employees) and monthly average earnings of wage-earners (Source: "Etudes Statistiques").

g) Annual separation rate (all employees) and hourly earnings of wage-earners in October. (Source: "Ministry of Labour Gazette").

h) Annual separation rate (all male employees) and hourly earnings of male wage-earners in October. (Source: "Ministry of Labour Gazette"). The 1960 and 1961 estimates were based on April figures.

Hunter and Reid conclude that '.....when the association between earnings levels and labour turnover is examined, it turns out to be consistently of negative sign, and with high and usually statistically significant values of the correlation coefficients'.

The evidence of previous studies quoted above does not seem to have prevented Derek Robinson from making sweeping assertions about pay and wastage after he had concluded his own study (op.cit). He states in his article in the I.P.M. Journal: 'Above all, there is little evidence, if any, to support the view that more intensive competition in a local labour market, through wage levels, is the way to increase a labour force, or even that this is a necessary defensive tactic in order to retain a labour force'.

Robinson does not appear to have included a systematic study of labour wastage in his labour market study. Rather he placed emphasis on the recruitment process, using the second approach to this problem mentioned above of checking whether relatively low paying firms were also able to recruit the labour they required. He found that they were able to recruit successfully (although he does note (Ref.29) cases of high wastage in case study plants, which he attributes to discrimination in the allocation of overtime working) and concludes '....some firms were able to increase their labour force without greatly increasing wage levels relative to other firms.....' and '....there was no necessary connection between wage increases and changes in numbers employed', and '....other firms increased pay considerably but not the number employed' (op.cit. pg.37). We have already noted the danger inherent in this approach, and the logical fallacy in arguing from a situation where low wage firms show a history of high recruitment and high paying firms the reverse to a conclusion that pay levels are of no great significance. In fact these premises may be used to argue the opposite conclusion, namely that pay levels are of great significance because they create such beneficial labour stability that rather lower levels of recruitment are necessary. If high paying firms do not need to recruit, then job seekers in the labour market will be forced to take employment with lower paying high wastage firms. On this particular issue MacKay sensibly concluded that 'It is difficult to avoid the conclusion that plants with high earnings do not necessarily wish to obtain a relatively large share of the supply of potential recruits' (op.cit. pg.149).

MacKay took the precaution of analysing labour wastage statistics for his local labour market areas, and found some association between pay and wastage. The statistical association is shown on the table reproduced overleaf.

TABLE 6.4 (MacKay)

CORRELATION COEFFICIENTS: AVERAGE PLANT GROSS WEEKLY EARNINGS[1] AND PLANT WASTAGE: BIRMINGHAM MALES AND FEMALES

Quarter	Males		Females	
	Quit rates	Separation rates	Quit rates	Separation rates
2	0.15	0.11	0.21	0.07
4	-0.05	0.01	-0.02	-0.15
6	-0.09	-0.12	-0.35	-0.27
8	0.09	0.13	-0.35	-0.38
10	-0.07	-0.07	-0.39	-0.47
12	-0.26	-0.19	-0.31	0.17
14	-0.33	-0.44	-0.67*	-0.61*
16	-0.23	-0.15	-0.37	-0.43
18	-0.17	-0.19	-0.40	-0.52
20	-0.41	-0.38	-0.41	-0.51
22	-0.28	-0.33	-0.75	-0.79
24	-0.22	-0.18	-0.70*	-0.65*
26	-0.37	-0.40	-0.49	-0.61*
28	-0.24	-0.26	-0.68*	-0.67*
30	-0.26	-0.38	-0.38	-0.28
32	-0.48	-0.43	-0.50	-0.40

Notes: 1. Including overtime payments.
2. Underlined - significant at the 1 per cent level.
* Significant at the 5 per cent level.

Whilst most of the correlation coefficients have a negative sign, many are not of a high order. MacKay himself concluded that '.....high wage plants do indeed, tend to have relatively low quit rates and hence low separation rates, and vice versa. Nonetheless, it has to be admitted that differences in plant earnings levels do not explain all, or even the greater part of, observed variations in plant wastage rates' (op.cit. pg.154).

The general weight of evidence does appear to come down, on balance, in favour of an association between pay and wastage. Hyman, in his more recent study of two engineering firms in the Coventry area (Ref.20), used more sophisticated techniques for measuring wastage and labour stability, and found an association between pay and wastage. Pettman, in his general review of the subject (Ref.39), quotes conflicting evidence. Further research would seem to be called for.

Even if they are dissatisfied with their pay, workers may be unable or unwilling to leave their present employment if jobs are scarce and local unemployment levels are relatively high. We therefore conclude with a brief summary of the findings to local labour market studies on the relationship between wastage and local unemployment levels.

III - Unemployment and Labour Wastage

Studies of the relationship between labour wastage and local levels of economic activity have usually lent heavily on official statistics concerning numbers registering as being unemployed. Unemployment data has generally been preferred to the numbers of job vacancies registered by local employers, where such a register is kept (e.g. by the Department of Employment in this country) because many employers do not bother to register their vacancies (Hyman, Ref.20) (MacKay, pg.179).

Lloyd Reynolds analysed this relationship in the area he investigated and concluded (Ref.9, pg.22) 'While the quit rates of different categories of workers do not seem to differ greatly, the general level of voluntary quits fluctuates widely with changes in the demand for labor'.

In her earlier study, Gladys Palmer had also come to the same conclusion (Rf.3 pg.136), coining the phrase that 'mobility responds to opportunity'.

In fact the evidence from local labour market studies is not as plentiful as one might expect. This may partly be because the association has been taken for granted, or that it has been assumed that local labour market studies could add little to the evidence available in national and regional statistics. We have already noted that in this country very little information is available concerning specific occupations. It may, for example, be the case that certain skilled occupations are unaffected by unemployment levels, or unskilled workers may continue to change jobs, perhaps by force of habit and general orientation to work, even when less jobs are available. Again too, local areas may remain largely unaffected by national trends by virtue of the fact that they are genuinely 'local'. Local labour market studies can throw light onto these and related areas.

Hilda Behrend examined this issue in her study of firms in the Birmingham area published in 1953 (Ref.13), although only in a general way, and found evidence of a strong association between the economic climate and labour turnover. Donald MacKay carried out a very systematic analysis in an attempt to prove the hypothesis that '....voluntary quits will be influenced by the ease or difficulty with which alternative jobs can be obtained within the labour market area....' He found a generally strong association between unemployment and wastage, although the differences between Glasgow and Birmingham were considerable and in themselves a strong argument for the necessity for local labour market studies. But he found that for both areas, as long as voluntary quit rates were used, and the unemployment figures excluded those temporarily stopped, then for all groups of workers a negative and statistically

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significant relationship existed between unemployment and quit rates. However, the nearest he got to analysis by occupation was to use the three general categories of skilled, semi-skilled and unskilled.

Conclusion

One general conclusion is applicable to all the aspects of local labour market studies singled out for special treatment in this chapter. This takes the form of the much used statement 'Further research is needed'. Fortunately this is an appropriate comment with which to presage the study of a local labour market in North West London which follows.

CHAPTER 3

Method of Enquiry

As the principal focus of this research project has been on pay and wastage, a large part of the enquiry has been concerned with the acquisition and analysis of relevant data from firms in the local labour market area and from official bodies charged with providing information on employment matters. The methodology selected and discussed below has been concerned with establishing the reliability of this data and the statistical interpretation of matters relevant to its structure and relationship. In this respect the method of enquiry has been in the mainstream of previous research by labour economists interested in the functioning of local labour markets, exemplified by the work of such authorities as Lloyd Reynolds in the United States and Derek Robinson and Donald MacKay in this country (op.cit.). However, in discussion, the frame of reference has been broadened wherever possible to include relevant findings from research in the other disciplines referred to in the previous chapter of the Social Sciences, Industrial Relations, Economic Geography and Manpower Planning. This is most obvious in the case of Labour Wastage, treated generally as a 'socio-economic' process.

Wage levels have been treated on the whole as independent variables. Standard hourly earnings of manual workers (defined below) have been tabulated and anlysed with the object of uncovering common structures and patterns of differentials. Heavy reliance has been placed on correlation analysis* to determine whether a significant statistical relationship holds between earnings and levels of labour wastage. Whilst it is conceded that statistically significant levels of correlation between variables do not

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*See note on statistical formulae at the end of this chapter.

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necessarily imply casual relationships, it is presumed
to indicate the possibility of such an association.
Other possible influences are indeed discussed, but as
MacKay points out:

> 'Labour market theory assumes that labour mobility
> and labour turnover will be responsive to differences
> in net advantages, so that both pecuniary and non-
> pecuniary factors influence job choice but.... it is
> extremely difficult to specify the non-wage
> conditions which might influence job choice and
> more difficult still to measure and weight these
> conditions so as to obtain some meaningful measure
> of net advantage'.

<div align="right">(Ref.16, pg.140)</div>

The main focus in this dissertation is upon 'pecuniary'
factors.

Sources of Information

The principal sources of information are set out
and discussed below. They included the results of the
six pay surveys conducted between 1969 and 1975 by a
large engineering firm in N.W. London, the personnel
records of a number of the firms participating in the pay
survey, and published data on unemployment, wages and
vital statistics provided by the Department of Employment
and the Registrar General. Further information and
internal reports were also provided in the course of
discussions with local personnel managers and area
officers of the Department of Employment.

References to books and other published sources of
information have generally been given a reference number.
These reference numbers have been collected into the one
list, presented at the end of this dissertation for ease
of reference.

The Pay Surveys

A major pay survey has been conducted amongst manu-
facturing firms in North West London at intervals over
the last dozen years. It has been organised by a large
light engineering firm whose principal works and head
office are located within the borough of Brent. Herein-
after this firm is referred to as 'firm A'.

This survey has been administered in a highly
systematic fashion. Evidence for its reliability is
provided by the fact that while the majority of the firms
participating in the survey are members of the Engineering
Employers Federation and therefore have access to the
Federation's own pay survey reports, they continue to
make use of this local survey and indeed on occasion have
expressed their preference for it. (The studies by
Robinson and MacKay relied heavily on E.E.F. pay survey
results).

Firm A initiated each survey by sending out an
invitation to about 30 selected local firms to participate.
These firms were chosen because their pay structures and
levels were seen as relevant to the industrial relations
and employment policies of firm A. Selected firms are
usually pleased to participate because in return for the
effort of providing detailed information on their own
earnings levels, they receive a copy of the report which
gives collated results for all participants. (This
mutual exchange of information is raised again in the next
chapter as evidence in support of the existence of a
'local' labour market and later as a pointer to the
existence of a 'submarket' within this local labour market).
Over a period of time, firms join and leave this group.
Reasons for leaving have included the removal of the plant

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to another location, a change of personnel manager, the closedown of a factory, and in one case, 'expulsion' by firm A on the grounds of 'unethical' practice. New firms are usually permitted to join after requesting membership.

Twenty of the firms that participated in these six surveys between 1969 and 1975 have been selected for the purposes of this research project. The criterion was a simple one-participation in at least three of these surveys. In a study covering a five year period, participation on only one or two occasions provided insufficient evidence of trends over the full period. Further information on these firms is given below.

Participants, usually in the shape of personnel or industrial relations departments, were required to provide figures on standard hourly earnings for various grades of manual worker for a particular week on standard question-naires taking the form of a frequency distribution. A copy of a set of instructions issued with one of the pay surveys is given as Appendix A.3.1. Standard hourly earnings were defined a '.....total remuneration for a 40 hour week..... expressed as an hourly rate. This would, for the purposes of the survey, include bonuses of all kinds paid weekly or monthly, merit additions etc., but would exclude overtime pay or shift allowances. (Compare this with:-

a) Derek Robinson's definition (op.cit.pg.37) 'Details were obtained of "standard" hourly earnings, excluding all overtime and shift premiums, of a number of firms in three areas as reported to the Engineering Employers' Association' and

b) Donald MacKay's definition (op.cit.pg.45). 'The E.E.F. obtained annually from its member units a return of average male occupational earnings in a particular week. As with the occupational earnings collected by the D.E.P., these returns showed by occupational group total weekly earnings, overtime

premium payments, total and overtime hours worked and number of manual workers employed'. From this, MacKay calculated standard weekly earnings for a 40-hour week).

Whilst data on gross earnings would have been valuable, standard hourly earnings do permit a useful comparison with the results of these and other studies. Overtime earnings are liable to fluctuate from time to time, making interfirm comparison difficult, a point noted by Robinson (op.cit.pg.37) who said 'But while overtime and total gross pay may be the major aspect of the money reward, comparing gross pay figures involves complications. If workers have to work longer hours in one firm to match the gross pay in another, a straight comparison is misleading. The use of standard hourly earnings avoids this difficulty.

It was not possible to check the relationship, if any, between standard and gross weekly earnings, but there had clearly been fluctuations during the 5 years in overtime working, depending on the economic situation.

There existed a few opportunities for checking the accuracy of information provided by firms on standard hourly earnings. On occasion, personnel managers produced their own firm's pay schedules for inspection. One firm had carried out its own small scale pay survey of half a dozen local firms during an intervening period and provided the researcher with a copy. Personnel managers in the Hendon area made a habit of meeting several times a year to discuss wages rates and trade union pay claims. At no time did any evidence emerge of false or inaccurate submissions to firm A's pay survey. Probably the best guarantee is provided by the fact that reputable firms - large firms with household names - were happy to participate time and again.

The Twenty Firms

The twenty selected plants ranged in size from a
'medium' sized light engineering firm of some 350
employees to the large subsidiary of the largest car manu-
facturing firm in the world. Details as to the tupe of
undertaking and ownership are given in Table 3.2 below.
The average number employed in the light occupations
during the 5 years within these firms is given on Table 3.3
following.

Most of these 'firms' or 'plants', as will be seen
from table 3.1 were actually the factory locations of
subsidiary companies. Numbers employed at the locations
ranged from 350 to 7,000. Henceforward plant locations
will be referred to as 'firms', as this was the expression
most frequently used in the local area.

There were members of Trade Unions present in all
20 firms. In two of the smallest firms, H and L, membership
was very weak. The general pattern in the remaining firms
was that the skilled workers (almost entirely male) were
highly organised, and frequently operated a 'closed shop'.
A sizeable proportion of male semi-skilled process workers
were organised. Female semi-skilled process workers were
only part-organised. A number of the firms were federated
to the Engineering Employers' Federation, and all of them
followed the national agreements on basic pay (when
operative) drawn up between the Federation and the Confedera-
tion of Engineering Unions.

TABLE 3.1 - The 20 Participating Firms

Code Letter	Product	Ownership
A	Motor accessories	Subsidiary of large British organisation
B	Car parts and refrigerators	Subsidiary of giant U.S. car firm
C	Car parts	Subsidiary of large British car firm
D	Food processing	Subsidiary of large U.S. food firm
E	Small motors and drills	Subsidiary of medium/large British firm
F	Safety equipment	Subsidiary of medium/large U.S. firm
G	Radio electronics	Subsidiary of large British firm
H	Electrical equipment	Privately owned British firm, medium size
I	Nuts, bolts etc.	Subsidiary of large British firm
J	Ball bearings	Subsidiary of large British firm
K	Medical equipment	Subsidiary of large British firm
L	Precious metals	Subsidiary of medium/large British firm
M	Lighting equipment	Subsidiary of large British firm
N	Telecommunications	Subsidiary of giant U.S. electronics firm
O	Gardening equipment	Subsidiary of medium/large British firm
P	Radio electronics	Subsidiary of large British firm
Q	Home cleaning equipment	Subsidiary of large U.S. firm
R	Radioelectronics	Subsidiary of large British firm
S	Motor accessories	Subsidiary of large British firm
T	Motor accessories	Subsidiary of large British firm

Definition of size of parent organisation

'Giant'	=	100,000 + employees
'Large'	=	10,000-100,000 employees
'Medium-Large'	=	3,000-9,999 employees
'Medium'	=	400-2,999 employees

<u>TABLE 3.2</u> - <u>Average Numbers Employed in the 8 Manual Occupations 1970-1974</u>

Job Firm	Total in Plant (approx)	Tool Maker	MTCE. Electrician	MTCE Fitter	Skilled Inspector	Store Keeper	Male Process	Labourer	Female Process
A**	1800	97	6	N/A	52	48	195	22	630
B**	1600	50	15	20	35	100	480	20	125
C	450	6	3	3	16	4	8	10	16
D	2500	N/A	36	50	N/A	15	1000	4	340
E	850	25*	7*	10*	20*	30*	200*	15*	200*
F	350	5	2	2	12	12	48	14	9
G**	1200	55	13	16	8	6	130	36	340
H**	400	7	N/A	4	2	9	18	2	12
I	600	24	6	8	10	2	9	9	38
J	1300	43	12	26	21	40	450	55	16
K	450	3	2	2	13	3	5	8	25
L**	650	24	11	10	5	9	N/A	13	110
M	1200	14	9	95	2	25	140	25	400
N	1400	90	20	23	75	17	350	35	500
O	450	20	3	6	10	8	68	14	36
P	650	10	3	5	5	10	35	15	90
Q**	3000	90	21	2	25	43	1100	46	290
R	1600	4	12	12	40	20	N/A	25	550
S	650	14	4	7	20	16	80	13	200
T	500	3	2	1	16	31	45	21	110
TOTAL	21600	584	187	302	387	448	4361	402	4037

TOTAL - ALL 8 JOB CATEGORIES = 10,708

*Estimated

**Firms participating in the 5 year labour wastage study discussed in Chapters 7 and 8.

The economic fortunes of these firms varied throughout this period, although all seemed to be in reasonable shape at the end of the period. As will be seen from the list on Table 3.1 a sizeable proportion were suppliers to the car industry, and therefore subject to the well publicised ups and downs of that industry. One firm moved out of the area halfway through the period. A number of the firms attempted to run down the number of skilled workers, such as toolmakers, during this period, claiming that they were intransigent, or represented an expensive economic overhead cost. Information on employment trends within the area are given in the next chapter.

The Eight Jobs

Eight jobs were selected, out of about fifteen jobs covered at various times by the pay surveys, for the following reasons. Firstly, these were jobs to be found in most of the twenty selected firms, and indeed throughout most of the engineering industry. Secondly, they included the key jobs used for national negotiating purposes. Thirdly, they represented a good cross section of the manual occupations. Fourthly, adequate data existed on them in the pay surveys.

The respective job titles were toolmaker, maintenance electrician, maintenance fitter, skilled inspector, storekeeper (including assistant storekeepers for counting purposes), male process workers (defined in the early pay surveys as 'male semi-skilled pieceworkers'), labourers, and female process workers. Job descriptions issued by firm A to participants early in the 5 year period are given in the Appendix as A.3.2 i-ix.

Data on Labour Wastage

Data on labour wastage was provided by the personnel departments of the 9 firms participating in the labour wastage project described in Chapter 7. (Firms A, B, D, G, H, K, L, J, Q). Only one of these firms was able to provide the information exactly as required. In all other cases extensive analysis of personnel records had to be undertaken. The equivalent of more than sixty working days were spent in the personnel departments of firms A, B and G collecting data from documents such as the 'starters and leavers' books and individual record cards. The remaining firms required several visits each, and a number provided photocopies of personnel records for analysis.

Personnel records have been criticised from time to time on the grounds of inaccuracy.* In the case of this project, the information required was relatively simple, including such items as dates of starting and completing employment, age, sex, home address, and job title. Few errors were detected. Some of the information required interpretation; for example, certain job titles were ambiguous or peculiar to engineering firms. The years spent by the author working in the engineering industry proved useful in this respect.

The Measurement of Labour Wastage

The two principal methods of measuring labour wastage used in the research project were labour turnover rate and completed length of service distribution.

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*e.g. N.I.I.P. Report No.16 - Statistical Records about People at Work (Ref.56) and Herbert Parnes (Ref.1, pg.45).

The measurement of labour wastage can present a host of problems. What is to be measured? how? when? - and so on - all require consideration. Interpretation of the results is no less difficult, for as P.J.Samuel comments (Ref.40, pg.5) 'Figures of employee wastage (labour turnover) therefore present, in varying degrees of validity and reliability, only the ultimate measurement of a situation which is longer in duration and more profound in scope than the point in time when an employee requests or is presented with his National Insurance Card and P.45'.

The best known and most widely adopted method of measuring labour wastage is by the use of a labour turnover index. The popularity of this form of measurement dates back to work by Brissenden and Frankel in 1922 in the States when they put forward the term 'separation rate', to be measured by the simple formula.

<u>Numbers of leavers in a period</u>   x   100
Average employment in the period

including 'quits, fires and layoffs'. A similar formula was recommended by the British Institute of Management in this country twenty years ago, consequently dubbed 'The B.I.M. Index' by managers. Labour economists have fre-quently made a distinction between turnover as represented by 'lay offs' as against 'voluntary quits' (e.g. Reynolds, Ref.9, pg.162) in an attempt to distinguish between voluntary and involuntary leavers.

This type of formula has been criticised by statisticians (e.g. Lane and Andrew, Ref.55, Silcock, Ref.42) for a variety of reasons. The two most obvious weaknesses to which attention has been drawn are:

  i. that the labour turnover index gives no indication
     as to the stability of the labour force. A high
     rate of turnover may be caused by a major turn-
     around in the work force, or by rapid turnover in
     just a few jobs, and

ii the formula is statistically suspect because the
average employment figure may conceal the fact
that numbers employed rose or fell drastically
during the period.

The fact remains, however, that its widespread use means
that it cannot be ignored by the researcher. Indeed, if
used wisely, it can provide a helpful comparison as
between firms provided always that it is used in conjunc-
tion with some reliable measure of labour stability, and
provided that the numbers in employment are not changing
with any speed. This approach is supported by such
authorities as Rouse van der Merwe and Sylvia Miller
(Ref.57, pg.19) and Richard Hyman (Ref.20).

The labour turnover index used in this research
project contains one refinement on the crude separation
rate. All leavers are counted with the exception of
workers declared redundant. There are several reasons for
this. Firstly, experience has shown that it is not
possible to make a valid and reliable distinction between
'lay offs' and 'voluntary quits'. Recorded reasons for
leaving can be interpreted either way. Examples include
early retirement, short-time working, and (prior to recent
legislation), pregnancy./ At the plant level, management
and workers are primarily concerned with counting those
jobs which have to be filled, rather than jobs which no
longer exist. Semantically too the term labour turnover
implies the concept of replacement, for as P.L.Ashdown says
(Ref.59, pg.6) 'In my view wastage is a measure of loss
from the manpower system whereas labour turnover looks at
the system as a whole, both losses and additions'. There-
fore the formula used for the annual and quarterly turnover
calculations was as follows:

/This point is discussed further in Chapter 7. Whilst a 'true'
record of voluntary quits would have been ideal, not all the
firms examined recorded reason for leaving. Where it was
recorded, it had to be treated with great caution.

<u>Number of leavers during the period minus</u>
<u>redundances</u>   x   100

Average number employed during the period *

Labour stability has been measured in this project by
completed length of service distribution.   In the previous
chapter mention was made of the work by Rice Hill and
Trist at the Tavistock Institute into labour turnover
(Ref.14), in which considerable use was made of completed
length of service distributions.   When leavers are analysed
in accordance with their completed length of service, clear
evidence is given as to the stability of the labour force,
and whether leavers are mainly confined to new employees
or whether a high proportion of longer service employees
are leaving.   This method has subsequently found favour
with a number of employers including 2 in our sample
because it is easy to compile and complement the labour
turnover index.   It has also found support from statisticians
(e.g. P.L.Ashdown, Ref.59, pg.12 and Lane and Andrew,
Ref.55) and has been advocated for use in Manpower Planning.
The formula used in the research project was:

> 'Leavers from manual occupation X, minus redundancies,
> during year Y, analysed within completed length of
> service categories of zero to 6 weeks, more than six
> weeks but less than 3 months, more than 3 months but
> less than 6 months, more than 6 months but less than
> one year, more than one year but less than 2 years,
> more than 2 years but less than 5 years, more than
> 5 years but less than 10 years, and more than 10
> years'.

A separate analysis was carried out for each of the
eight manual occupations, a practice unfortunately ommitted
by earlier studies, e.g. Rice Hill and Trist, op.cit.   But

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* 'Average' number employed normally calculated from
  quarterly or monthly data.

as P.L.Ashdown says (Ref.59, pg.6) 'When we look at wastage patterns, it will obviously make sense to split the organisation into homogeneous groups - homogeneous with respect to skill and sex. 'The manual occupations used generally conformed to these criteria. Seven of the occupations were almost entirely filled by males, whereas the eighth, female process workers, obviously only included females.

<u>Note on Statistical Formulae used, and method of calculation.</u>

All hourly earnings have been rounded off to the nearest $\frac{1}{2}$ pence.

Conventional formulae have been used throughout, including the following:

   i.   Standard Deviation* $= \sqrt{\dfrac{\Sigma\ fd^2}{\Sigma\ f}}$

  ii.   Coefficient of variation* $= \dfrac{100\ \sigma}{\bar{x}}$

iii.   Coefficient of correlation*

    a) Product moment (Pearsonian) Coefficient

$$r \quad = \quad \frac{\Sigma\ xy}{N\ \sigma x\ \sigma y}$$

    b) Rank Correlation (Spearman)

$$r_r \quad = 1 \quad - \left(\frac{6\ \Sigma\ d^2}{n(n^2 - 1)} \right)$$

    c) Tests of significance based on Tables V and VII of R.A.Fisher and F.Yates, 'Statistical Tables for Biological, Agricultural and Medical Research, published by Oliver and Boyd Ltd.

    *Generally calculated on computer programme using 'basic'.

(Above formulae for items i-iv taken from A.R.Ilersic's 'Statistics', 13th Edition, published by H.F.L. (Publishers) Ltd.).

iv. Chi Square Test $x^2 = \Sigma \frac{(O-E)^2}{E}$

v.   Friedman's Two Way Analysis of Variance by Ranks - Formula given in Chapter 9.

CHAPTER 4

Towards a Definition of the Local
Labour Market

In this chapter an attempt is made to define the local labour market or markets to which the twenty manufacturing plants participating in the pay survey described in earlier chapters might reasonably be said to have belonged. Data provided from the personnel records of selected local firms and official statistics concerning employment and travel to work have been used to test the adequacy of some of the better known definitions of what constitutes a local labour market in the context of the local situation in N.W. London. The map provided in the Introduction (Map 1.1) shows the geographical location of the area under investigation.

Various attempts have been made to provide an adequate definition of the terms 'labour market' and 'local labour market', of which examples were provided in Chapter 2. Frequently these terms appear to have been treated as synonomous, although use of the word 'local' would seem to connote a limited geographical region. The employment situation in a large metropolitan area such as London provides a severe challenge to these definitions, particularly where emphasis has been placed on travel to work patterns. In a small town all the places of employment may be accessible to the residential population, but the same is not true of major conurbations such as Birmingham, Manchester or London.

An example of a definition emphasising travel to work patterns and the significance of a high degree of self-containment in the working population is provided by

Hunter and Reid (Ref.18), who require that '....the bulk of the population habitually seek employment there, and that local employers recruit most of their labour from the area'. How the terms 'bulk' and 'most' are to be defined and measured is an intriguing question never satisfactorily dealt with. But the problem in applying Hunter and Reid's definition to a suburb of London or Manchester is immediately apparent. Some of the local population may work locally, some may travel to other local areas, and some may commute into the city centre. It might be said that London in its entirety constitutes a labour market, using the above definition, but this rules out the essential aspect of labour markets, namely (quoting E.J.Robertson, Ref.62, pg.21) '....the interchange of knowledge about market conditions, and by the willing-ness of sellers (the workers) to move freely to get better conditions'. Another well known definition which also encounters difficulty in its application to large metro-politan areas is that of E.H.Phelps-Brown when be writes that a labour market should be defined by '....potentiality of individual access....' and '....more often than not the effective labour market is restricted to one locality, whose bounds lie within a radius of less than a day's journey from where the workers are living'. (Ref.47). Commuters by rail and motorway into the City of London might tolerate a daily journey of fifty miles whilst many of London's factory workers might find five miles to be unacceptably distant.

Problems presented in the administration of large conurbations have led to investigations by non-economists who have attempted to tackle the problem of dilineating the boundaries of employment areas. One example is the Department of Employment itself and reference will be made

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later to Department of Employment 'areas' in London.
The Radcliffe-Maud Commission on local government (Ref.46)
also had to face this problem, and in one of its research
studies the American term 'Standard Metropolitan Area'
was borrowed in order to test out the concept of a
'Standard Metropolitan Labour Area'. An 'S.M.L.A.' was
to consist of at least 100,000 inhabitants, with not more
than 15 per cent of the population commuting outside the
area, and a 'work density' of not less than 5 workers per
acre. But when applied to London, this resulted in the
construction of vast Metropolitan districts that could not
reasonably be described as local labour market areas. One
such district covered a large part of North West London,
but strangely included Harrow, whilst excluding Willesden -
strange because Willesden is far more self-contained for
employment purposes than Harrow. (c.f. Census data on
travel to work patterns).

A somewhat similar result was achieved by M.W. Smart
arising out of a research project recently carried out which
attempted to define labour market areas for the whole
country based on Census travel to work data (Ref.51). His
aim was to search out areas of seventy five per cent or
greater self-containment as measured by the proportion of
residents (closely following Hunter and Reid's definition
quoted above). Smart was able to cope successfully with
the larger part of the country, but ran into severe
difficulties with the London Metropolitan area. He was
able to create 18 labour market areas for London that
achieved fifty per cent self-containment, but only at the
expense of sacrificing important local considerations.
For example, the London Borough of Brent was subsumed in a
larger area in North West London which he dubbed 'Edgware'
as it straddled the Edgware Road, and also contained parts

of the Borough of Barnet and the Hertfordshire dormitory
town of Elstree (see Map 1.1, and also later, Map 4.8).
Reference will be made again later in this chapter to
this study by Smart, as eighteen out of the twenty firms
were located within this artificial district of 'Edgware'.

J.H.Westergaard also carried out an intensive study
of travel to work patterns, based principally on the 1951
Census, and sensibly concluded of the London area that
'Greater London is a conglomeration of local communities
only partially dependent on each other. These communities
together form a large, continuously built-up area, and
they share a common link with Central London as a source
of services and employment. But they are far more loosely
tied to each other, and even to the centre, than is
generally assumed'. However, he does not go on to make
the obvious distinction, drawn out later in this chapter,
between the different social classes comprising these
different communities. The prosperous commuter from the
outer suburbs might well feel himself part of both his
district of residence and the City, whilst a manual worker
tends to both live and work, as later evidence will show,
within the same locality.

The difficulty inherent in applying comprehensive
definitions of the terms 'labour market' and 'local labour
market' to Metropolitan areas suggests that more relativis-
tic definitions are called for. Still pursuing the problem
of reconciling place of work with place of residence, we
turn first to Economic Geography and a study in the United
States by J.E.Vance (Ref.45). In order to cope with this
problem he propounded the two contrasting concepts of
'labour shed' and 'employment field'. A 'labour shed' was
defined as a line enclosing the area within which live the

employees of an individual factory or group of factories, or a high percentage of them omitting the most remote and untypical cases. Conversely the 'employment field' was defined as the area within which residents of a given locality, or a correspondingly high percentage of them, work. This concept of 'labour shed' is of considerable relevance in defining our labour market in N.W. London because our starting point is represented by the manual workers employed by the 20 firms within the pay survey.

Derek Robinson likewise adopted a relativist position when in the definition quoted in Chapter 2 he said 'A local labour market is the geographical area containing those actual or potential members of the labour force that a firm might induce to enter its employ under certain conditions, and other employers with which the firm is in competition for labour'. (Ref.15). This transition from definitions of local labour markets which rely on travel to work statistics for local residential populations to definitions which underline the travel to work patterns of the employees of a certain employer or employers in a given locality opens the way to a study of employment based local labour markets in N.W. London, and frequent reference will be made to Robinson's definition in later sections of this chapter. Support for this approach is also found in Reynolds' comment (Ref.42, pg.9) that 'The answer seems to be that, as far as manual labour is concerned, the most significant boundary lines within an area are those which surround individual employing units'.

It is curious how little a consideration of the local industrial relations processes of negotiating rates of pay between employers and Unions has entered into definitions of local labour markets. The traditional emphasis in

Economics on Supply and Demand leading to a corresponding emphasis on the supply of workers and the demand for their services within the labour market is the likely cause. Of recent years, however, labour economists have frequently pointed to the importance of negotiating procedures and the impact of Trade Unions (see, for example, J.R.Crossley (Ref.61, pg.229) and his comment '....it is a direct implication of the introduction of collective bargaining that labour supply functions should have become more elastic over the short-run, and that the average size of wage differentials observed at any point of time should have been reduced, in consequence'). The 'post-Donovan' era in the study of Industrial Relations has placed increased emphasis upon local processes and procedures. It might seem reasonable then to expect the definition of the local labour market, with its conceptual emphasis upon wage rates, to make reference to those considerations of local relativities that enter into the negotiating process. Indeed, a local labour market might even be defined, from an employers point of view, in terms of those firms which consistently exchange information on each others rates of pay for use in negotiating new pay rates, and similarly for Trade Unions. But evidence of any such a change in emphasis is meagre. Writing recently on the 'Use of Comparisons in Work place Wage Determination' William Brown and Keith Sissons said (Ref.49):

> 'The apparent willingness of work forces to take
> collective action in pursuit of earnings levels
> which they consider to be 'fair' has suggested that
> there may be a mechanism of wage determination
> beyond the scope of conventional labour market
> forces. Yet, despite this growing concern, there
> has been little academic effort devoted to
> assessing the argument or to exploring the
> mechanisms whereby effective comparisons are made.
> This is the more surprising because the assertion
> that such comparisons are an important determinant

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of wage levels implies a substantial degree of imperfection in the labour market and also raises serious questions about the working of product markets'.

As the 20 firms which are the subject of investigation in following chapters were selected on the basis of regular participation in the pay survey conducted by firm A, and as a prime purpose behind such participation was to collect data on pay for pay negotiations, this survey can claim to explore 'the mechanism whereby effective comparisons are made'. Brown and Sissons make considerable use of the concept of the 'reference group', borrowed from Sociology.* It might, therefore, be appropriate to describe our 20 firms as forming a tupe of local labour market best described as 'a reference group sub market'.

However, data was available from the personnel records of some of these firms that permitted further exploration along the lines of the more traditional emphasis upon travel to work patterns in line with Robinson's relativist definition given above. As a further refinement, the investigation only concerns itself with manual workers – to para phrase Robinson, 'those actual or potential members of the manual labour force' – and the results need to be interpreted accordingly.

The first task was seen as one of establishing the distance which manual workers actually, in the labour forces of representative firms, were travelling to work as a guide to the territorial limits of the respective local labour markets.

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*Discussed further in the final chapter, section II. See also references 78 and 79.

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The Study of Residential Location in Relation to Place of Work.

Three firms, A, B and D co-operated in this study. All manual workers were included. Home addresses were taken from personnel records and analysed according to postal districts. In the cases of firms A and B every manual worker's address was noted, but as firm D employed a large labour force a one-in-five sample was used (i.e. every fifth record card in alphabetical order).

The density of location within postal districts was calculated for each firm, and transferred to a map of London on which postal districts had been marked. The map used was supplied by London Transport, scale $3/4" = 1$ mile, which possessed the advantage of showing main highways and public transport routes. The results are shown on Maps 4.1, 4.2 and 4.3 below. The key to the colour code for 'density' of home location within postal districts is as follows:

KEY TO MAPS 4.1, 4.2 AND 4.3	
No. Employees	Colour Code
550-599	Dark Blue
150-199	Mauve
100-149	Red
50-74	Brown
25-49	Green
15-24	Light Blue
5-14	Orange
1-4	Yellow

MAP 4.1 - RESIDENTIAL LOCATION OF MANUAL WORKERS EMPLOYED
IN FACTORY A (1974)

(Rings drawn at 1, 2 and 3 miles radius from the plant)
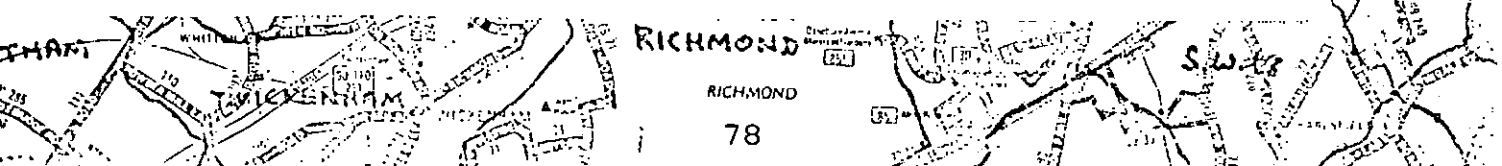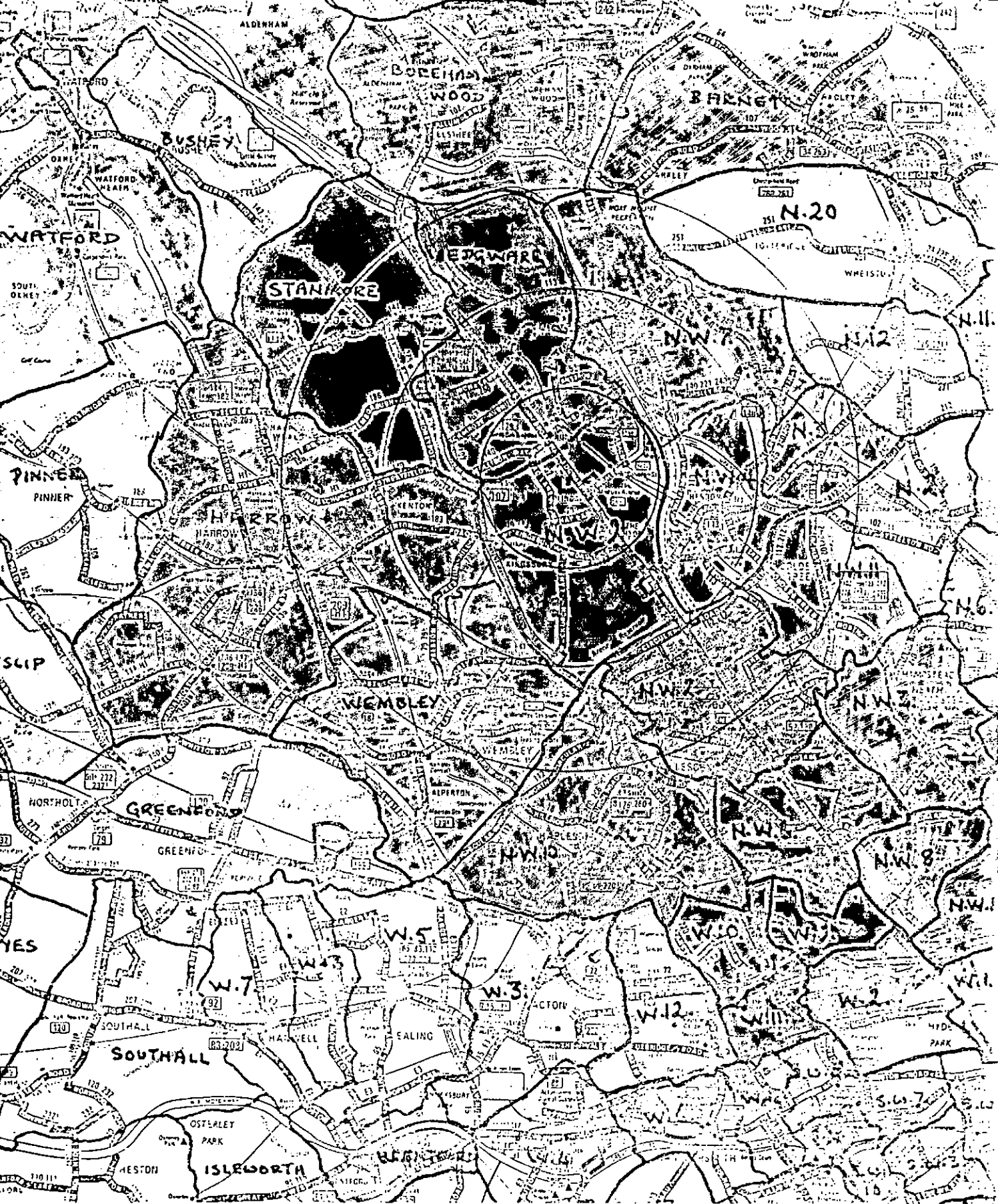
MAP 4.2 - RESIDENTIAL LOCATION OF MANUAL WORKERS EMPLOYED
IN FACTORY B (1974)

(Rings drawn at 1, 2 and 3 miles distance from the plant)
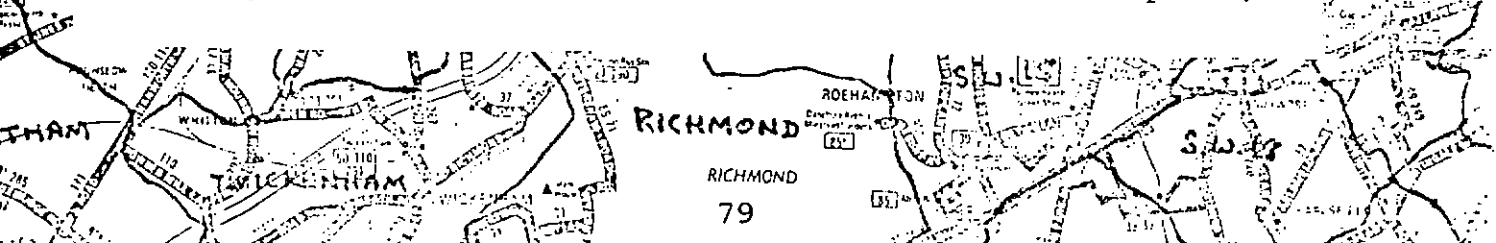
MAP 4.3 — RESIDENTIAL LOCATION OF MANUAL WORKERS EMPLOYED
IN FACTORY D (1974)

(Rings drawn at 1, 2 and 3 miles distance from the plant)
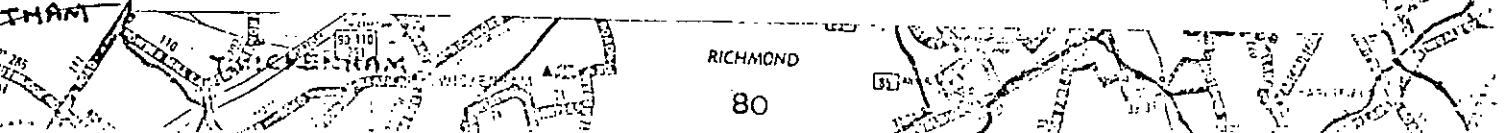
The evidence on these maps confirms the generally held view that manual workers do not, as a rule, travel far to work.* In the case of firm A, over half the workers employed on manual work live in the same postal district as their firm. Circumradial lines at one, two and three miles have been added to the map, and these show the considerable majority of workers as living within three miles of their place of work.

Further confirmation of this situation is provided by the following list of postal districts adjacent to the three firms, and the number of workers living in them (based on the year 1974). All workers have been included in the figures, but the proportion of part-timers is small and not significant to the results.

Firm A

Total manual workers = 1095

N.W.2 = 581, N.W.6 = 168, N.W.10 = 127, N.W.9 = 43, N.W.4 = 16, N.W.3 = 3.

Total for firm's own and adjacent postal districts = 938 = 86% of all manual workers.

Firm B

Total manual workers = 1020

N.W.9 = 168, Edgware = 189, N.W.2 = 119, Wembley = 41, Harrow = 57, N.W.4 = 57, N.W.7 = 32, N.W.10 = 72.

Total for firm's and adjacent postal districts = 735 = 72% of all manual workers.

Firm D

Total manual workers = 1995

N.W.10 = 570, Wembley = 200, N.W.6 = 150, N.W.2 = 110, W.12 = 65, W.9 = 75, W.10 = 45, W.3 = 40, W.13 = 45, W.5 = 5, N.W.9 = 30.

Total for firm's and adjacent postal districts = 1335 = 67% of all manual workers.

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*See, for example, Hunter (Ref.53) who says 'From casual observation, we know that employers recruit most of their labour force from localities near to their factory or office, and usually within daily travelling distance'. (pg.204).

It is reasonable to assume that the remaining firms out of the 20 selected experience much the same situation, as they employ a similar cross section of manual workers. This indicates that the 3 mile zone incorporates the great majority (two thirds and upwards) of manual workers employed in each of our firms. Further supporting evidence will be provided later which derives from information on where the working class housing areas in North West London are located.

It is also interesting to note that a few employees lived considerable distances from their place of work, choosing, in the case of these three firms, to travel from as far afield as Waltham Cross, Tooting, Tolworth and Streatham. Whilst it was not possible to find the reason for these lengthy journeys to work, it was salutary to find that not all workers can be fitted into neat categories.

Consideration of the location of these three firms in relation to main thoroughfares and public transport shown on Maps 3.2, 3.3 and 3.4, provided evidence of the influence of these factors on residential location, although a detailed study was not carried out. This is seen most clearly in the case of firm B, located in N.W.9. on the Edgware Road. Lines of communication at this point run from South East to North West along or parallel to the Edgware Road, and not surprisingly the bulk of its manual workers were drawn from postal districts straddling this corridor. Firm A is located in N.W.2. near the junction of Cricklewood Road (which further north becomes the Edgware Road) and the North Circular Road. Public transport is plentiful in the triangle formed in this way and which includes the postal districts of N.W.2., N.W.6. and N.W.10. in which the majority of employees resided. Firm D is

located in N.W.10 at the confluence of transport routes running N.E. to S.W. and S.E. to N.W. In addition it is close to a main line railway station. Hence we notice that whilst the bulk of manual workers came from surrounding districts, a corridor stretches out along the railway line bringing manual workers in from Harrow and Watford.

Clearly there are a number of other factors which influence the distance workers are willing to travel to work, and hence the geographical 'spread' of a local labour market area. As it seems reasonable to assume that the factors of age, marital status, skill and nationality are relevant*, and as data was made available from the personnel records of the two firms A and B, a further analysis was carried out. A general hypothesis was put forward that the manual workers living a distance from the factory of employment would show the same characteristics of age, marital status, skill and nationality as those living in a zone local to the factory, and then tested against the facts.

Four zones for each factory were used in this analysis. The first one was the postal district in which the factory was located. Three more zones, each one further out than the last, were then created. The fourth and furthest zone commenced approximately seven miles from the centre. Postal districts were allocated to each zone as follows:

Firm A

1. N.W.2., in which the factory is situated.
2. N.W.9., N.W.4., N.W.11., N.W.6., N.W.8., W.9., W.10., N.W.10. and Wembley.

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*These factors have been used in labour mobility studies in the United States by, e.g. Myers and Shultz (Ref.11), Reynolds (Ref.9) and Kitagawa (Ref.4).

3. Stanmore, Edgware, N.W.7., N.20., W.12., N.11.,
    N.3., N.2., W.10., N.19., N.4., N.7., N.W.5.,
    N.W.1., W.2., W.11., W.12., W.3., Greenford and
    Harrow.

4. The remaining coloured areas on Map 4.2, including
    such areas off the map as Thornton Heath, Catford,
    S.E.6., S.E.16., Garston, Herts., Stevenage and
    Earls Court, S.W.5.

Firm B

1. N.W.9., in which the factory is situated.
2. Edgware, N.W.7., N.W.4., N.W.2., N.W.10., Wembley,
    Harrow, Stanmore, N.W.11 and N.3.
3. Borehamwood, Barnet, N.20., N.11., N.2., N.W.3.,
    N.W.5., N.W.6., N.W.8., W.10., W.9., W.2., W.11.,
    Bushey, Greenford, Northolt, Pinner, W.12., W.3.,
    and N.W.1.
4. Watford, St.Albans (Shenley), Potters Bar, Waltham
    Cross, N.17., E.11., E.10., E.5., N.4., N.8.,
    N.19., N.1., W.C.1., N.16., S.W.1., S.E.11.,
    S.E.17., W.8., W.14., W.4., Uxbridge, Ruislip,
    Northwood, Rickmansworth, Luton, Tolworth, Balham,
    Roehampton, Dunstable, Walton-on-Thames, Stevenage,
    Hemel Hempstead, Welwyn Garden City, Tooting,
    Streatham and Kings Langley.

A detailed analysis of the characteristics of worker
populations living in the four zones in accordance with
age, marital status, job status and nationality is given
in the Appendix as A.4.1.iv. The results are summarised
in tables below.

Little difference in the characteristics of workers
living in the three inner zones was manifest for firm B,
although for firm A a noticeable change in the composition
of the work force could be observed as between zones 2
and 3. Workers in firm A in zone 3 tended to be older
and more likely to be British than those in the five inner
zones. But with zone 4 a marked change could be observed
for both factories. These differences were brought out by

comparing the composition of work groups resident in zone 4 with the composition of the whole manual work force in the factory. The results are set out below as a series of tables in which each of the factors of age, marital status, skill and status is analysed in turn. It should be borne in mind that firm B is located in the vicinity of 'middle-class' housing estates (as well as a large council estate at Burnt Oak), whereas firm A is located in the centre of 'working class' housing estates (see later Map 4.9 for a detailed analysis). Therefore workers at firm A who can afford to do so, and are so motivated have to reside several miles away from their factory in order to live in a 'respectable' suburb.

(A) <u>Age</u>

<u>TABLE 4.4</u> - DISTANCE OF RESIDENCE FROM WORK IN RELATION TO AGE.

Age Range: 46-55 yrs.	Firm A Female	Firm A Male	Firm B Female	Firm B Male
Whole factory (as a percentage).	16	27	29	23
Group 4 (as a percentage).	27	43	49	22

The age range 46-55 has been selected because this age group appears to show the strongest preference for living a distance from work. The 55 years + also shows a similar preference, but it is less marked.

The hypothesis that the higher proportion of manual workers aged 46-55 years living in Group 4 postal districts a long distance from their place of work could have arisen by chance can be rejected at the 0.01 level of confidence (Chi square test) indicating that age and distance from work are significantly related.

It is curious that male workers in factory B do not show this marked difference. This may be accounted for by the fact that pleasant residential suburbs lie close to hand, as noted. Firm B is easily reached from the M.1 motorway which probably means that a number of younger workers live in cheaper housing to the North of Greater London and drive in to work. The high proportion of those aged 46-55 years travelling a distance to work can be partly explained in socio-economic terms. In terms of Rowntrees well known 'poverty cycle' (Ref.50), the age group 46-55 are living in a period of relative affluence, having been released from the financial burden of looking after their children, yet still earning good wages. Earnings from strenuous occupations and piecework tend to drop after the age of 55 as physical powers run down with advancing age.

(B) Marital Status and Sex

These figures exclude those listed as widowed and divorced in the main tables in Appendix A.4.1.

TABLE 4.5A - DISTANCE OF RESIDENCE FROM WORK IN RELATION TO MARITAL STATUS AND SEX.

	FIRM A married male workers	FIRM A single male workers	FIRM B married male workers	FIRM B single male workers
Whole factory (as a percentage).	65	34	72	26
Group 4 (as a percentage).	77	23	82	16

TABLE 4.5B

	FIRM A single female workers	FIRM A married female workers	FIRM B single female workers	FIRM B married female workers
Whole factory (as a percentage).	40	58	30	63
Group 4 (as a percentage).	55	45	34	66

Table 4.5 indicates that ahigher proportion of the married men live a distance from their place of work as compared with the figure for the whole factory, whilst the opposite is true for single men. The hypothesis that this distribution arose by chance can be rejected at the 0.02 level of confidence. The situation is not quite as clearcut for the female workers. In firm A a noticeably higher proportion of the female workers living a distance from work are single, indicating that the married women have the stronger preference for living near their place of work. For firm B there is little difference in the figures for married and unmarried female workers.

The results for men accord with a common sense explanation. Married men are likely to be older than unmarried, and principal breadwinners in their respective families willing and able to travel, if necessary, some distance to work. Married women on the otherhand might be expected to prefer a short journey to work because of their domestic commitments. A surprisingly high proportion of the long distance female commuters are married. Further analysis might reveal that this group, small in actual numbers compared with the total, were free of heavy domestic commitments. We conclude that marriage does influence the distances male and female manual workers are willing to travel to work, but with opposite results. Sex does make some difference to travel to work.

(C) Job Status and Skill

TABLE 4.6 - DISTANCE OF RESIDENCE FROM WORK IN RELATION TO SKILL

Degree of Skill	FIRM B (male) as a percentage		FIRM A (male) as a percentage	
	Whole Factory	Group 4	Whole Factory	Group 4
Semi	74	66	74	48
Unskilled	3	–	17	20
Skilled	19	34	9	29

As very few women were classified as skilled, this analysis was confined to male workers.

Common sense might suggest that unskilled workers, being on the whole the lowest paid, would not travel a long distance to work; this is the case in Firm B, but not firm A. Common sense might also suggest that skilled workers are the most likely group to travel some distance to work, and this view did have some support from the data. The hypothesis that the differences shown in 2.4 might have come about by chance can be rejected at the 0.01 level of confidence, leading to the conclusion that skill and distance travelled to work were significantly related.

(D) Nationality

Nationality was ascribed by the place of birth shown on the personnel record card. Many described as 'foreign' in these tables are therefore British citizens.

(See Table 4.7 overleaf).

TABLE 4.7 - DISTANCE OF RESIDENCE FROM WORK IN RELATION TO NATIONALITY

Nationality	FIRM B				FIRM A			
	Whole Factory as a percentage	Group 4	Whole Factory as a percentage	Group 4	Whole Factory as a percentage	Group 4	Whole Factory as a percentage	Group 4
	MALE		FEMALE		MALE		FEMALE	
British	70	78	56	83	45	66	21	55
Irish	8	6	28	17	28	20	57	36
West Indian	12	10	10	-	12	9	11	9
Indian	2	2	1	-	3	-	4	-
Other	8	4	5	-	12	5	7	-

Having already established that a higher proportion
of those travelling a long distance to work were skilled
than those resident close to their factory, and knowing
from observation that few workers of overseas birth are
included amongst the skilled workers in most British
factories, one might predict that the composition of
those travelling in from the outer zones would be pre-
dominently British. This prediction was supported by the
figures on Table 4.7. Incidentally, it is curious to note
that over half the female work force in firm A were Irish.

The hypothesis that these proportions might have
arisen by chance can be rejected at the 0.01 level of
confidence for female workers in firm B and both male and
female workers in firm A,* but not male workers in firm B.
We therefore conclude that there was a relationship between
nationality and distance travelled to work, although it
appeared stronger in the case of women than of men.
Manual workers of British nationality are more likely to
be found travelling a long distance to work than those born
overseas or ascribed foreign nationality.

In conclusion to this particular piece of analysis,
we are led to reject our general hypothesis that the manual
workers living a distance from the factory of employment
would show the same characteristics of age, marital status,
skill and nationality as those living in a zone local to
the factory. However, further research is required before
general conclusions can be reached.

The Location of the 20 Firms

The results of the project investigating the place of
residence of manual workers in factories A, B and D has
taken us some way along the road towards defining our local
labour market in North West London. Continuing to use

*Chi square test.

Derek Robinson's definition we have found good evidence
for supporting 'the geographical area containing those
actual or potential members of the labour force' is
largely located within three miles of the factory of
employment for manual workers. The next logical step
was to locate the factories and establish their respective
three miles zones.

This has been done by plotting nineteen out of the
twenty factories on a map covering North West London.
The twentieth factory (factory N) had unfortunately to
be excluded from this exercise as it is located some
distance away at New Southgate on the outer edge of North
London. It is a marginal member of our local labour
market or submarket when defined for employment purposes,
although clearly a member if the definition is taken to
include firms used for pay comparison purposes.*

The results of this exercise are shown on Map 4.8
below. The location of firms is indicated by their code
on the map. The area served by the two Department of
Employment Job Centres located in Willesden and Wembley
has been shaded in green. As can be seen, this is very
nearly the same area ss that covered by the London Borough
of Brent. Fourteen of the firms are located in the shaded
area.

An outer ring, or rather a joined-up series of
sections of concentric rings has been added to Map 4.8
coloured orange. This line marks the outer perimeter of
what may, by one definition, be termed the local labour
market, as these rings have been drawn three miles distant
from the factories located to the outside of the cluster

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*Factory H is just over 6 miles from factory A.

MAP 4.8 - LOCATION OF FIRMS FEATURED IN PAY SURVEY

(Orange rings drawn at 3 miles distance from outer plants, blue ring at 6 miles distance from firm A).
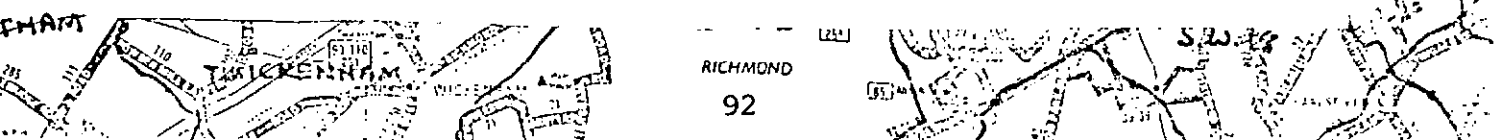
of nineteen firms thus dileanating the outer perimeter of the recruitment area for the 19 plants. It is apparent from this map that whilst all nineteen firms are inter- acting with other firms amongst the nineteen, not all are competing strongly with all the remaining eighteen firms for manual labour. However, it only requires a small relaxation of the three mile limit to create some overlap between all nineteen firms. The most marginal firm, firm B, is, for example, competing with a high pro- portion of the others, including F, O, Q, J, M, K, L, H, D, I and P. Firms at the centre of this territory such as M, K, J, H, L and D are competing with all the other listed firms for labour. This 'orange' zone corresponds to Vance's 'labour shed', as it encloses 'the area within which live the employees of a group of factories, or a high percentage of them omitting the most remote and untypical cases' (ibid).

This approach has also underlined a major weakness in the 'labour shed' approach, namely the arbitrary nature of the phrase 'a group of factories'. In this case a group have been selected because they jointly participated in a pay survey. However, it is very likely that firms such as O, Q, P and G are conscious of other firms located outside the orange zone who are competing for their labour - possibly more conscious than of firms within the group of nineteen. A more precise and satisfactory definition can be achieved by using Vance's concept of a labour field or Robinson's definition of a local labour market. In the former the emphasis is placed on a residential area and in the latter it is placed on the individual firm, i.e. the local labour market is defined in terms of the location of firms competing with a particular firm for labour.

The most appropriate firm to be the focus of our attention must surely be A, responsible for organising the local pay surveys. As a start, a ring has been drawn on Map 4.8, coloured in blue, six miles radius from firm A. All serious competitors for manual labour are likely to be found within this boundary - assuming that workers resident three miles distance from firm A could either travel into A or 3 miles in the opposite direction to a hypothetical firm located on the perimeter of the blue ring. The area within the blue ring also corresponds approximately with M.W.Smart's local labour market area described as 'Edgware' and referred to earlier (Ref.51).

The actual boundary to A's local labour market for manual workers can now be defined somewhat more precisely. We have already established the postal districts from which A draws most of its manual workers (see Map 4.1). Firm A is therefore principally concerned with competitors who are located within three miles of these postal districts. The next stage is defined more precisely where in these postal districts A's actual or potential workers are likely to be living.

The Socio Economic composition of the local population

This information is provided by Census surveys, and is taken from the Greater London Council's Intelligence Unit's recently published report (Ref.44) setting out the distribution of Socio-Economic groups in the G.L.C. area, including a ward by ward analysis. Data on the economic occupations of residents has been converted into a dendrogram; wards have been allocated to one of eight different categories according to their socio economic membership. The composition of each group is given in the Appendix Table A.4.2, and their published map is reproduced as Map 4.9 below.

MAP 4.9 – DENDROGRAM OF G.L.C. WARDS BY SOCIO-ECONOMIC STATUS

Eight socio-economic groupings for 655 wards in the GLC area (economically active males)

1. % in SEGs 3, 4 (professional workers)

2. % in SEGs 1, 2, 13 (employers and managers)

3. % in SEGs 12, 14 (other self employed workers)

4. % in SEGs 8, 9 (skilled workers)

5. % in SEGs 5, 6 (other non-manual workers)

Dendrogram s

A

B

C

D

E

F
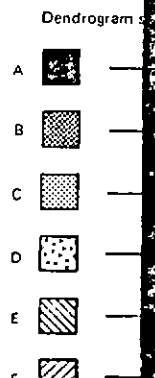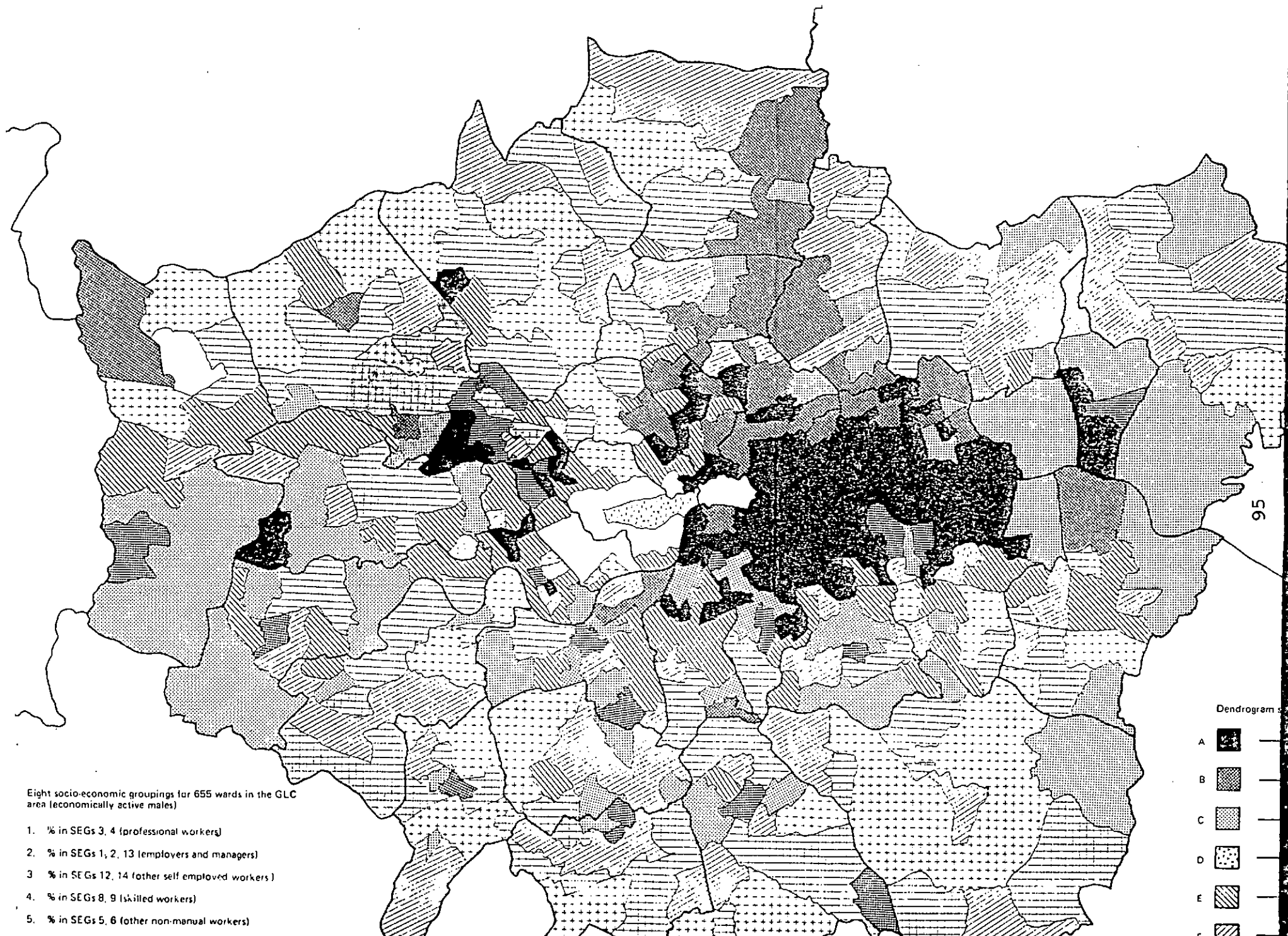
Wards in the dendrogram categories A, B and C* contain a high proportion of residents who might loosely be defined as 'working class', i.e. manual workers of various descriptions. Category A, B and C wards located in the area in North West London on which our attention has been focussed have been transferred from Map 4.9 and are shown as coloured areas on Map 4.10 below. From this map, if taken in conjunction with Map 4.1, it is clear that the supply of manual workers to firm A, and to the other firms in its vicinity such as C, T, S, E and B, is largely from those shaded areas in socio economic categories A, B and C wards, enclosed by the heavy boundary that has been drawn on Map 4.10. Firm A's local labour market appears as a vector covering about one quarter of the three-mile radial zone discussed earlier. Here are located Robinson's '...actual or potential members of the labour force....'. This further piece of information confirms firm A's direct interest in the employment activities, and hence also the pay rates of firms likely to attract manual workers from this territory. Out of the twenty firms we started with we are then finally left with B, C, D, E, G, H, I, J, K, L, M, O, P, Q, S and T who attract labour from within Firm A's catchment area. Three firms, F, N and R may be significant for other purposes, but are of little importance for firm A's local labour market, as defined by Robinson.

A Local Labour Market Defined

We are then finally left with a local labour market for manual workers for Firm A depicted on Map 4.11. The area shaded red on the map is taken from Map 4.10 and represents the residential location of workers in socio-

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*Not to be confused with the Registrar General's system of social classification or the advertising profession's A, B, C categories.

MAP 4.10 - WARDS IN N.W. LONDON IN SOCIO-ECONOMIC CATEGORIES A, B and C.

KEY: ORANGE = CATEGORY A, GREEN = CATEGORY B,
     RED   = CATEGORY C.

(including line drawn 3 miles radius from Firm A)
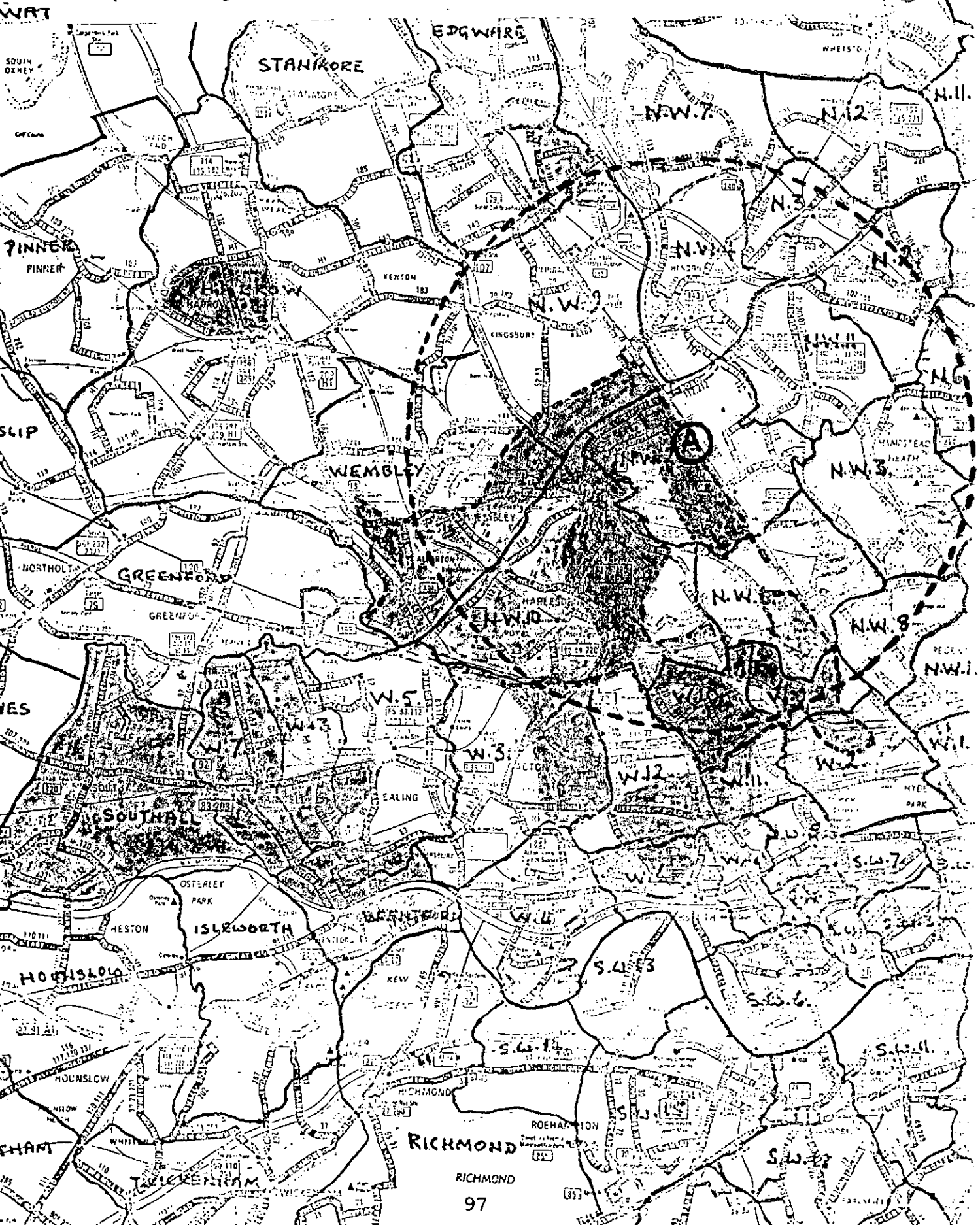
MAP 4.11 - THE LOCAL LABOUR MARKET FOR MANUAL WORKERS FOR
FIRM A.

Showing catchment area for manual workers (red) and
area including all firms competing for this supply
of labour (blue).
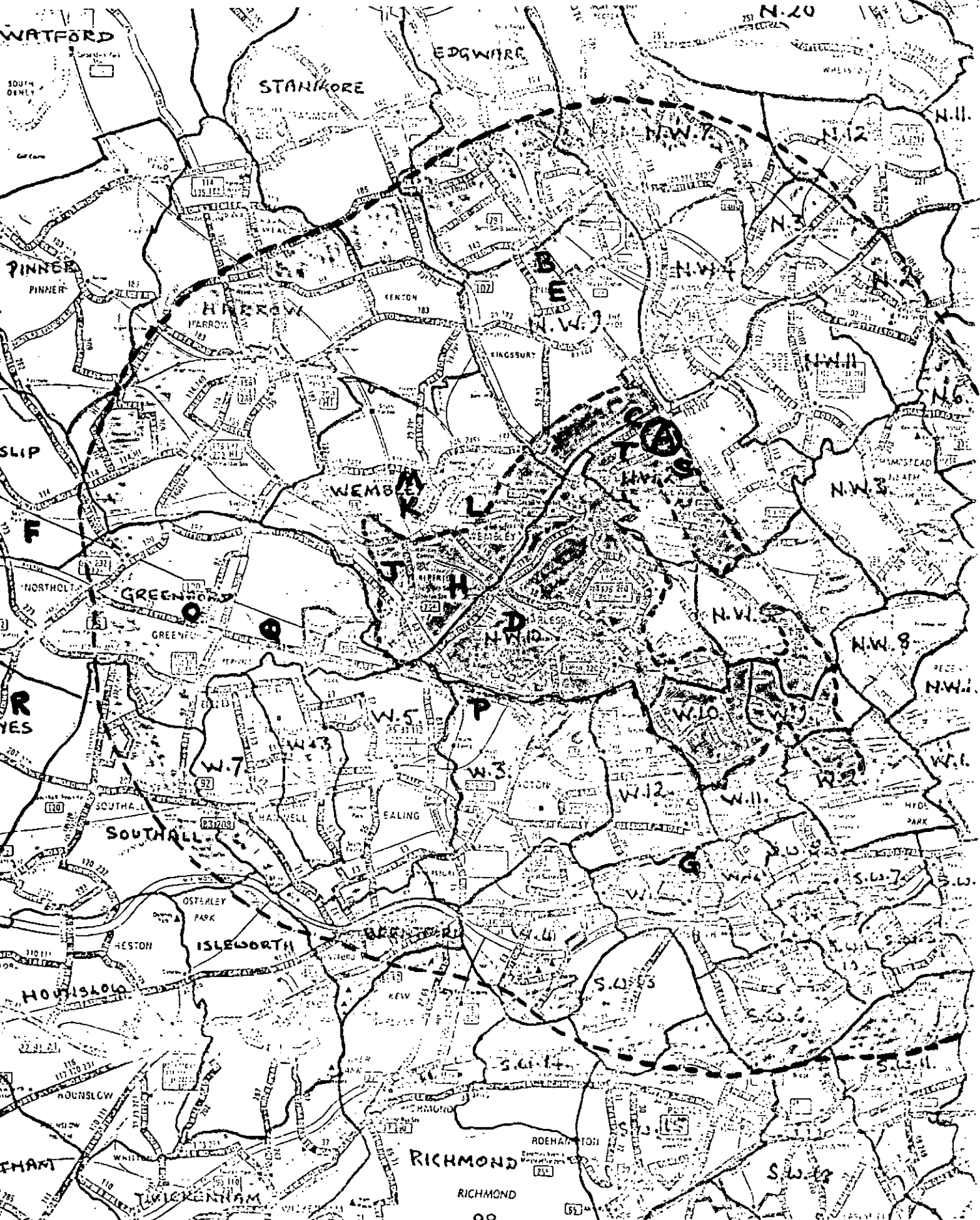
economic categories A, B and C already shown to be
supplying the great majority of firm A's manual workers.*
The larger area enclosed within the blue ring includes all
the surrounding territory within three miles of this
manual workers 'catchment' area. This blue ring encloses
Firm A's local manual workers labour market.** On the
evidence provided, it is the geographical area containing
those actual or potential members of the labour force that
Firm A might induce to enter its employ under certain
conditions, and other employers with which the firm is in
competition for labour. All other employers within the
blue zone, and particularly those employing engineering
workers, are actual or potential competitors for manual
labour. Amongst these employers must be included firms
B, C, D, E, G, H, I, J, K, L, M, O, P, Q, R, S and T.

The phrase 'under certain conditions' includes the
level of pay offered. These pay levels are examined in
detail in the next two chapters.

Employment Characteristics of the London Borough of Brent

It has been shown that the Borough of Brent, served
by the two Department of Employment Job Centres in Willesden
and Wembley, lies at the heart of the local labour market
territory featured in this project. This chapter, therefore,
concludes with a brief portrait on the employment characteris-
tics of this borough. A detailed map is shown as 4.13 below,
supplied by the Department of Employment.

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*ABC Residential areas in the postal districts of W.12 and
 W.11 have been excluded on the basis of the evidence of
 Map 4.1.
**Further refinements are, of course, possible. More attention
 could be paid to local public transport systems for example.
 Manual workers could be further sub-divided into skilled,
 semi-skilled, etc. as skilled workers have been shown to be
 willing to travel further to work than semi-skilled. But
 such refinements are likely to lead to only minor alterations.

Brent had an enumerated population of 280,659 at the time of the 1971 Census, and its population is expected to fall by six per cent by 1981 to 262,000. The breakdown of the working population is as follows:

TABLE 4.12

WORKING POPULATION			
WEMBLEY		WILLESDEN	
1972	1964	1972	1964
26943	25767	58046	80455
15844	15927	28927	34659
42787	41694	86973	115114

MEN   -
WOMEN   -
TOTAL   -

Approximately 88% of the men and 51% of the women resident in the borough are economically active, compared with the average for Greater London of 86% and 50% respectively.
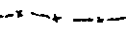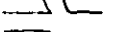
Industrial activity is fairly widespread throughout the borough, the main industrial areas being Park Royal Estate; Staples Corner (Edgware Road), North Circular Road; Church End, Willesden; Wembley Park; Alperton and North Wembley. In Wembley, industry is mainly centred on the three Industrial Trading estates. The main fields of employment in the borough* are Engineering and Electrical employing 23,950 (26%) men and 4,930 (10%) women; Clerical, Administrative, Managerial, Professional and Technical staff - 22,990 (25%) men and 21,260 (44%) women; Sales - 7,470 (8%) men and 4,740 (10%) women; Service occupations - 4,450 (5%) men and 8,610 (18%) women; and Warehouse and labouring work with 11,270 (12%) men and 2,740 (6%) women. As in most areas of London, the amount of manufacturing industry in the borough is descreasing, with a rise in warehousing and allied occupations. Further information on employment analysed by

*1966 Sample Census Data

MAP 4.13

LONDON BOROUGH OF BRENT
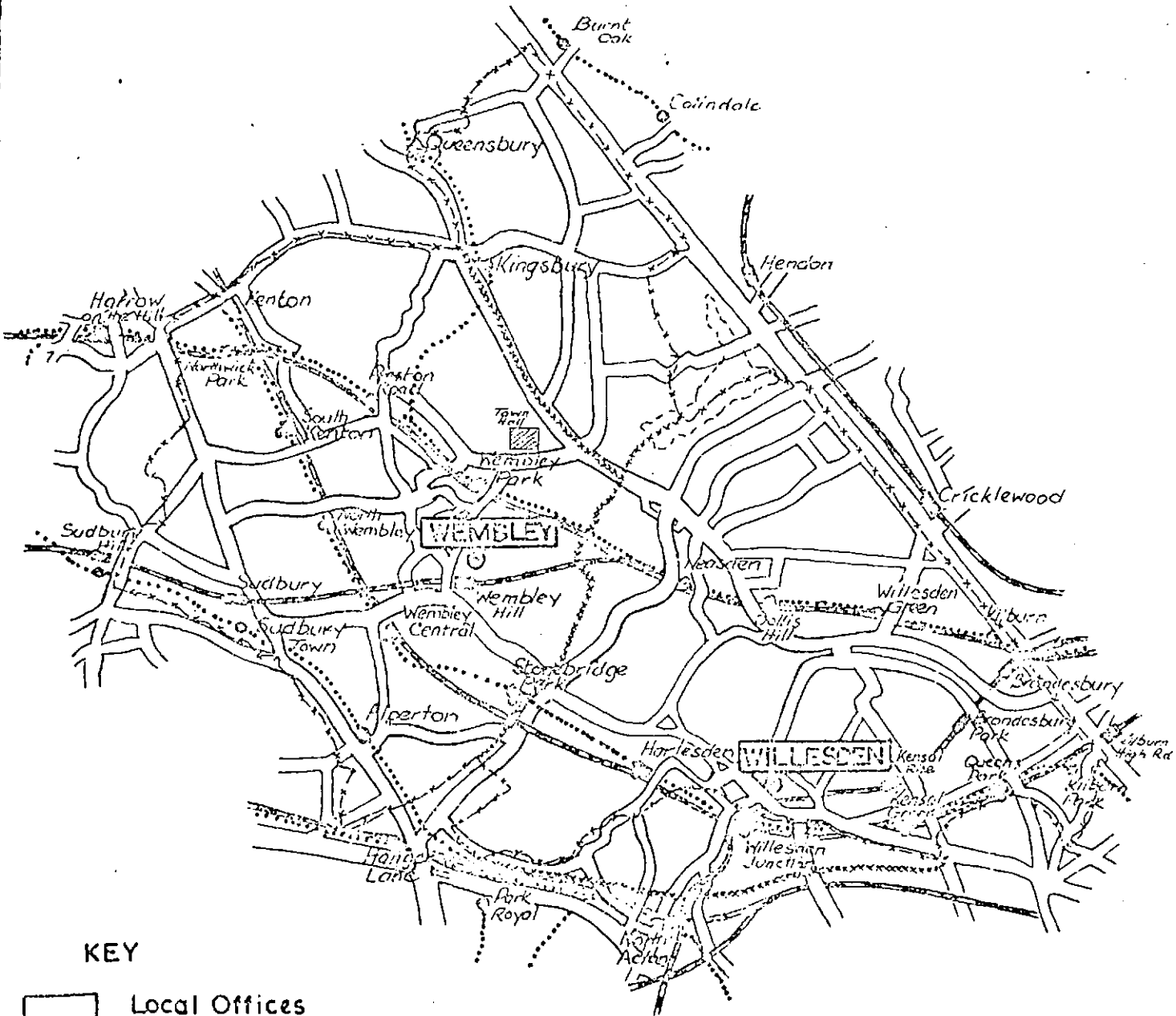
KEY

☐ Local Offices

Borough boundary

Local Office boundaries where not contiguous with borough boundary

Main roads

British Rail

London Transport railways

RF
LJSER026
DEC 1973

Department of Employment Standard Industrial Classification
is provided as Appendices A.4.3.

Local unemployment levels have reflected the national
trend, as shown in Graph 4.14 below. During the five year
period 1970/1974 unemployment peeked during the winter of
1971/1972 and dropped to its lowest point during the
winter of 1973/1974. At the time of the Census in 1971
the percentage unemployment figure for Brent was 4.5%,
near to the average for London boroughs.

GRAPH 4.14

NATIONAL AND LOCAL UNEMPLOYMENT COMPARED 1970-1974

National Data based on Department of Employment 3 months
moving average, seasonally adjusted

Local Data based on 3 months moving average combined
figures for Willesden and Wembley L.E.A.
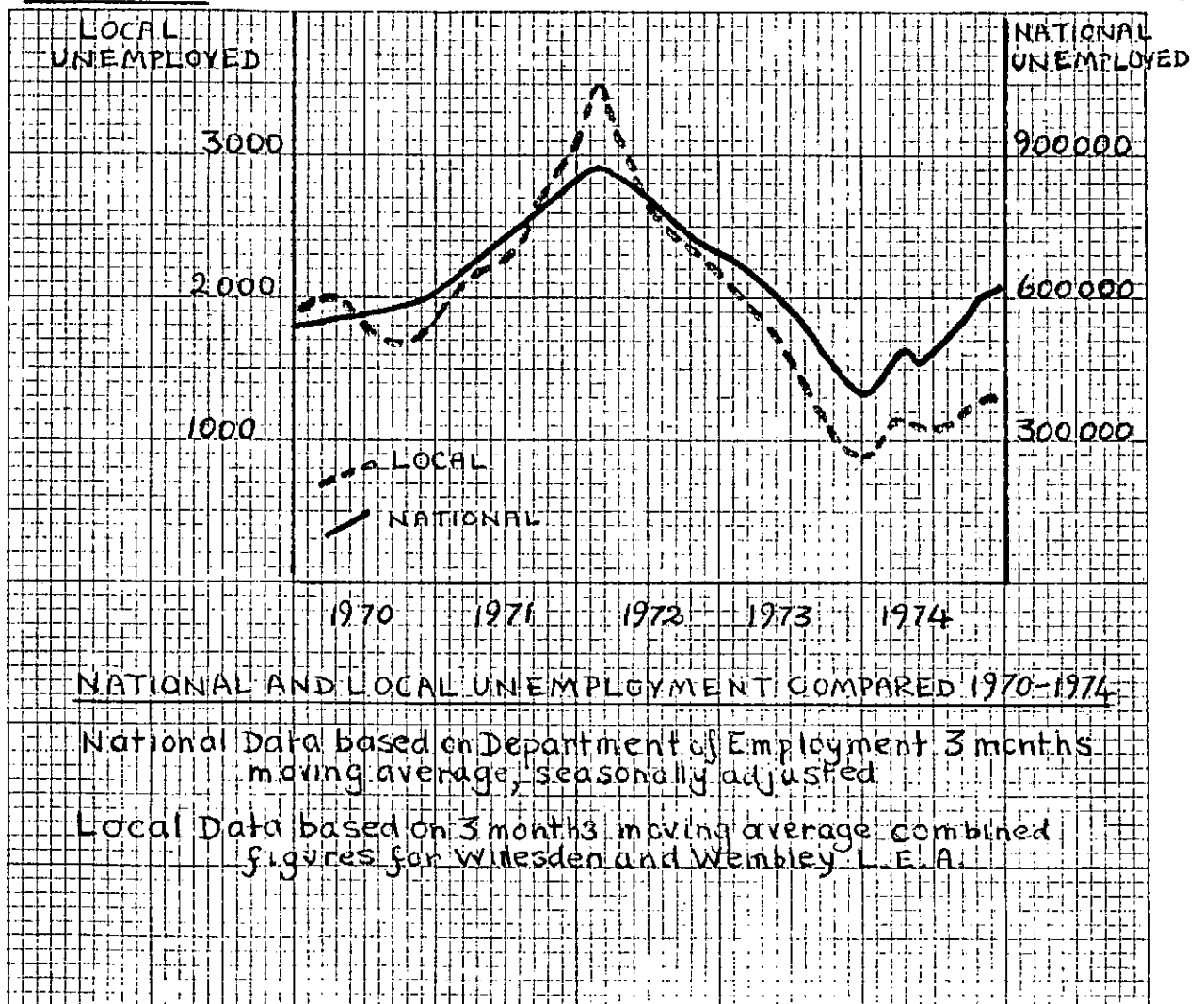
A more detailed analysis of unemployment in the local
labour market area is provided later in Chapter 8.

Travel to work data from the sample Census show Brent to be a relatively self-contained borough by London standards.* Detailed patterns are shown in the appendix as A.4.4. and A.4.5. Local residents supply 45% of the male workers employed within the borough and 67% of the females. Local boroughs supplying a significant proportion of workers in Brent include Harrow 10% of both male and female workers, Ealing 8% and 5%, Barnet 6% and 6% and Camden 3% and 2% respectively. Local residents working outside Brent go mainly to Westminster (14% and 17% for males and females respectively out of 92,700 men and 59,000 women residents of the borough in employment), Ealing (8% and 7% respectively), Camden (5% for both males and females) and Barnet (4% for both males and females).

The fourteen manufacturing firms from our sample of 20 firms participating in the pay survey represent an important section of local employers. Together they employ approximately 13,600 workers, or nearly half the total working in the Engineering and Electrical industry within the borough.

Discussion

An attempt has been made in this chapter to define local labour market in North West London which includes the twenty firms participating in the pay survey. At each stage of this exercise the boundaries of our local labour market have been successively redefined and narrowed in order to achieve a more satisfactory definition. Right from the outset a general occupational distinction had to be drawn between manual and non-manual employees. Whilst

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*Unfortunately travel to work data does not distinguish between occupational categories. If manual workers were treated separately Brent would probably be shown to be more highly self-contained.

this was necessary in the first place because the project was concerned only with manual workers, it would, in any case, have become necessary sooner or later because of the vastly different travel to work patterns of non-manual (i.e.'white collar' and service occupations) workers resident in the suburbs of North West London.

The initial attempts to defining a comprehensive manual workers local labour market covering all 20 firms resulted in a somewhat 'porous' boundary line (Map 4.18) of far greater significance to those firms clustered in the Brent area than to those some distance to the west. The area enclosed by this boundary line is better described as a 'labour shed' using J.E.Vance's terminology. However, in terms of the chapters which are to follow on pay and wastage amongst these 20 firms, the significance of this stage of the exercise lay in demonstrating that all 20 firms had some 'labour market' interest in each others rates of pay. As Hicks said "Potential mobility is the ultimate sanction for the inter-relations of wage rates". (Ref.52).

Data presented earlier in this chapter on the London Borough of Brent showed that it is relatively self-contained by London standards, but falling well short of Smart's criteria discussed earlier. In fact Smart had great difficulty in coping with the travel to work patterns London presented. He was able to create 18 labour market areas that reached 50% self-containment. Brent was sub-sumed in one of these, to which he gave the name of 'Edgware' as it straddled the Edgware Road. A large portion of the Borough of Barnet and the outer suburbs of Elstree was also included. The resultant area closely resembled that shown on Map 4.8 as contained within a

6 mile radial zone around firm A, and represented the
initial attempt to redefine the local labour market in
terms of just one employer.

A measure of success was achieved in defining a
local labour market using a relativist approach based on
Robinson's definition where one employer singled out as
the focus. With the assistance of Census data on the
socio economic composition of the population of North
West London, a fairly clear cut boundary line could be
drawn around firm A (Map 4.11). This result lends
support to the continued use of Robinson's definition.*

The detailed analysis of manual employees in firms A
and B in relation to place of residence, age, skill, sex
and nationality suggests that further refinements are
possible. The local labour market for a particular
employer can be further divided into submarkets/ concen-
trating on special categories within the work force, such
as skilled or younger workers. This could prove useful
in Manpower Planning. The results of this exercise also
accords with J.F.B. Goodman's statement that 'The labour
market is, in Kerr's terminology, balkanised or structured.
Its principal divisions are those of geographical area,
occupation and industry, which correspond with the three
major forms of labour mobility'.

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*Again supported by Renolds: "It remains true, however, that
the firm is the hiring unit and that each company's
employment office is really a district market for labour".
(op.cit. pg.42).

/Note on 'submarkets'
The concept of the 'submarket' or 'submarkets' existing
within a labour market is an interesting one, and will be
referred to again in later chapters. The expression was
used by Albert Rees and George Shultz at the conclusion
of their study into a labour market in Chicago (Ref.34,
pg.222) where they say "We do find that large Metropolitan
labor markets are highly complex, and are made up of
separate but interrelated occupational submarkets".

The information obtained on manual workers travel to work patterns in North West London can be usefully compared with D.I.MacKay's findings in other parts of the country (Ref.16). His research team noted the distance of the recruits' previous employer from the case study plants under investigation. Whilst this was a different approach, the results bear comparison as they indicate the range of distance from home to work which a manual worker is likely to contemplate when changing jobs. Manual workers in firms A, B and D were shown in the main to travel up to 3 miles from home to work, leading to the possibility of their being willing to consider new jobs up to 6 miles distance from their present employer, always assuming that the new firm lay within the 3 mile radial zone around their place of residence, and was accessible for transport. The most comparable figures in MacKay's results relate to a 5 mile range. These are shown as Table 4.15 below, and are based on his table 9.2 pg.240 op.cit.

TABLE 4.15 - % OF RECRUITS MOVING TO JOBS WITHIN 5 MILES OF THEIR PREVIOUS EMPLOYER (MACKAY et.al)

Birmingham		Glasgow		N. Lanarks		'New Town'		'Small Town'	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
76.5	87.2	72.1	78.8	47.6	65.7	33.2	51.9	73.3	100

Birmingham and Glasgow as large metropolitan areas, show similar results to those for N.W. London. The other three areas represent significantly different types of residential area, and show varied results. This suggests that manual workers in large metropolitan areas in this country generally travel only short distances to work. Workers in different residential areas may travel considerably longer distances

to work, depending on local circumstances. Research in
the United States has mainly been concerned with labour
mobility, defined as mobility between jobs, or willingness
to move place of residence. What evidence there is appears
to confirm this conclusion regarding manual workers in
large industrial conurbations. Rees, for example, found
that employers expressed a distinct preference for recruits
who lives within short and easy travelling distance of the
company (Ref.34, pgs. 50 and 51) and this reinforced the
general preference for working near the place of residence.

CHAPTER 5

The Inter-Plant Wage Structure

Data on the pay of manual workers in the sample of twenty manufacturing firms was collected on six occasions between May 1969 and April 1975 in the manner described in Chapter 3. From these pay surveys the median standard hourly earnings of workers in eight occupations have been extracted and tabulated, and are given in the Appendix (see A.5.1). These tables also show relevant statistics on the mean averages, standard deviations and coefficients of variation. The analysis of the interplant wage structure which follows is largely based on the data given in these tables.

This analysis is principally directed towards uncovering the evidence available from these pay surveys on the following issues, seen as being highly relevant both to local labour market theory and the propositions outlined in the Introduction.

i   Inter Plant Range and Variation in Earnings:

How wide and significant are the differences which exist between the standard hourly earnings paid by different firms within the local labour market?

ii Inter Plant Pay Hierarchy:

To what extent do firms occupy a consistent rank order based on standard hourly earnings?

iii Pay Differentials:

Do firms maintain similar patterns of internal differentials between different occupations?

iv The Influence of local employment conditions on plant wage structures:

Do firms appear to respond to local employment conditions by changing their levels of pay?

Section I - Inter Plant Range and Variation in Earnings

The data on the median standard hourly earnings of workers in our sample was analysed using the statistical techniques of 'Range', 'Inter quartile Range', 'Standard Deviation', and 'Coefficient of Variation'. Data concerning 'Range' has been extracted from the main tables in the Appendix, and is shown on the following two pages as Table 5.1. Coefficients of Variations have been added for each of the manual occupations.

These figures show a considerable range and variation in standard hourly earnings. The overall range for all 8 categories of occupation was 37.5 pence at the time of the first survey in May 1969. (It should be borne in mind that we are comparing median earnings; wider extremes would, of course, have been found in the case of individual workers). This is the size of the difference that existed at the time between female process workers in firm P and the toolmakers in firm K, paid respectively at 30 pence and 67.5 pence an hour. Expressed in percentage terms, this comes to 125%. Expressed more simply, the highest paid category of manual workers were, on average, earning more than twice as much per hour as those in the lowest paid category in the summer of 1969.

Six years later, the overall range had increased to 58.5 pence. The lowest paid workers, on average, were female process workers in firm M at 78 pence an hour, and the highest paid group were toolmakers in firm A at 137.5 pence an hour. But expressed in percentage terms, the overall range had, in fact, decreased to 76 per cent. This represents a considerable decline. In other words, the highest paid workers in April 1975 were earning, on average, about three quarters as much again as the lowest paid group of workers within our sample of firms.

TABLE 5.1 - INTER PLANT EARNINGS DIFFERENTIALS - RANGE

Median Standard Hourly Earnings Analysed by Job Category showing Range and Coefficient of Variation on six occasions.

A - MAY 1969

	Lowest	Highest	Range	Range as %	Coeff. of Var^n.
Toolmaker	57	67.5	9.5	22.73	5.798
MTCE.Electrician	45.5	60.5	15.0	32.96	9.705
MTCE.Fitter	45.5	63.5	18.0	39.56	10.913
S.K. Inspector	47	56	9.0	19.15	5.934
Storekeeper	39	53.5	14.5	37.18	9.158
Male Process	39.5	70	30.5	77.22	16.905
Labourer	35	41	6	17.14	4.670
Female Process	30	43.5	13.5	45.0	11.305

B - SEPTEMBER 1970

Toolmaker	63	80.5	17.5	27.77	6.395
MTCE.Electrician	52.5	75.0	22.5	42.86	10.495
MTCE.Fitter	53	74.5	21.5	40.57	10.074
S.K. Inspector	54.5	74.5	20.0	36.69	10.145
Storekeeper	47.5	61.5	14.0	29.47	7.726
Male Process	49.5	66	16.5	33.33	8.891
Labourer	39	57	18	46.15	10.932
Female Process	36.5	52	15.5	42.46	10.182

C - OCTOBER 1971

Toolmaker	69	84.5	15.5	22.46	5.346
MTCE.Electrician	64.5	82.5	18.0	28.90	8.658
MTCE.Fitter	60.5	80.5	20.0	33.06	8.294
S.K. Inspector	60.5	76.5	16.0	26.45	8.501
Storekeeper	52.5	66.0	13.5	25.71	7.404
Male Process	54.5	74.0	19.5	35.78	6.000
Labourer	42.5	57.5	15.0	35.29	9.231
Female Process	43	60	17	39.95	9.345

INTER PLANT EARNINGS DIFFERENTIALS (Continued)

D - JANUARY 1973

	Lowest	Highest	Range	Range as %	Coeff. of Var^n.
Toolmaker	80.5	101	20.5	25.47	5.975
MTCE.Electrician	70.5	96.5	26.5	36.88	9.303
MTCE.Fitter	71	94.5	23.5	33.09	8.911
S.K. Inspector	67	96.5	29.5	44.03	10.082
Storekeeper	60	87	27	45.0	27.61
Male Process	64	77	13	30.51	7.787
Labourer	50	71	21	42.0	8.416
Female Process	50	70	20	40.0	11.060

E - AUGUST 1974

	Lowest	Highest	Range	Range as %	Coeff. of Var^n.
Toolmaker	87	113	26	29.88	7.754
MTCE.Electrician	79	107	28	35.44	8.738
MTCE.Fitter	76	106.5	30.5	40.13	9.036
S.K. Inspector	77	106.5	29.5	38.31	10.466
Storekeeper	67	85.5	18.5	27.61	9.160
Male Process	70	89.5	19.5	27.86	7.964
Labourer	58.5	81.5	23	39.32	8.110
Female Process	60	100.5	40.5	67.5	14.39

F - APRIL 1975

	Lowest	Highest	Range	Range as %	Coeff. of Var^n.
Toolmaker	102	137.5	35.5	34.8	10.782
MTCE.Electrician	101.5	133.5	32	31.53	8.468
MTCE.Fitter	101.5	133.5	32	31.53	9.055
S.K. Inspector	100.5	128.5	28	27.86	8.871
Storekeeper	85	113.5	28.5	33.53	9.917
Male Process	99.5	119	19.5	19.6	6.00
Labourer	80	111	31	38.75	11.077
Female Process	78	116.5	38.5	49.36	12.374

Using the statistically more reliable method of inter-
quartile range, we find a similar trend. In May, 1969
the interquartile range, expressed as a percentage, came
to 32.3% (N = 82, Q1 = 40.5 pence, Q3 = 56 pence) but by
April, 1975 it was down to 22.9% (N = 112, Q1 = 97.5 pence,
Q3 = 122.5 pence). Again this represents a considerable
decline in the overall differential.

However, too much should not be made of the overall
range. Workers cannot move easily from one occupation to
another within the engineering industry in this country.*
Nor are most jobs interchangeable. An examination of the
range of pay for similar jobs is therefore more pertinent.

Pay ranges within our sample of firms varied between
17.14 per cent and 67.5 per cent for particular job
categories. The lowest range shown on our tables was for
labourers in May, 1969, when the median standard hourly
earnings showed a spread of only 6 pence an hour between
the two extremes of 35 pence and 41 pence. The highest
range shown was that for female process workers in August,
1974, with a spread of 40.5 pence between the lowest paying
firm at 60 pence an hour, and the highest paying firm at
100.5 pence an hour. This last range can be expressed in
simpler language by saying that female process workers in
August, 1974 were earning, on average, two thirds as much
again at plant C as were female process workers in plant S
only a few minutes travelling distance away.

Another way of looking at the range of earnings, and
one which is probably more realistic in terms of the manner
in which workers might see the situation, is to translate
the differences in hourly earnings into differences in
weekly earnings for a 40-hour working week. For example,
a labourer moving from the lowest paying to the highest
paying firm within our sample in 1969 might expect, in due

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*Skilled workers can of course apply for semi-skilled
production jobs, but not vice versa.

course of time to improve his weekly wages by up to
£2.40 a week. A female process worker making a similar
move in 1974 might expect to improve her weekly wage by
up to £16.20 a week.

If we examine the remaining figures in these tables
a large number of sizeable pay differentials are to be
seen. Of the 48 ranges shown, 33 are greater than 30%,
and only 3 are less than 20%. Tables 5.2 and 5.3 below
attempt to summarise this position still further by
showing the 'average' pay range for each job over the 6
year period, and the average range for eight jobs pertaining
on the six dates when the surveys were carried out.

TABLE 5.2 - AVERAGE PAY RANGE FOR EACH JOB 1969-75

(Unweighted Means of the ranges established for each job
on the 6 Pay Survey Dates)

Job	Average % Range
Toolmaker	27.18
MTCE.Electrician	34.76
MTCE.Fitter	36.32
Inspector	32.08
Storekeeper	33.08
Male Process	37.38
Labourer	36.44
Female Process	44.29

TABLE 5.3 - AVERAGE PAY RANGE ALL 8 JOBS ON 6 DATES 1969-75

(Unweighted Means of the ranges established for the 8 jobs
on each of the 6 Pay Survey Dates)

Date	Average % Range
May 1969	34.97
Sept. 1970	37.41
Oct. 1971	30.95
Jan. 1973	36.78
Aug. 1974	38.26
April 1975	32.79

The narrowest range shown in Table 5.2 is for toolmakers, and the widest for female process workers. On the whole, semi-skilled jobs, if we take 'male' jobs separately, show wider ranges than skilled jobs. An examination of the ranges given in Table 5.1 shows a considerable degree of consistency for each job over the six years, but with occasional fluctuations. In general terms these figures on range of earnings show considerable differences in the rates being paid by firms for similar jobs. However, the band within which these rates are paid remains fairly steady over time. <u>This suggests a fairly well ordered structure of inter firm differentials.</u> Table 5.3 reinforces this impression, with the average % range again showing remarkable consistency over time.

However, the use of 'range' as a tool for analysing the spread of data has its limitations, and can sometimes prove to be misleading. One such example is provided by the data on the range of hourly earnings for female process workers in August, 1974. We noted a wide range of earnings between the female process workers in firms C and S, which in turn suggested a wide range in that sector of the local labour market. Closer examination of these two firms reveal that firm C employed only 8 female process workers as against the 115 employed in S. The average (mean) of standard hourly earnings for female process workers for our sample in August, 1974 was 73.5 pence an hour. Firm S was clearly lagging behind at 60 pence an hour, whereas firm C was far ahead of the rest of the field at 100.5 pence an hour. At this particular date firm C was well on the way to establishing equal pay for its female workers, firm S was not. Firm C is a subsidiary of a major supplier to the car industry and the data in the main tables show it to be

a high payer for production workers. On the other hand, firm S is shown by the rest of the data as normally occupaying the middle ranks in the pay league; August, 1974 is the exception. Therefore the unusually high range for female process workers in August of 1974 comes about because of circumstances peculiar to that occasions, and does not provide a reliable indication of the 'normal' situation. It also tells us little about the firms lying between the two extremes.

A statistically superior method for establishing the spread and variation between the rates paid for the different jobs is provided by use of the coefficient of variation, incorporating as it does a calculation of the respective mean and standard deviation values. Reference to the coefficient of variation calculations shown on Table 5.1 indicates that the highest overall variation was to be found amongst male process workers in May, 1969. The same survey also provided us with the lowest variation, namely for labourers. At first glance then there appears to be a considerable range of reported variations, with 1969 showing a low of 4.670 and a high of 16.905. Attention to the tables for other years, however, indicates that reference to 1969 above is somewhat misleading. Labourers never again provide such a low coefficient of variation profile. And the figure for male process workers as a whole is affected by the 'rogue' standard hourly earning statistic for male process workers reported by firm O, namely 70 pence an hour (Note: This firm employed 78 male process workers on piecework in 1969, engaged on light engineering work. The evidence suggests that its piecework system may have been out of control at the time, with production workers earning substantially more than skilled workers. By 1971 this same firm was occupying a less

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extreme position, although production workers were still outpacing skilled workers. Shortly afterwards, it moved its location to another part of the country, citing the labour market situation in West London as its principal reason:).

Tables 5.4 and 5.5 below provide a more reliable picture of the variation between firms, when taken in conjunction with Table 5.1.

TABLE 5.4 - AVERAGE COEFFICIENT OF VARIATION FOR EACH JOB 1969-75
(Mean of the coefficients of variation established for each job on the 6 Pay Survey Dates).

Job	Average C. of V.
Toolmaker	7.008
MTCE.Electrician	9.228
MTCE.Fitter	9.380
Inspector	9.00
Storekeeper	9.068
Male Process	9.482
Labourer	8.739
Female Process	11.443

TABLE 5.5 - AVERAGE COEFFICIENT OF VARIATION FOR 8 JOBS ON 6 OCCASIONS 1969-75

Date	Average C. of V.
May 1969	9.302
Sept. 1970	9.355
Oct. 1971	8.266
Jan. 1973	9.072
Aug. 1974	9.452
April 1975	9.568

These figures give an overall impression of similarity in the variation between jobs, and within jobs over a six year period. The pattern is strongly related to that already shown in the analysis of range given in Tables 5.2 and 5.3. Toolmakers stand out as showing the least

variation between firms over the years. Conversely, female process workers show the greatest variation. Five out of the seven 'male' jobs possess coefficient of variation values that fall within the narrow band of 9.00 and 9.50. Tables 5.1 reinforces this impression, with coefficient of variation values that only occasionally step out of line. Once again the inter plant earnings structure in sub-market demonstrates a remarkably consistent pattern.

A central issue in labour market theory concerns the mobility of workers in response to economic differentials between firms. Quite how large the economic incentive needs to be in order to attract a worker away from one job to another is an open question and is discussed in Chapter 7 and 8. The influence of factors such as income tax and pension contributions clearly erode the impact of pay differentials. Reference has, from time to time, been made to the figure of twenty per cent (e.g. Robinson (Ref.29, pg.37) – who says 'Yet there is a respectable body of economists which believe that the 'market' cannot stand differences of more than 20%',and Elliott Jaques (Ref.42, pg.102), writing as a social scientist who says 'At about 20 per cent departure from equity an explosive situation develops, the outcome of which would be difficult to predict'). It is therefore interesting to analyse our data on inter firm pay differentials to see how many firms fall within this twenty per cent pay range.

The statistical problem presented by this line of thought is tackled by examining the proportion of firms within our sample who pay standard hourly earnings within a pay band ten per cent either side of the sample mean, and is shown in Table 5.6, 5.7 and 5.8 below.

TABLE 5.6 – PROPORTION OF FIRMS WITH MEDIAN STANDARD
HOURLY EARNINGS WHICH LIE WITHIN 10 PER CENT
OF THE SAMPLE MEAN.

Job	May '69	Sept. '70	Oct. '71	Jan. '73	Aug. '74	April '75
Toolmakers	10/10	15/16	13/13	14/16	11/13	14/16
Electricians	9/10	11/16	11/13	12/17	11/15	11/15
Fitters	7/10	11/16	10/13	13/17	11/14	10/15
Inspectors	10/10	12/14	10/12	10/14	9/13	11/14
Storekeepers	9/11	11/13	12/14	12/15	9/13	8/15
M. Process	7/10	11/13	7/9	8/10	7/8	9/9
Labourers	10/10	11/16	11/13	14/16	11/14	7/13
F. Process	7/10	9/13	10/11	14/17	10/13	8/15

TABLE 5.7 – PERCENTAGE OF FIRMS PAYING MEDIAN STANDARD
HOURLY RATES LYING WITHIN 10% OF SAMPLE MEAN
FOR EACH JOB INCLUDED WITHIN THE 6 PAY
SURVEYS 1969-75

Job	%
Toolmaker	91.66
Electrician	85.58
MTCE.Fitter	72.94
Inspector	80.52
Storekeeper	75.31
Male Process	83.05
Labourer	78.05
Female Process	73.42

TABLE 5.8 – PERCENTAGE OF JOBS PAYING WITHIN 10% OF JOB
SAMPLE MEAN ON OCCASION OF EACH PAY SURVEY
1969-75 (8 JOBS, 20 FIRMS)

Date	%
May 1969	82.72
Sept. 1970	77.77
Oct. 1971	85.71
Jan. 1973	71.31
Aug. 1974	76.70
April 1975	69.64

A significantly high proportion of jobs within our sample then are paid in such a way that median standard hourly earnings fall within a band ten per cent either side of the average. In certain cases, e.g. toolmakers, inspectors and labourers in May of 1969, all the earnings fall within this band. The lowest proportion recorded is 8/15 for storekeepers in April, 1975. If we turn to the average for the six years, the figures suggest that toolmakers were offered least economic incentive to change employers,* and female process workers and storekeepers greatest economic incentive. Table 5.8 indicates a possible increase over the 6 years in the number of firms lying outside this ten per cent pay band, but this can probably be explained by the confused labour market situation caused by government pay policy during the Spring of 1975.

The general conclusion that emerges from this method of analysis is that whilst a considerable overall range in standard hourly earnings pertained within our sample of firms, only a small proportion of the firms paid wages which were sufficiently out of line with the others to offer a significant economic inducement to workers to change employers. Frequently firms which fell out of line made efforts to restore the situation as shown in the subsequent pay survey, thus further decreasing the incentive for labour mobility.

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* i.e. to move to one of the other 19 firms included in the sample. The evidence presented in the last chapter showed that firms in the sample employed a high proportion of all the engineering workers in the Brent area, and were influential within the local labour market.

<u>Discussion</u>

Previous investigations of inter-plant wage structures have reported finding considerable ranges within the labour markets investigated. This was the case, for example, with the studies by Lloyd Reynolds, Myers and Shultz, Derek Robinson and Donald MacKay briefly outlined in Chapter 2. It is interesting to compare the findings noted in section one above with the earlier findings.

The actual ranges established by these investigations are given below. Unfortunately the American studies did not include an adequate occupational analysis. One reason for this may be, as these writers suggest, that inter-occupational mobility is greater in the United States, where it may be easier, for the unskilled worker to progress to semi-skilled and thence to skilled work, than is the case in this country.

a) Lloyd Reynolds - Given in Table 26, op.cit., and based on Plant Starting Rates for 15 to 25 companies.

    1940 - 78.6%
    1942 - 122.8%
    1945 - 56.0%
    1948 - 71.7%

b) Myers and Shultz (op.cit.) - No detailed analysis is presented but they state that 'The highest rate was twice as great as the lowest', i.e. a range of 100%. This was based on a sample of 39 manufacturing firms, and with similar conclusions for both minimum and average hourly earnings.

c) Derek Robinson (Ref.29) - 'Of the 77 occupations, no less than 49 had a spread of more than 50% and 12 had a spread of more than 100%'. (pg.37). When occupations similar to those used for the N.W. London study are extracted from his tables (Ref.15, pg.40), the following table results:

TABLE 5.9 - RANGES REPORTED BY ROBINSON

(for November 1967, expressed as %)

Job	Ranges in Local Labour Market 2	No. firms	Ranges in Local Labour Market 3	No. firms
Toolmaker	59	18	N/A	N/A
Fitters	39.4	20	32.6	6
Electricians	30.2	17	N/A	N/A

These ranges are considerably lower than those described in his general statement quoted above, and underline the importance of occupational analysis.

d) Donald MacKay (op.cit. pgs.71 & 72) - When occupations similar to those used for the N.W. London study are extracted from his published tables, the following summary results:

TABLE 5.10 - RANGES REPORTED BY MACKAY

(Expressed as a%, based on standard weekly earnings)

Job	Glasgow June '59	Glasgow Oct.'66	Birmingham June 1963	Birmingham June 1966
Toolmakers	N/A	N/A	85.38	123.40
Fitters	67.77	79.53	N/A	N/A
Semi-skilled Males	N/A	N/A	78.45	77.62
Labourers	65.38	50.0	76.62	75.75

Comparable results from the N.W. London pay surveys were presented in the earlier tables 5.2 and 5.3. These show the lowest occupational range as being 17% and the highest as 67.5%. Of the 48 occupational standard hourly earning ranges shown, 33 were greater than 30% and only 3 less than 20%.

The ranges found in the N.W. London survey were therefore lower than most of those established in the earlier studies quoted. Toolmakers ranges in the N.W. London sample never exceeded 35.5% where Robinson reports 59% and MacKay 85.4%. Fitters in N.W. London never exceeded 31.5% as against Robinsons' 'high' of 39.4% and MacKay's 79.5%. Electricians in N.W. London showed a peak range of 32% as against Robinson's 30%, i.e. a comparable result. Semi-skilled process workers in N.W. London never exceeded 30.5% as against MacKays 78.4%. Labourers in N.W. London never exceeded 42% as against MacKay's 76.62%. MacKay's figures are based on standard weekly rather than hourly earnings, which might account for some of the difference.

However 'range' is a statistically weak guide to actual variation, being concerned only with the extreme measurements. A direct comparison using inter-quartile range is not possible, because MacKay does not show the median earnings. Fortunately a comparison based on coefficient of variation is possible, and this is shown as Table 5.10A below (using MacKay's tables on his pg.76).

TABLE 5.10A- A COMPARISON OF FINDINGS BY MACKAY IN
         GLASGOW AND BIRMINGHAM AND THOSE OF THE
         N.W. LONDON SURVEY.

Location / Job	Tool-makers	Fitters	Semi-skilled M.	Labourers
Glasgow 1959	N/A	14.4	N/A	15.4
Glasgow 1966	N/A	14.1	N/A	12.2
Birmingham 1963	20.1	N/A	17.8	13.0
Birmingham 1966	22.7	N/A	19.9	16.0
N.W. London 1969	5.8	10.9	16.9	4.7
1970	6.4	10.1	8.9	10.9
1971	5.3	8.3	9.3	9.2
1973	6.0	8.9	7.8	8.4
1974	7.7	9.0	8.0	8.1
1975	10.8	9.1	6.0	11.1

The coefficients of variation for N.W. London are
considerably lower than those shown by MacKay. It is
interesting to speculate on the reasons for this.

The most likely explanation is that employers participa-
ting in the N.W. London pay surveys took more effective
action in maintaining relatively lower variations from
those averages reported by this pay survey, and from other
sources of information available to them. Whilst MacKay's
sample of employers provided pay returns to the Employers'
Federation, this does not appear to have led to much in the
way of 'corrective' action. These results for N.W. London
further buttress the earlier tables 5.6, 5.7 and 5.8 based
on the somewhat novel type of analysis using the concept of
a 20% pay band around the median.

Whilst this research project does not set out to explain
the variations in earnings which were established, the
results do seem to indicate that the 20 firms investigated
in N.W. London enjoyed a closer relationship in labour

market terms than those investigated by Robinson and MacKay. Theirs appear to have been more randomly distributed groups of companies, sharing only the common characteristics of being engineering firms, located in the same town, and subscribing to the Employers' Federation. In the previous chapter Brown and Sisson (Ref.49) were quoted as referring to the significance of 'reference groups' in influencing the outcome of pay negotiations. The evidence presented above suggests that our 20 firms constitute just such a group.

As was shown in Chapter 3, many of these firms in N.W. London were subsidiaries of larger parent bodies. Whilst pay policy was in many cases guided by central board directive (confirmed orally in discussions with local personnel managers), there was, in most cases, sufficient autonomy delegated at plant level to permit of the degree of local flexibility in pay rates which resulted in the pay tables shown above. The nature of the comments by local personnel managers were, in fact, similar to those collected by Lloyd Reynolds from his local labour market study (op.cit.). Reynolds was led to state 'When we first visited the co-operating companies to discuss their wage policies, almost everyone said that his company was paying at least as much as "the area wage level" '. And 'Management has reasonably adequate data on wage rates and wage changes in the area. Periodic surveys are con-ducted by the telephone company, the Chamber of Commerce, and the National Metal Trades Association', and again 'When employers talk about "keeping up with the area", they frequently mean keeping up with certain other plants in the area, which they regard as close to themselves for wage setting purposes'. (my underlining).

Myers and Shultz report similar conclusions (op.cit. pgs.154-164). Whilst they found pronounced wage differentials amongst the 39 manufacturing firms investigated, they also found, as a result of discussion with employers, that at least four so called 'sub-markets for labour', involving 'non competing groups' could be distinguished. When firms were grouped into these sub-markets and their pay rates analysed, the amount of wage disperson, although still substantial, was reduced. We thus have two convenient terms from sociology and labour economics for describing our sample of N.W. London firms - 'reference group' and 'submarket'.

It is quite possible that such groupings existed amongst the firms investigated by Robinson and MacKay, but the evidence is not available. Table 5.9 above did show that noticeably lower ranges were provided by Robinson's reported results when analysed was made by occupation.

Further evidence in support of the existence of such 'sub markets' or 'reference groups' is provided by Addison's more recent study of a labour market in the Southampton area (Ref.60). In his research into the effect of productivity bargaining on pay structures in the labour market, he obtained a considerable amount of data on pay and earnings amongst a sample of large manufacturing and processing firms (mainly oil and chemicals) who had regularly interchanged information on wage levels. Addison chose to label this as a 'submarket', and stated, (pg.487):

> 'In conclusion the results of this study should not
> be regarded as providing thoroughly deterministic
> outcomes appropriate to the generality of local
> labour market situations during the course and
> development of productivity bargaining practice.

It will be recalled, for example, that the study
has revealed - even during the pre-productivity
bargaining period - a level of earnings dispersion
markedly lower than has emerged from a number of
other-market experiences.[7] This in itself might
suggest possible evidence of an initially closer
relationship between firms in the market here
under consideration than applicable.elsewhere.
One reason for this possible close relationship
might be the eminently discrete nature of our
market, which permits a closer identification of
competitor firms than would be possible in a market
typified by less definite limits'.

Such evidence is highly pertinent in countering
Robinson's claim (Ref. IPM Journal, pg.39) that 'There
is hardly anything about local labour markets that is
uniform, save their complexities. If local labour markets
are to be described in one word, they are "chaotic".' This
is a general point which will be returned to in later
discussion. In another comment in the same article
Robinson stated that 'It is just not true that firms pay
the same wages for specific occupations as are paid by
other, competing, employers in their locality. It is
therefore difficult, if not impossible, to place any meaning
on such phrases as "the going rate" or the "local level of
wages". Yet our evidence is that a significantly high
proportion of manual workers in our 20 firms earned standard
hourly earnings that fell within 10% of the average standard
hourly earnings for the group (i.e. their 'submarket' or
'reference group') as shown by Table 5.8 above, and the
coefficients of variation were considerably lower than
Robinson's comments might have led us to expect. This
important point will be taken up again later.

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[7]See, for example:
Derek Robinson, 'The Myths of the Local Labour Market', op.
cit. Wage Drift, Fringe Benefits and Manpower Distribution,
op.cit. (with K.G.J.C.Knowles), 'Wage Movements in Coventry',
op.cit.
(ed), Local Labour Markets and Wage Structures, Gower Press,'70.
John E. Buckley, 'Intra-Occupational Wage Dispersion in
    Metropolitan Areas, 1967-68', op.cit.

Section II - Inter Plant Pay Hierarchy

Tables A.5.1 in the Appendix also provides information on the interplant pay hierarchy. Rank order numbering shows the position of individual firms for jobs on which they contribute pay data on the occasion of each pay survey date. As not all the firms in the sample contributed on every occasion, it is not possible to carry out a correlation analysis including all the data (e.g. by Kendall's 'Tau' formula).

Visual analysis of these tables, and inspection of the rank orders obtaining suggest a fiarly high degree of consistency over the six year period. As a generalisation, most firms tend to maintain a position in one of the top, middle, or bottom thirds of the table for each job. Certain firms appear to have maintained their position as pay 'leaders' throughout. This is shown in Table 5.11 below. Furthermore, this situation applied to all 3 of the general skill grade categories used. A 'pay leader' for skilled workers was also likely to be a 'pay leader' for semi-skilled and unskilled grades.

TABLE 5.11 - AVERAGE RANK ORDER NUMBER OF 'PAY LEADERS'

Mean of rank order numbers in 6 Pay Surveys 1969-75 and standard deviation.

Firm	Skilled Workers		Male Semi Skilled		Male unskilled		Female Process		All Jobs
	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$
C	3.18	1.39	1.5	0.87	6.33	.94	2	1.41	2.33
J	2.70	1.51	3.5	0.89	3.0	1.41	3	1.41	2.87
Q	2.60	1.82	2.0	0.93	1.25	.43	1.75	0.43	2.17

Similarly, certain firms maintained their positions as pay 'laggards', as shown in Table 5.12 below.

TABLE 5.12 - AVERAGE RANK ORDER NUMBER OF 'PAY LAGGARDS'

Mean of rank order numbers in 6 Pay Surveys 1969-75 and standard deviations.

Firm	Skilled Workers		Male Semi Skilled		Male unskilled		Female Process		All Jobs
	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$
F	12.96	2.03	9.17	3.72	9.83	2.03	7.4	1.85	10.851
I	10.76	3.02	8.0	2.76	11.40	4.32	9.66	1.70	11.036
P	11.40	2.98	10.0	1.53	13.25	1.48	11.0	1.58	11.310
Average sample size	13.6		11.6		13.5		12.8		12.9

For any job category there also exists a small number of relatively 'unstable' firms, that is to say firms which register considerable variation in their position in the hierarchy from year to year. It would appear that these firms can again be subdivided into those who decline over the period and move from 'leader' to 'laggard' positions, e.g. firm K, and those who make sudden changes, e.g. firm S.

Analysis using the rank order correlation coefficient has been carried out for the years 1970, 1973 and 1975, and is presented in Table 5.13 below. These three years have been selected as the years when the highest proportion of firms were participating in the several pay surveys, enabling a reasonably representative rank order correlation coefficient to be calculated.

TABLE 5.13 - <u>RANK ORDER CORRELATION OF STANDARD EARNINGS</u>
<u>1970, 1973 & 1975.</u>

(Rank order correlation coefficients comparing 1970 with 1973 and with 1975).

Job	^{r}r Sept.'70 With Jan. '73	^{r}r Sept.'70 with April '75
Toolmaker	.207	.818
MTCE.Electrician	.587	.388
MTCE.Fitter	.754	.818
Inspector	.650	.606
Storekeeper	.570	.425
Male Process	.808	-.571
Labourer	.543	.382
Female Process	.604	.230

These results indicate that a high proportion of firms maintained their position in the pay hierarchy over the 27 month period, September, 1970 to January, 1973. In all but one case the degree of correlation declined over the longer period of four and a half years, September, 1970 to April, 1975, as is to be expected. The peculiar result for male process workers in 1975 can partly be explained by the drop in the sample size, with only a few firms contributing pay data on male process workers in both January, 1973 and April, 1975.

Such a rank order calculation possesses obvious limitations. As can be seen from Table A.5.1 a difference of one place in the rank order can represent anything from .5 pence an hour to 7 or more pence an hour. However, it does support the evidence provided by a visual inspection of the rank ordering of the different firms presented in the main tables in the appendix, and the conclusion that the firms in our sample were members of a 'fairly stable' pay hierarchy.

Discussion

The analysis has shown that the majority of the firms in our sample maintained approximately the same position in the rank order of standard hourly earnings over the course of time, although the rank order coefficient declined over the full five and a half year period. These firms also maintained approximately the same position in the rank order for the different occupational categories.

The evidence from earlier labour market studies shows conflicting evidence on the issue, although the weight of evidence favours a measure of consistency in the rank order. Lloyd Reynolds (op.cit. table 27) found considerable change in the relative position of individual firms, ranked by starting rate. Calculation of the rank order correlation coefficient for his rank orders for July, 1948 and July, 1942 (N = 22) gives a positive result at +.23. Myers and Shultz (op.cit.) found that relative rankings in their labour market between 1940 and 1949 remained 'about the same'. Rees and Shultz (Ref.34, table 4.6, pg.47) concluded that 'although we do discover some clusters of occupations in which wages are significantly related, we do not find many firms that are consistently high wage and low wage firms across the whole spectrum of occupations. It appears that firms position in the wage hierarchy of a labor market is not a simple thing to summarize, contrary to impressions given in some of the previous literature that has examined narrower ranges of occupations'. Note however that Rees and Shultz included office workers in their study.

On this issue Lester wrote (Ref.37):

'It seems likely that a wage position established by a firm anywhere within a community's wage range would be an equilibrium position even from a long-run viewpoint. Assuming underemployment or even relatively

full employment such as the economy has enjoyed
during the past decade, there appears to be little
in the way of competitive pressures to force a
firm to alter its relative wage position.

Robert Raimon has argued that such indeterminancy
is especially true of the wages of semiskilled
workers, since semiskilled jobs are traditionally
filled from within the firm through on-the-job
training, and previous occupational experience may
be unimportant or irrelevant. He supports his
position by showing from published wage survey
data that relative wage dispersion is greater for
semiskilled than for skilled or unskilled blue-
collar occupations. (Ref.63).

Derek Robinson also provides conflicting evidence.
In his O.E.C.D. publication (Ref.27) quoted verbatim in
chapter two he refers to 'the apparent lack of market
structure in relative wage levels' and yet goes on to refer
to 'A different study of the standard hourly average
earnings of skilled production workers in twelve engin-
eering companies in Coventry' which showed that '.....on
the whole companies tended to maintain rather stable
relative positions over periods of four or five years'.
Unfortunately Robinson does not provide evidence to show
whether these 12 firms in Coventry might be considered
members of the same 'submarket' or 'reference group'.

MacKay found considerable pay order stability amongst
the firms his team investigated, as shown in his table 4.7
presented in Chapter 2. He concluded (op.cit. pg.83).
'These results are consistent with our previous suggestion
that over the long run, where the appropriate wage variable
is standard weekly earnings, major shifts in the inter-
plant wage structure are relatively rare', and (pg.84)
'....in a plant where average earnings for one group of
workers was high the earnings for each group of workers
also tended to be high and vice-versa'.

Addison's investigation of a Southampton labour market (Ref.60), described as a'submarket', showed strong evidence of stability in the rank order of companies over a number of years (pgs. 406, 407). One example he cites is provided as Appendix A.5.2 and concerns process workers.

The evidence provided in this section supports that of the previous section in indicating that 'submarkets' as providing pockets of well ordered pay structure patterns within a seemingly disordered labour market environment.

III - The Pattern of Pay Differentials

Table A.5.1 also provides evidence on the structure of pay differentials within firms as between skilled, semi-skilled and unskilled workers. This will be examined in greater detail in the next chapter which deals with internal pay structures. At this stage we are concerned with the general question of whether the firms within our sample display a recognisable pattern of pay differentials, and whether any significant changes took place over the period 1969 to 1975.

When the average of the median standard earnings reported by the firms was calculated and plotted on a graph, a definite pattern emerged. This is shown on Graph 5.15 on the next page. Although on occasions the standard hourly earnings of production workers exceeded those for skilled workers, there is clear evidence of a pay hierarchy described by job titles. This is, in turn, related to skill, if we accept the definitions of skill that prevail within the engineering industry. Toolmakers head the list, followed by electricians and maintenance fitters. Skilled inspectors follow, although they are something of a special case. Inspectors are usually drawn from the ranks of skilled workers, such as fitters, the main attraction

frequently being the status, authority, and working conditions which go with the job. Semi-skilled and unskilled occupations then follow on within this hierarchy.

Two items of particular interest which stand out from the data presented on the graph are, firstly, the narrowing of differentials between the eight jobs over the 6 years, and secondly the relative increase in pay obtained by female process workers. This is illustrated in Table 5.14 below.

TABLE 5.14 - RELATIVE CHANGE IN DIFFERENTIALS BETWEEN 8 JOBS 1969-75 IN N.W. LONDON L.L.M.

Average Median standard hourly earnings, expressed as % of Toolmakers' rates.

	May '69	Sept. '70	Oct. '71	Jan. '73	Aug. '74	Apr. '75
Toolmaker	100	100	100	100	100	100
Electrician	88.81	92.38	92.45	91.48	92.75	97.34
Fitter	87.10	90.86	93.41	90.96	90.23	95.90
Inspector	83.62	86.80	87.94	87.96	90.27	93.07
Storekeeper	72.10	74.59	73.97	73.82	77.35	81.51
M. Process	78.75	77.64	82.12	76.15	80.16	87.63
Labourer	61.64	65.12	65.92	63.59	66.28	75.15
F. Process	58.56	62.29	63.92	62.49	73.03	76.78

GRAPH 5.15

HOURLY PAY RATES 1969-1975

Averages of Median Standard Earnings in 20
Manufacturing organisations in N.W. London
Eight selected job categories
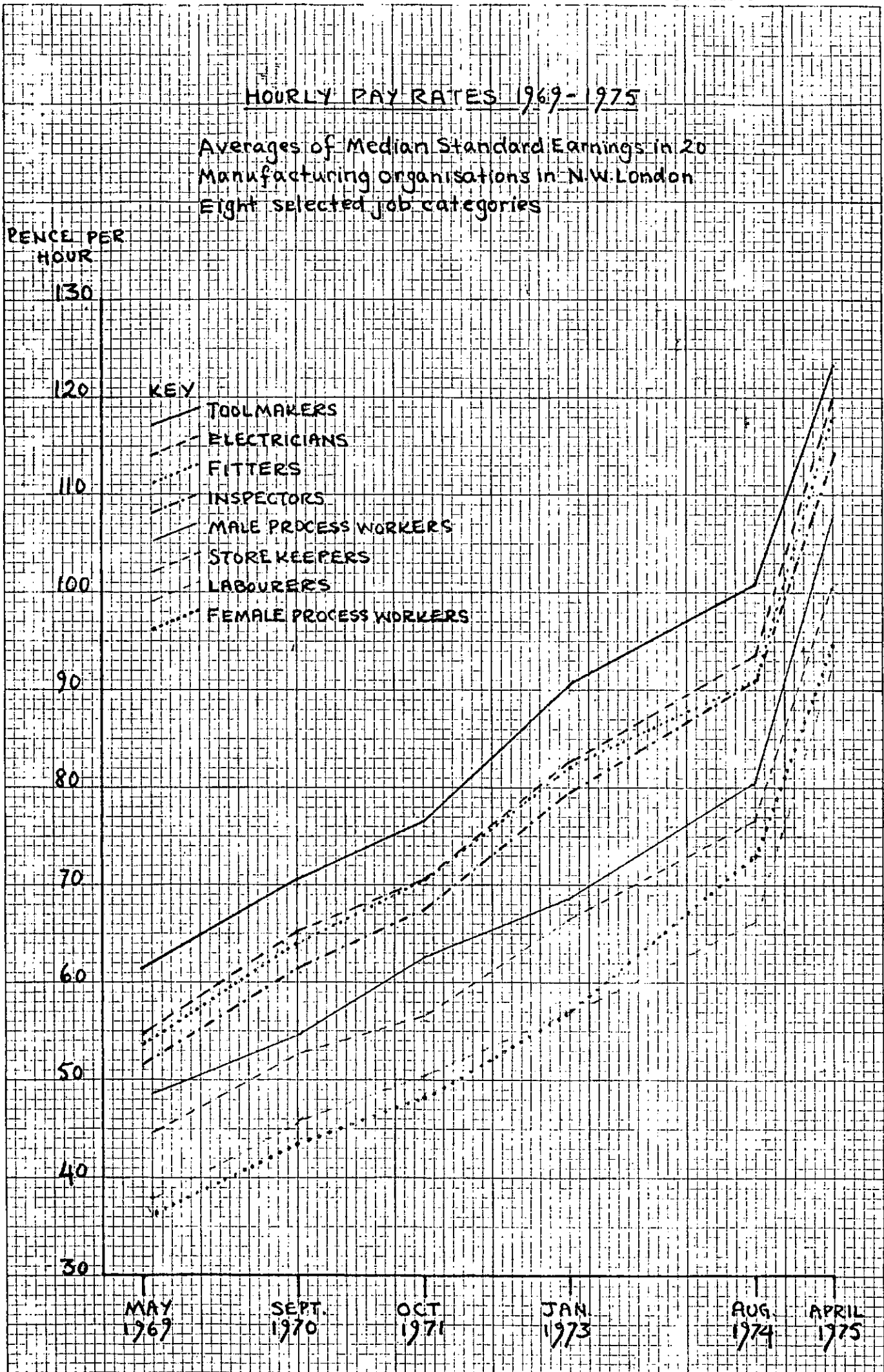
All the other occupations within our sample narrowed their earnings differentials relative to the toolmakers over this period. However this was not a smooth and continuous process, and indeed October 1971 to January, 1973 appears to have been a period of widening differentials coinciding with a time of relatively high unemployment. January 1973 to August 1974 shows a return to narrowing differentials, and this process speeded up between August, 1974 and April, 1975. The male group making the greatest relative gain was unskilled labourers. (This final phase coincided with a Labour Government in this country committed to raising the pay levels of lower paid workers, and inherited the results of a Conservative pay policy which had sanctioned threshold agreements).

It is the female process workers who stand out as having made the greatest progress in catching up with the higher paid workers, particularly between January, 1973 and August, 1974. The Equal Pay Act was looming large upon the horizon, and many of the firms in our sample were beginning to take appropriate measures. Curiously, progress seems to have slowed down between August, 1974 and April, 1975 at a time when other groups, such as the unskilled labourers were making the greatest headway.

The general conclusion which emerges is that there is a clearly discernible pattern of pay differentials common to the firms in our pay sample. In the jobs predominently employing male workers, this pattern takes the form of a pay hierarchy based on traditional conventions concerning skill levels. The differentials within this hierarchy narrowed considerably between May, 1969 and April, 1975. Female process workers, although occupying jobs conventionally regarded as being semi-skilled, were paid at rates lower than those for male unskilled labouring jobs at the

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commencement of this period. However, between January, 1973 and August, 1974 female process workers caught up with and passed the male unskilled labourers, although their earnings remained appreciably lower than male process workers.

(Discussion of the findings in this section are incorporated into Chapter 6 which is also concerned with inter-occupational as well as intra-occupational pay relativities).

IV - The influence of local employment conditions on inter plant earnings differentials.

Consideration of the effects of Supply and Demand suggests that when local unemployment levels are comparatively high, and it is relatively easy for firms to recruit new employees, then there will be little pressure on firms to raise their rates of pay. On the other hand, when local unemployment is low, and economic activity is high, there will be pressure on firms to raise their wage levels because of the increased competition and demand for labour. If we further assume that only some of the firms will be able to afford pay increases, and that in any case the speed with which they will react to the new situation will vary, then we might reasonably expect a widened spread of earnings at times of low local unemployment, and a degree of consolidation when higher unemployment prevails. This hypothesis has been tested by calculating the correlation between local unemployment levels and the coefficient of variation in the median standard hourly earnings for certain jobs at the time of the five pay surveys falling between September 1970 and April 1975. The results are shown in Table 5.16 following.

TABLE 5.16 - RELATIONSHIP BETWEEN LOCAL UNEMPLOYMENT AND THE SPREAD OF EARNINGS

(Correlation between coefficient of variation in earnings and local unemployment levels 1970-75.

Year	No. Males unemployed Local Area	C. of V. Tool- makers	C. of V. Male Process	C. of V. Labourers	C. of V. AVE. for 8 jobs
Sept.'70	1936	6.395	8.891	10.932	9.355
Oct. '71	3041	5.346	6.0	9.231	8.266
Jan. '73	2256	5.975	7.787	8.416	9.072
Aug. '74	1519	7.754	7.964	8.110	9.452
Apr. '75	2417	10.782	6.0	11.077	9.568
Correlation Coefficient		-.21	-.77	.19	-.78

With the exception of labourers, these figures suggest that as the level of unemployment rises, the spread of hourly earnings as measured by the coefficient of variation decreases, and when unemployment falls, the spread of earnings increases. This attempt to measure the statistical relationship is admittedly based on a simplistic approach and it would be interesting, for example, to test for the effect of leads and lags in the relationship. However, the significance of the negative coefficients obtained point clearly to some relationship between the variables. The evidence appears to uphold the hypothesis advanced above; some of the firms within our sample took steps to make their pay rates more attractive when labour was no longer easily obtainable on the labour market and this increased the spread of earnings within the 'submarket'.

Discussion

Whilst in this dissertation we have studiously avoided discussion of the possible reasons for disparities in inter firm earnings levels, an exception has been made in this section. A major reason for this is that the data was to hand for this particular analysis which permits a useful comparison with MacKay's findings from a similar exercise (op.cit. pgs. 76 and 77). The results also shed some light on the functioning of this 'submarket'.

MacKay put forward a diametrically opposed hypothesis. 'If we take' he said 'the percentage rate of male unemployment to represent employment conditions, we might suppose that the spread of plant earnings would narrow when unemployment falls and would widen as unemployment rises. The argument is that recruitment difficulties will force low wage plants to bid up wages. When they have difficulty in securing an adequate supply of labour (i.e. when unemployment is low) whereas competitive pressures will be less severe, and wage differentials widen, when labour is more easily obtained (i.e. when unemployment is high). This suggests that the coefficient of variation of plant earnings will be positively related to the level of unemployment'. MacKay's results, in fact, showed a series of rather weak positive correlations, and he concluded 'There is no evidence, therefore, to support the proposition that the spread of plant earnings in a market is affected by short-run changes in the level of unemployment'.

Our N.W. London 'submarket' displayed different characteristics in this respect. This might be accounted for once again because of the homogeneous nature of this 'submarket' as compared to MacKays more generalised samples in Glasgow and Birmingham. In view of his findings, however, it would be rash to come to any general conclusion concerning the relationship between unemployment levels and

inter plant pay differentials. Inter plant earnings
differentials are the outcome of a large number of economic
and social pressures, of which local unemployment might be
one important influence.

V – National and Local Changes in pay and Differentials during 1970-75 compared.

We have noted the interesting changes that took place
in the levels of pay and the differentials between different
manual occupations within our sample of firms during the
period of enquiry. To what extent were these typical of
changes taking place at a national level? This is an
important question to answer, primarily because it affects
the degree of confidence with which results arising from
such a local labour market study as this can be used in a
critical review of general theories concerning behaviour
within local labour markets.

A detailed study of national pay trends during this
period is beyond the scope of this project. Comparison is
therefore limited to the key features already noted such
as the trend to higher gross hourly earnings and narrowing
of pay differentials amongst manual workers. Data from the
official New Earnings Survey conducted in the spring of
each year and published in the Department of Employment
Gazette has been used as the main source of information
concerning national changes in pay.*

Data already presented in the preceeding section III
has been reworked in order to facilitate comparison, and is

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*Unfortunately the earlier systematic surveys of pay and
occupations within the engineering industry by the D. of E.
have been discontinued.

presented in Table 5.17 below. This shows average median
standard hourly earnings for six of the manual occupations
in the local labour market, converted to index form.
These occupations have been selected because four of them,
namely toolmakers, maintenance electricians, maintenance
fitters and labourers, appear as occupational groups
within the New Earnings Survey. Male process workers are
also included, but on the basis that they are the largest
occupational group within the local labour market study.
Female process workers are included because this then
permits comparison of changed earnings differentials between
male and female process workers. (Process workers within
the engineering industry regrettably do not appear as an
occupational group in national statistics, although
between 1970 and 1972 semi-skilled male production workers
in metal work were shown).

TABLE 5.17 - INDEX OF AVERAGE MEDIAN STANDARD HOURLY EARNINGS 1970-75

Average of median standard hourly earnings for selected jobs in N.W. London survey.
Average of May 1969 and September 1970 pay survey results = base 100*

Job	1969/70		Oct. '71		Jan. '73		Aug. '74		April '75	
	Rate	Index	Rate	Index	Rate	Index	Rate	Index	Rate	Index
Toolmaker	66.04	100	76.38	115.7	90.22	136.6	100.8	152.6	123.3	186.6
MTCE. Electrician	59.9	100	70.61	117.9	82.52	137.8	93.5	156.1	119.96	200.3
MTCE. Fitter	58.85	100	71.34	121.2	82.1	139.5	90.96	154.6	118.2	200.8
Male Process	51.62	100	62.72	121.5	68.7	133.1	80.81	156.6	108.0	209.2
Female Process	39.99	100	48.82	122.1	57.1	142.7	73.61	182.1	94.63	236.6
Labourer	41.93	100	50.35	120.1	57.37	136.8	66.82	159.3	92.61	220.9

* Average of 1969/70 results taken to provide a comparable base to the N.E.S.
base of April 1970.

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This data on changes in pay at the local level can now be compared with the national figures presented in Tables 5.18 and 5.19 below and on Graph 5.20.

(n.b. the basis for calculation in the New Earnings Survey is not exactly the same as for the local sample; in the former case 'average' means the mean for all individuals participating, and in the latter ' average' means the mean of the median standard hourly earnings of firms participating).

TABLE 5.18 – NATIONAL MEDIAN GROSS HOURLY EARNINGS, FULL TIME MANUAL MEN AND WOMEN, TAKEN FROM N.E.S. SUMMARY PUBLISHED IN THE D. of E. Gazette November 1975.

	Men	Index	Women	Index
April 1970	54.6 pence	100	32.1 pence	100
" 1971	61.2 "	112.1	36.8 "	114.6
" 1972	68.6 "	125.6	41.6 "	129.6
" 1973	78.6 "	144.0	48.0 "	149.5
" 1974	90.1 "	165.0	57.5 "	179.1
" 1975	118.0 "	216.1	79.6 "	248.0

TABLE 5.19 – CHANGE IN DIFFERENTIALS, AVERAGE HOURLY EARNINGS OF SELECTED MANUAL OCCUPATIONS AT THE NATIONAL LEVEL.

NEW EARNINGS SURVEYS PUBLISHED IN D. OF E. GAZETTE 1970, '71, '72, '73, '74, '75.

(Average Gross Hourly Earnings excluding overtime)

	Tool-makers		MTCE. Elec-tricians		MTCE. Fitters		Labourers	
	Rate	Index	Rate	Index	Rate	Index	Rate	Index
April 1970	65.5	100	59	100	58.5	100	44	100
" 1971	75.3	115.0	72.5	122.9	68.6	117.3	52.8	120
" 1972	83.7	127.8	79.9	135.4	76.9	131.5	58.6	133.2
* " 1973	92.7	141.5	92.0	155.9	85.0	145.3	65.8	149.5
" 1974	106.4	162.4	104.0	176.3	98.0	167.5	76.4	173.6
" 1975	132.5	202.3	135.7	230	131.4	224.6	101.4	230.4

*New occupational classification system introduced by D of E.

GRAPH 5.20

A COMPARISON OF LOCAL LABOUR MARKET AND
NATIONAL RATES OF PAY 1970-1975

Average median standard hourly earnings of male and
female process workers from sample survey, compared
with national median gross hourly earnings for manual
men and women, taken from New Earnings Survey

KEY

MANUAL MEN - NATIONAL
MALE PROCESS - LOCAL
MANUAL WOMEN - NATIONAL
FEMALE PROCESS - LOCAL

PENCE PER HOUR
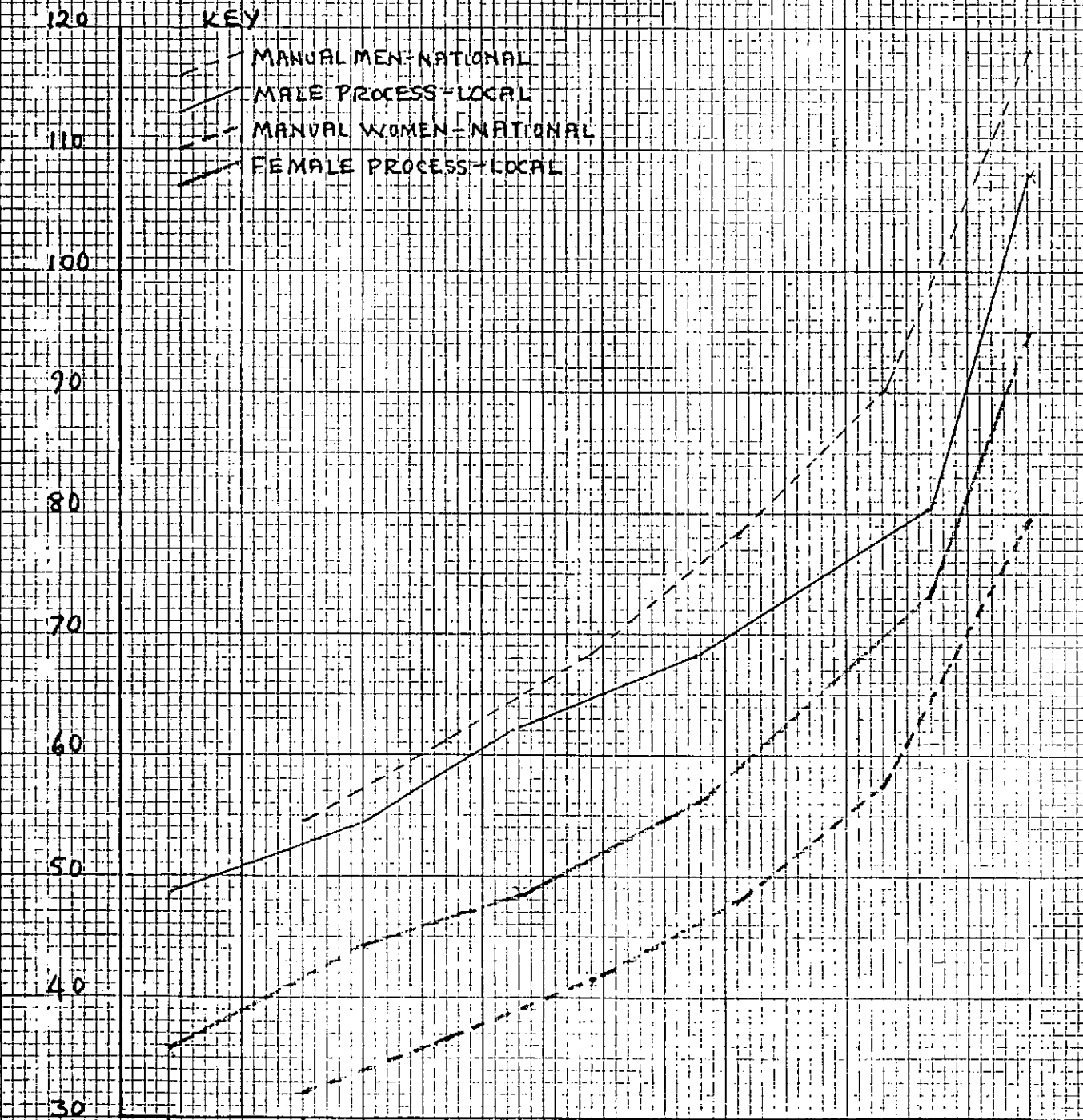
Graph 5.18 shows the National average for men to be ahead
of that for local male process workers, whereas the
national average for women shows the reverse situation.
It should be borne in mind that the skill composition of
the two work forces, male and female, are dissimilar.
Few women occupy skilled positions. Women occupying semi-
skilled jobs in factories in N.W. London appear from this
data to be relatively fortunate compared with female manual
workers elsewhere.

The narrowing of differentials between male and
female manual workers in our sample of local firms reflects
the national pattern, although at a national level the
'average' female worker has a long way to go before
catching up with the unskilled labourer, whilst our local
female process worker has already achieved this dubious
distinction. But both at a local and national level the
index figure for female workers had advanced further by
April, 1975 than for any male occupational group. Labourers
show the next greatest advance at both national and local
level.

5.21 below provides a final comment on the economic
fortunes of our local workers within the context of
national trends. By plotting the index figures for tool-
makers, male process workers, female process workers and
labourers on the official chart from the D. of E. Gazette
on earnings, wage rates, retail prices and wage and salaries
per unit of output, their somewhat mixed fortunes are
thrown into clear relief. By the end of the five year
period female process workers and labourers are the only
two categories of local employees to have improved their
position against both the cost of living and national
average weekly wage rate trend lines. If the base year
were to be shifted to 1973, it would show even more
dramatically the relative decline by skilled workers (as

Earnings, wage rates, retail prices, wages and salaries per unit of output

GRAPH 5.21

AVERAGE 1970 = 100

Log Scale

----- Average Earnings
·---·--- Weekly Rates of Wages
——— Retail Prices
----·--- Wages and Salaries per Unit of Output

KEY FOR ADDED DATA FROM LOCAL PAY SURVEYS

✳ = TOOLMAKERS
✕ = MALE PROCESS
● = FEMALE PROCESS
▲ = LABOURERS

1970   1971   1972   1973   1974   1975

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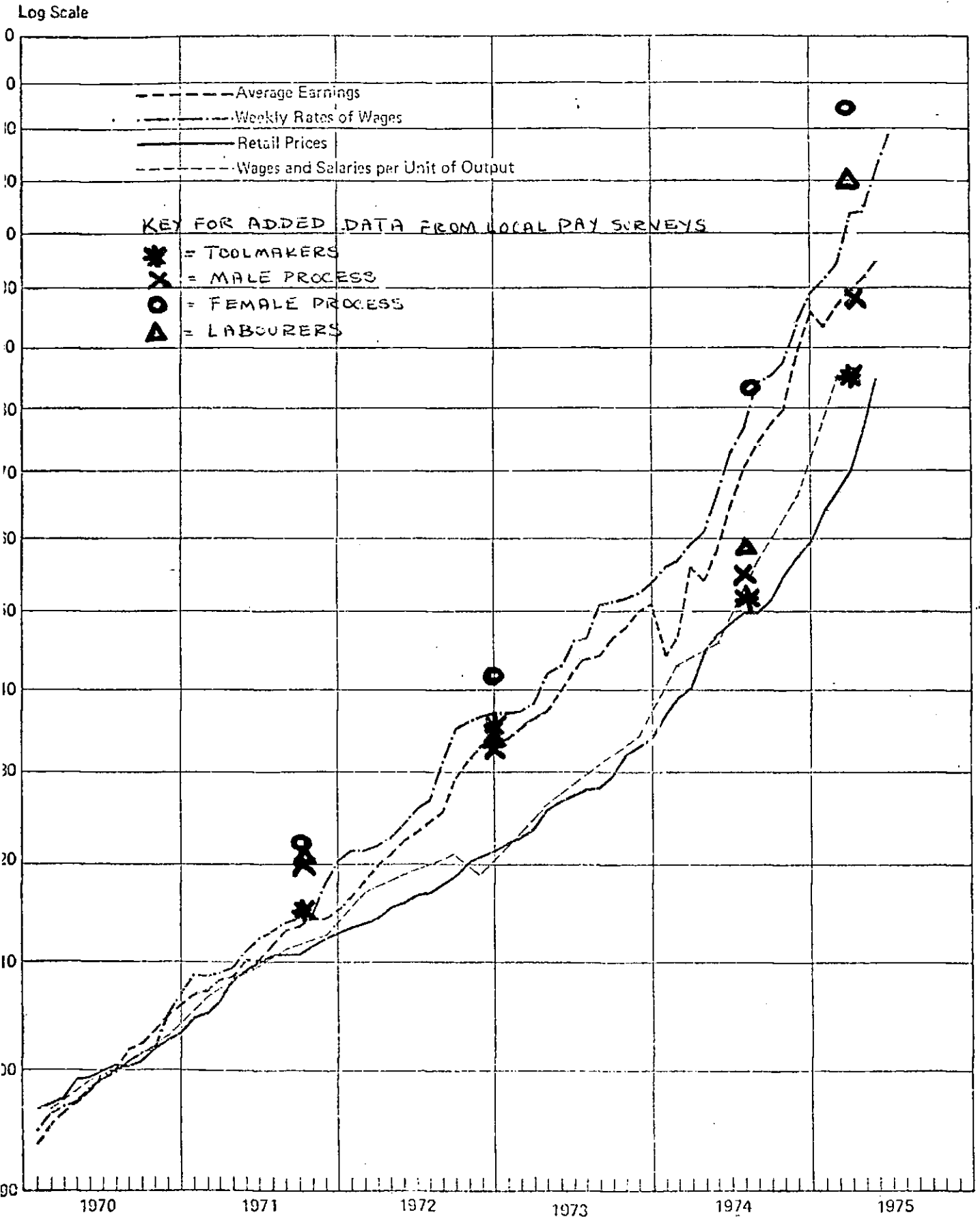
represented here by the toolmakers) over the last two
years of this period. Skilled engineering workers in
the N.W. London labour market appear to be no exception
to the general rule in the rest of British Industry in
this respect, for as Mr.Eastwood, general secretary of the
Association of Patternmakers and Allied Craftsmen commented
in the summer of 1976, "Ample evidence exists to show that
relative pay levels in the industry, and for craftsmen
within it, are narrowing"(c.f.'Skilled Labour shortages in
the United Kingdom: with particular reference to the Engin-
eering Industry'. Published by the British-North American
Committee 1976).

CHAPTER 6

The Internal Pay Structure

The standard hourly earnings of the eight manual
occupation groups have been tabulated and analysed with
the aim of establishing whether similar pay structures
existed amongst firms in the sample, and whether any
significant changes had taken place during the period
1969-1975. The existence of a pay hierarchy based on
average median standard hourly earnings related to the
skill content of jobs was noted in the previous chapter.
In this chapter a closer look is taken at the internal
pay structures of participating firms, particularly the
nature of the differentials and the range of earnings
within the firms.

The data on median standard hourly earnings given in
Appendix A.5.1 has been analysed further to give the
results shown in Tables 6.1.A and B below. In order to
provide a common basis for comparison between the firms,
earnings have been converted to an index with the labourers
rate within each firm standing as the value 100.* Two pay
surveys, those conducted in September 1970 and April 1975
have been used in order to permit a study of any changes
in the internal pay structure over a five year period.
(A high proportion of firms in the sample participated in
both these surveys).

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*A method also used by MacKay, op.cit.

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These tables provide further evidence of an internal pay structure that is common to the firms in our sample, and which takes the form of the pay hierarchy already noted in the previous section. If female process workers are excluded, then the sequence runs from labourers on the bottom rung of the ladder through storekeepers, male process workers, inspectors, maintenance fitters, maintenance electricians to toolmakers at the summit. There are just a few exceptions to this. In Table 6.1.A, out of a total of 63 observations, only 6 represent pay rates which fall outside this sequence (indicated in the tables by *) and in Table 6.1.B out of a total of 60 observations, only 5 are out of sequence (differences of 1 index point or less are ignored).

If female process workers are included they are seen to occupy the bottom rung of the ladder in the majority of firms in 1970, but by 1975 they have generally moved up one step. (This was noted in the findings on women's pay presented in the previous chapter, as also was the trend to narrowed differentials over the five years). In all but one instance the internal pay hierarchy has been compressed to fit into the smaller range prevailing between labourers and toolmakers by 1975.

The size of differentials between jobs within firms does, of course, vary. There is no question of a standard differential common to all the firms prevailing, say between fitters and inspectors, even though the basic rates paid by these firms for different jobs are not the same as the actual earnings represented in our tables. Because of the operation of internal labour markets, earnings include a variety of supplements representing factors such as length of service and merit. Even so, it is clear that the internal pay structures vary from firm to firm.

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<u>TABLE 6.1.A</u> - <u>MEDIAN STANDARD HOURLY EARNINGS FOR FIRMS PARTICIPATING IN BOTH 1970 AND</u>
<u>1975 SURVEYS, INDEXED TO LABOURERS = 100</u>

<u>A - September 1970</u>

Firm	Toolmakers	Electricians	Fitters	Inspectors	Storekeepers	Male Process	Female Process	Labourer Actual
A	168.2	152.3	N/A	135.2	114.8	129.5	102.3	44p
F	144.4	121.1	122.2	122.2	105.6	123.3	97.8	45p
H	130.2	N/A	119.8	117.0	111.3	99.1	81.1	53p
I	154.1	154.1	136.5	N/A	N/A	116.5	N/A	42.5p
J	151.5	154.6*	150.5	137.1	N/A	N/A	N/A	48.5p
K	182.1	142.3*	150.0	152.6*	129.5	128.2	101.3	39p
M	146.6	140.8	138.8	144.7*	102.9	108.7	89.3	51.5p
P	161.5	159.0	146.2	147.4	126.9	126.9	96.2	39p
R	136.8	142.1*	133.7	114.7	115.8	N/A	N/A	47.5p
T	159.6	152.8	144.9	125.8	122.4	123.6	106.7	44.5p
Mean	153.5	146.6	138.1	133.0	114.9	119.5	96.4	

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*Indicates earnings which fall outside the sequence described.

B - April 1975

Firm	Toolmakers	Electricians	Fitters	Inspectors	Storekeepers	Male Process	Female Process	Labourer Actual
A	152.8	144.4	144.4	123.9	107.8	116.7	103.9	90p
F	138.9	126.5	126.5	124.1	107.4	123.5	108.0	81p
H	125.0	N/A	102.9	126.0*	88.7*	106.9	78.9	102p
I	100.0	100.0	100	100	100	N/A	90.2	102p
J	116.7	115.8	117.6*	114.4	101.8	N/A	105.0	111p
K	141.0	126.5	126.5	133.7*	106.0	N/A	102.9	83p
M	138.6	137.3	134.9	N/A	102.4	N/A	94.0	83p
P	151.3	147.5	N/A	130.0	N/A	N/A	103.7	80p
R	147.4	144.5	136.4	139.9*	123.1	N/A	N/A	86.5p
T	136.3	133.0	133.0	112.8	106.1	115.6	108.9	89.5p
Mean	134.8	130.6	124.7	122.8	104.8	115.7	99.4	

* Indicates earnings which fall outside the sequence described.

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Further light is thrown on these internal pay structures by the data available from the pay surveys on minimum and maximum standard hourly earnings. This shows the pay range for each job within each of the participating firms, and is presented in the Appendix as Tables A.6.1, again covering the two pay surveys conducted in 1970 and 1975. A more detailed analysis of the six firms that co-operated in the labour wastage study described in the next chapter and which includes data from all 6 pay surveys is presented in Appendix A.6.2. Information on internal pay ranges is summarised and presented in Table 6.2 below, with ranges expressed in percentage form.

TABLE 6.2 - INTRA FIRM STANDARD EARNINGS RANGES ANALYSED BY OCCUPATION, 1970 and 1975
(Difference between lowest and highest earners in each job expressed as %)

A - September 1970

Firm	Toolmakers	Electricians	Fitters	Inspectors	Storekeepers	Male Process	Labourers	Female Process
A	11.28	2.27	N/A	15.04	10.20	89.16	3.45	81.54
F	5.47	1.82	1.85	16.05	16.13	4.55	4.55	1.15
H	22.05	N/A	15.65	1.63	0.85	67.14	12.0	27.40
I	1.54	4.46	1.74	N/A	N/A	2.04	4.82	N/A
J	22.66	15.71	35.71	22.50	23.36	N/A	13.33	N/A
K	0.70	1.82	11.82	23.48	7.14	18.95	7.79	24.29
M	13.79	7.75	47.83	5.52	32.26	56.47	9.18	84.62
P	8.0	1.63	19.38	8.93	13.68	27.17	30.66	41.54
R	36.19	N/A	21.74	68.04	58.06	N/A	64.63	N/A
T	5.93	31.11	1.56	9.52	10.31	14.02	2.27	11.11
Mean	11.64	8.32	17.48	18.97	19.11	34.94	15.27	38.81

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B - April 1975

Firm	Toolmakers	Electricians	Fitters	Inspectors	Storekeepers	Male Process	Labourers	Female Process
A	10.58	0	0	16.82	6.91	18.04	2.25	18.88
F	2.70	0	0	7.29	6.98	11.34	0	5.88
H	11.76	N/A	0	9.83	14.29	39.01	24.40	28.66
I	0.90	0	25.92	0	2.02	N/A	45.71	0
J	18.33	18.33	18.33	11.66	2.70	N/A	4.67	11.82
K	0.86	0	0	0	0	N/A	0	0
M	7.27	3.57	13.68	N/A	11.90	39.44	6.25	44.62
P	0.83	0	N/A	22.22	15.66	N/A	9.46	16.88
R	10.83	0	19.05	8.70	11.0	N/A	15.85	N/A
T	0	5.31	5.31	5.15	2.15	10.10	4.03	6.32
Mean	6.41	3.02	9.14	8.17	7.36	23.59	11.26	14.78

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In both 1970 and 1975 the highest internal occupational pay ranges are to be found amongst process workers, both male and female, whilst electricians generally present the smallest ranges. But for every category of job differences exist between firms on the range of pay offered, although by 1975 this had become less marked.

Calculation of the mean average pay range for each of the jobs obscures these inter firm differences, but does assist in the general analysis of the sample. Table 4.2A shows mean values that range from 8% in the case of maintenance electricians to 38% in the case of female process workers in 1970. In 24 out of the 70 individual job observations for 1970, the highest paid workers earned more than 20% more than the lowest paid workers in similar jobs in the same firm. On the other hand, in 29 of the observations, differences amounted to less than 10%.

By April, 1975 a marked change in the range of earnings for similar jobs had taken place, as is shown on Table 4.2B. Average values are in many cases less than half those for 1970. The most dramatic fall is that for female process workers with the mean value down from 38% to 14%. Also dramatic is the appearance of 21 observations of less than one per cent, indicating that a proportion of firms were paying a standard rate for the job to all job holders and ignoring conventional supplements to individual pay. The maxim of 'the rate for the job' appears to have been put into operation. Out of 72 observations, only 8 are by now in excess of 20% and 36 are below the 10% level.

It is difficult to account fully for the size of this change. Some narrowing of range could be expected as a result of the trend to narrowed differentials between jobs. It cannot, however, be explained by major changes in the status or methods of payment of employees, as Table 6.3 below makes clear.

Information in Table 6.3 was obtained from firms
co-operating in the labour wastage study described in the
next chapter. Personnel departments were asked to fill
in a simple questionnaire aimed at elucidating whether major
changes in methods of payment and status had been intro-
duced during these five years. The results are shown
below.

TABLE 6.3.A - <u>METHOD OF PAYMENT TO MANUAL WORKERS</u>
10 Firm Sub-Sample, N.W. London

	January 1970			January 1975		
	Piece-work	Timework	Both	Piece-work	Timework	Both
Toolmakers		L,H,D,K, G,B,A,Q, J.		A	H,D,K,G, B,Q,J,L.	
Electricians		L,D,K,G, B,A,Q,J.			D,K,G,B, A,Q,J,L.	
MTCE. Fitters		L,H,D,K, G,B,A,Q, J.			H,D,K,G, B,A,Q,J, L.	
Inspectors		L,H,D,K, G,B,A,Q, J.			H,D,K,G, B,A,Q,J, L.	
Storekeepers		L,H,D,K, G,B,A,Q, J.			H,D,K,G, B,A,Q,J, L.	
Male Process	A,Q,H.	L,D,K,G, B,J.		A,Q,H.	D,K,G,B, J,L,H.	
Labourers		L,H,D,K, G,B,A,Q, J.			H,D,K,G, B,A,Q,J, L.	
Female Process	A,Q,H.	L,D,K,B, J.	G	A,Q,H.	D,K,B,J, L.	G

TABLE 6.3.B - STATUS OF MANUAL WORKERS

10 Firm Sub-Sample, N.W. London

	January 1970			January 1975		
	Hourly Manual	Staff Weekly	Both	Hourly Manual	Staff Weekly	Both
Toolmakers	D,K,B, A,J,L, H.	A,Q.	G	G,K,B, J,L,H.	G,A,Q.	
Electricians	D,K,B, A,J,L.	Q	G	D,K,B, A,J,L.	G,Q.	
MTCE.Fitters	D,K,B, A,J,L, H.	Q	G	D,K,B, A,J,L, H.	Q	G
Inspectors	D,G,B, J,L,H.	Q	K,A, G.	D,B,J, L.	Q	G,K, A,H.
Storekeepers	D,K,G, B,Q,J, L,H.		A	D,B,Q, J,L,H.	K	A,G.
Male Process	D,K,G, B,A,Q, J,L,H.			D,K,B, A,Q,J, L,H.		G
Labourers	D,K,G, B,A,Q, J,L,H.			D,K,G, B,A,Q, J,L,H.		
Female Process	D,K,G, B,A,Q, J,L,H.			D,K,G, B,A,Q, J,L,H.		

Noticeable features in Table 6.3 include the preponder-
ence of timework methods of payment, even for process workers
(a considerable contrast to earlier studies in the engin-
eering industry - see, for example, Robinson and MacKay,
op.cit.), the absence of major change in both status and
pay, methods during the five year period and the low
proportion of employees on staff status.

The evidence in Table 6.3 directs us back to the basic issue of the size of the pay packet, and the squeeze on internal pay differentials between 1970 and 1975. The earlier Tables 6.1 and 6.2 showed that the pay structure had indeed been maintained, but in a highly compressed form. These five years apparently witnessed a double squeeze on differentials, in that differences between manual occupations were being eroded at the same time as the differences between workers within the same occupations.

Discussion

The evidence presented in this and the preceeding chapter (Section III) points to a structured system of internal pay relativities based on the skill content of jobs which is common to all the firms in the sample when standard hourly earnings are used as the form of measurement. There were situations where semi-skilled workers earned more than skilled in the same firm, but these were exceptions. It is possible that had gross weekly earnings been used, a somewhat less tidy and seemingly unstructured situation would have emerged. Few of the workers within our 'sub-market' were paid by piecework; male and female process workers in firms A,Q and H were the exceptions shown on Table 6.3A. This may have contributed to the generally 'tidy' structure that emerged; tidier than some earlier studies within this subject area. Derek Robinson, for example, commented (Ref.27, pg.71) 'It is clear that in practice, in Britain at least, there is no neat or tidy internal wage structure in many parts of industry'. (a bold statement in view of the very limited number of studies actually carried out). Robinson's findings are illustrated by his Table 7.8 which was reproduced in Chapter 2. What is a 'neat or tidy' wage structure is a question open to debate. More than one view can be taken of the same data.

If, for example, Robinson's findings for his 'Labour Market 2' shown in his Table 7.8 are reworked to show the rank order covering the four categories of job common both to his table and the N.W. London study, the results can be given a different interpretation, as Table 6.4 shows (following page). Out of the 23 firms shown, only 4 employed semi-skilled male process workers earning more on average for a standard working week than any of the 3 categories of skilled workers. In only the one instance are skilled maintenance workers paid more than skilled toolmakers. Unfortunately Robinson does not include the categories of storekeeper, female process worker and labourer, but there seems little reason to assume that they would not appear in due rank order below the jobs categories actually shown, thus constituting a pay hierarchy based on standard hourly earnings closely resembling that found within the N.W. London sample of engineering firms.

MacKay reached more cautious conclusions that did Robinson. In Birmingham and Glasgow he found wage structures that 'were often very complex' (op.cit., pg.129), whilst the 'Other Scottish Areas had evolved internal wage structures based on simple and consistent principles', largely attributed to American ownership with a consequent absence of piecework. 'The only generalisation which can be safely drawn' said MacKay 'are that pieceworkers were more highly paid than timeworkers of the same skill, and that treating timeworkers and pieceworkers as separate groups, earnings tended to increase with skill'.

TABLE 6.4 - INTERNAL PAY RELATIVITIES IN ROBINSON'S
L.M.2 REWORKING DATA FROM HIS TABLE 7.8
(REF.15 pg.243) SHOWING RANK ORDER FOR
FOUR OCCUPATIONS.

Job Firm	Toolmaker	MTCE. Electrician	MTCE. Fitter	Semi Skilled Process (M)
A	−	1	−	2
B	1	2	3	4
C	1	1	1	4
D *	1	1	2	1
E	1	3	2	4
F	2	3	3	1
G *	1	3	4	2
H	1	2	−	3
I	1	−	2	3
J	1	2	3	4
K *	1	3	4	2
M	1	3	1	4
N ⫻	2	2	1	4
O	1	−	2	3
P	1	2	3	4
Q	1	2	3	4
R	−	1	−	2
S	1	2	2	4
T *	1	3	4	2
U	1	3	−	2
W	−	1	1	2
Y	1	2	3	4
Z	1	2	2	4

* Indicates semi-skilled paid higher than skilled.

⫻ Indicates maintenance craftsmen paid higher than
toolmakers.

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What appears to emerge from the 'combined results of
the Robinson, MacKay and N.W. London studies is that
piecework and overtime earnings have blurred attempts to
find clear coherent patterns. However, where average
standard hourly earnings are used for measurement and the
sample contains mainly timeworkers, then a clearer picture
does emerge of the internal pay relativities. This is in
accordance with Lerner Cable and Gupta's comment (Ref.19,
pg.3) 'Thus, wage differentials are more orderly at the
rates than earnings level, and more consistent with union-
management requirements of a wage structure'.

In addition to showing a fairly strucuted system of
pay relativities, the N.W. London results reported in this
chapter also provided evidence of a powerful squeeze on
differentials that appears to have taken place over the
period 1970-75 within the labour market. As noted, this
squeeze had a dual effect, diminishing both the inter-
occupational differentials, e.g. process worker to toolmaker,
and intra-occupational differentials, e.g. from highest
to lowest paid toolmakers. Aspects of this - as well as
the actual structure of inter-occupational pay differentials -
are further reflected in Table 6.5 below.

TABLE 6.5 - AVERAGE EARNINGS OF TOOLMAKERS, FITTERS, AND
          MALE SEMI-SKILLED PROCESS WORKERS RELATIVE TO
          LABOURERS AS SHOWN BY MACKAY,*   THE NEW
          EARNINGS SURVEYS⧸ AND THE N.W. LONDON SURVEYS
(Based on standard working week, indexed to Labourer = 100)

Occupa-tion	Glasgow* June 1966	B'ham.* June 1966	N.W. London Sept. 1970	N.W. London April 1975	N.E.S.* April 1970	N.E.S.⧸ April 1975
Tool-makers	160	165.7	153.5	134.8	148.9	131.2
Fitters	148.1	169.8	138.1	124.7	133.0	129.6
M. Process	127.9	137.5	119.5	115.7	N/A	N/A

Toolmakers in two of MacKay's sample areas were earning, on average, nearly two thirds more than labourers for a standard working week in 1966. By 1975 both the N.W. London survey and the official New Earnings Survey were showing toolmakers as earning only a third as much again as labourers. Whilst, admittedly covering different samples of engineering workers, these results do provide an interesting contrast and give evidence of a decline in differentials.

Previous studies, though not within local labour markets, have documented a historical squeeze on skill differentials. Knowles and Robertson (Ref.64) found substantial reductions in the skilled wage rate differential between 1880 and 1950 in a sample of industries, most of this reduction being attributable to the two war periods. Reynolds and Taft described (Ref.65) a secular decline in occupational wage differentials in both the U.K. and U.S. over the last half century. Routh documented a similar trend (Ref.66) for both manual and white-collar workers, and skilled and unskilled manual occupations. J.R.Crossley (Ref.61, pg.205) tabulated the Skill Differentials between skilled and unskilled male workers using hourly rates, and showed the ratio as declining from 1 to 1.31 in the Engineering Industry in 1939 to 1.19 in 1946, but with this last ratio still standing in 1959. This again points to the social conditions created by war as leading to decreased differentials. Hunter and Reid provided similar evidence (Ref.18, pg.95) and gave a number of possible explanations, including a decline in the skill levels as between the different occupations brought about by rising standards of education, a decrease in the supply of unskilled labour, and imprecision in methods used to classify occupations.

1970-75 was not, however, a period of war, although it may well have been one of rapid social change. Historically we are still too close to this period to make an adequate judgment. Nor did this period experience the conditions Hunter and Reid described (op.cit.) of 'skilled employees, with a high occupational attachment, are to some extent in oversupply'. Local personnel managers in N.W. London frequently grumbled about a shortage of skilled as opposed to unskilled manual workers throughout this period. The accuracy of their perceptions was confirmed by the Information Department of the Engineering Industry Training Board who were and are seriously concerned by the drop in apprentice training in London and elsewhere.*

A similar process within the Engineering Industry and within a local labour market area was documented by Brown and Sisson (Ref.49, pg.20) who said of their sample of Coventry engineering workers covering the period 1964 to 1973 '....within plants there has been a strong tendency for differentials between different occupations to narrow; that is, for the internal pay structure to be compressed. Within occupations, however, the earnings levels of representatives of those occupations in different factors.... have maintained a fiarly constant scatter in Coventry'. This suggests that the trend towards diminished differentials may have resumed again in the nineteen sixties. Whilst this dissertation eschews any general explanation for pay structures and relativities, note was made earlier of the likely influence of government pay policies, both Conservative and Labour, covering the last decade, which has favoured the lower paid workers. It is also interesting to note that the

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*Further evidence on the shortage of skilled workers is provided by the recent document 'Training for Vital Skills' published by the Manpower Services Commission, 1976.

forces of supply and demand do not appear to have had
much influence in pushing up the wages of skilled workers
relative to unskilled, despite the apparent shortages of
skilled craftsmen. In this respect the N.W. London results
correspond with those of MacKay and Brown and Sisson (op.
cit.). MacKay commented that 'The failure of the internal
wage structure to respond to external labour market
conditions in part reflects the strength of equitable
comparisons within the plant' (pg.128). It is reasonable
to surmise that this process was also at work within the
N.W. London firms, but considerably reinforced by
Government pay policy and the policy of the big unions.
The changed relative position of female process workers
provides an interesting case study. In recent years much
of the credit must be given to the impact of government
legislation, but again this development has to be placed
in its historical context. J.R. Crossley (op.cit., pg.208,
table 19) shows the 'sex differential' (female hourly rates
as a percentage of male unskilled hourly rates, based on
Ministry of Labour statistics) in the engineering industry
as standing at 53.8 in 1939, 72.7 in 1946 and 80.4 in 1959.
Table 6.1 above showed female process workers in the sample
of firms in N.W. London at a 'sex differential' (i.e. median
standard hourly earnings of female process workers relative
to labourers) in 1970 of 96.4 and in 1975 of 99.4.

The squeeze on intra-occupational pay ranges within
firms attracts a number of possible explanations. Informal
discussions with the local personnel managers suggests that
a large part is due to tighter administration of pay
schemes within companies linked with the increased use of
job evaluation and trade union pressures for a negotiated
'rate for the job'. It is noticeable that in Table 6.2B

for 1975 a number of zero signs appear, indicating that
all workers in that particular job category are paid the
same standard hourly earnings. This means, amongst other
things, that new employees are not so heavily disadvantaged
compared to long service employees as were many in the firms
studied by Robinson.

If these recently accelerated trends towards diminished
differentials reported in the Coventry and N.W. London
labour market studies hold true for the country as a whole,
then what may amount to a social revolution would appear
to be taking place within pay structures. Pay differentials
are based on a strong tradition of custom and practice; as
Barbara Wootton observed 'It is not therefore surprising
that the maintenance of standards, absolute or comparative,
should be woven as warp and woof into the texture of wage
discussion.....' (Ref.67, pg.162). And yet these differen-
tials are being eroded to a point where the money differences
will seem insignificant. Should this trend, in fact,
continue, it raises possibilities of increased industrial
action by trade unions representing skilled workers, or
action within unions that have recently recruited increased
numbers of semi-skilled workers by militant sections of
skilled workers in an attempt to restore differentials.
Local strikes by toolmakers, for example, are one likely
outcome. It also means that the financial motivation for
youngsters leaving school to serve long apprenticeships is
going to diminish yet further, again with interesting con-
sequences. An urgent enquiry into the supply of, demand
for, training, pay and status of skilled workers normally
reckoned to be vital to manufacturing industry would seem
to be called for.

CHAPTER 7

Results of the Local Labour Market Labour
Wastage Research Project.

In this chapter the results of the investigation of
aspects of labour wastage amongst the eight manual occu-
pations within a sub-sample of the manufacturing firms
in North West London co-operating in the pay survey
described earlier are presented and discussed.

This investigation had two major aims. The first was
to add to the limited stock of empirical data on the nature
of labour wastage in this country, using a more discriminate
and reliable system of occupational classification than had
been the rule in earlier studies. The second was to provide
data on wastage that could be used in conjunction with the
information available from the pay surveys, and presented
in earlier chapters, that would permit an examination of
the relationship between pay and labour turnover within
the context of the local labour market. This particular
relationship will be examined in the next chapter, as will
the observed relationship between local unemployment levels
and turnover.

'Surprisingly little attention' says Parnes (Ref.1,
pg.29) has been given in research on labor mobility to
analysing the problem of classifying occupations'. He
might have gone further, and said that surprisingly little
attention has been given to discriminating between different
occupations in earlier investigations. Studies mentioned
in Chapter 2, such as those by Palmer (Ref.3), Reynolds
(Ref.9), and Rice Hill and Trist (Ref.14) made little attempt
to distinguish between different categories of manual
worker. The occupational classification system used in this

study was the same as that used in the pay surveys, and discussed in Chapter 3. Other relevant aspects of methodology also discussed in that chapter included the indeces of labour wastage used, namely 'labour turnover' and 'completed length of service'. Attention was focussed on the actual movements by workers out of jobs with these firms which took place during the five year period, rather than the 'propensity to move'. This is in the tradition of earlier labour wastage studies, for as Parnes also says (op.cit., pg.17) 'But if mobility is regarded as the propensity to move, there are serious problems involved in measuring it directly, for propensity to move has no operational meaning except in terms of specific circumstances and specific incentives'. Use of the actual numbers leaving has the advantage of dealing with 'accomplished' facts which are measurable, and are available wherever adequate personnel records are maintained by employers.

Information on labour wastage was not forthcoming from all twenty firms. A few of the firms were unwilling to co-operate, and others did not possess adequate historical personnel records. In the event nine firms co-operated in supplying information, which provided a total coverage of approximately 12,000 manual workers. A considerable amount of time was spent in the personnel departments of these firms sifting and tabulating data.

Labour wastage is a highly complex subject. It was not the intention of this project to examine all facts of the subject, but rather to concentrate on factors directly relevant to the aims of the project, outlined in the Introduction, and which were readily available from personnel records and official sources. These factors included the number, occupation, sex and firm of leavers from the sample of firms, and the changes that had taken place from year to

year in pay levels, viewed within the context of changes in employment within the local labour market area.

As noted in Chapter 3, a distinction was not made between so called 'voluntary' and involuntary' leavers, as had been the case in some of the earlier studies cited. A number of firms within the sample did not keep a note of reasons for leaving, with the exception of 'dismissals' and 'redundancies'. There appeared to be no valid and reliable way of distinguishing between 'voluntary' and 'involuntary' leavers, and indeed these appear to be highly questionable distinctions. Accordingly, all leavers with the exception of those declared redundant have been included. This, in effect, measures the labour wastage requiring replacement by further recruitment - a form of measurement particularly pertinent in Personnel Management and the frame of reference of this project.

It is interesting to note that included amongst our sample of firms is the Glacier Metal Company. This firm featured in the classic study of labour wastage conducted by Rice Hill and Trist, and has been extensively quoted since then (e.g. references 20, 39, 40, 42, 55). The N.W. London study can reasonably claim to rest on a somewhat better sample than did this earlier famous Tavistock study. All the firms within our sub-sample lay within five miles of firm A, i.e. they lay within the 'blue zone' shown in Maps 4.8 and 4.11 in Chapter 4, and were therefore competing with firm A and with each other for manual labour. In the main there would have been manual workers resident in the dendrogram socio economic group A, B and C shown in Map 4.11.

Section I - Labour Turnover

A - The 5 year Study 1970-74

Labour turnover, or the rate at which workers were leaving jobs, was tabulated and analysed for each of the five

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years 1970-74. Six firms co-operated in this study, and all eight manual occupations were covered (see Table 3.3 for the numbers employed).

The information gathered has been summarised in the tables below. Table 7.1 shows a 'league table' for the eight manual jobs, with firms enjoying the lowest labour turnover being at the top of each list. Considerable differences in turnover are to be seen between different firms and different jobs. Annual turnover figures ranged from zero to 200 per cent (ignoring firm L which shows the highest turnover figure, but in a year in which an estimate had to be made because data was only available for a proportion of the year in question). The male manual occupations of storekeeper, process worker, and labourer generally showed the highest turnover rates. In contrast to this, skilled male occupations, particularly inspectors, showed the lowest rates.

One test of whether there was an association between turnover and skill is provided by an examination of the mean turnover over the 5 year period covering all jobs and firms in the final columns of Tables 7.1.i to viii. Taking an average of these figures provides us with an unweighted average for the 6 firm sub-sample, and provides the following five year mean annual turnover figures:

Toolmakers	22.40%
Electricians	26.88%
Mtce. Fitters	28.22%
Inspectors	13.95%
Storekeepers	67.07%
Male Process	52.78%
Labourers	62.13%
Female Process	35.37%

Labour Turnover 1970 – 74 for 6 Firms   Table 7.1

A League Table for 8 Manual Jobs

i. Toolmakers

1970		1971		1972		1973		1974		5 year Mean	
R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.
Q	5.55	B	0	B	2.08	A	5.20	B	12.48	B	7.07
A	8.08	A	6.78	A	9.27	B	12.48	L	12.51*	A	8.63
B	8.32	Q	10.26	G	10.91	Q	11.99	A	13.8	Q	11.18
G	11.48	G	12.25	Q	12.10	G	15.36	Q	16.05	G	14.16
L	36.0*	H	28.56	L	25.02	H	57.12	G	20.8	L	36.26
H	85.71	L	29.19	H	71.4	L	79.23	H	42.84	H	57.13

ii. Electricians

1970		1971		1972		1973		1974		5 year Mean	
R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.
A	0	Q	5.55	Q	9.52	A	0	Q	24	Q	12.36
G	0	G	6.25	A	20	B	6.66	B	26.64	B	15.92
Q	0	B	6.66	B	20	G	18.18	A	40	A	20
B	20	A	40	L	45.45	Q	22.75	G	40	G	23.65
L	90*	L	45.45	G	53.83	L	76.9	L	54.54*	L	62.47

iii. Maintenance Fitters

1970		1971		1972		1973		1974		5 year Mean	
R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.
H	0	H	25	Q	0	H	0	H	0	H	10
B	25	G	26.3	H	25	Q	0	Q	0	Q	16.66
Q	33.33	L	30	B	26.64	B	13.32	L	27.27*	B	31.65
L	60*	B	40	G	31.25	L	18.18	G	30.76	L	40.09
G	60.9	Q	50	L	40	G	64.26	B	53.28	G	42.69

*Estimated from incomplete data

iv. Inspectors

1970		1971		1972		1973		1974		5 year Mean	
R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.
H	0	L	0	H	0	H	0	G	0	Q	9.31
Q	0	Q	8.70	Q	4.17	A	6.24	H	0	G	10.05
A	4.53	A	9.6	B	6.90	B	6.90	Q	11.76	A	10.69
G	10	G	11.11	G	12.5	G	16.66	A	17.04	B	14.06
B	25.74	B	12.92	A	16.02	L	20	B	17.85	L	19.58
L	N/A	H	100	L	25	Q	21.91	L	33.33*	H	20

v. Storekeepers

1970		1971		1972		1973		1974		5 year Mean	
R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.
A	8.32	B	9.99	Q	6.98	B	10.4	A	33.28	B	22.57
Q	10.0	Q	15.0	B	15.54	A	38.4	Q	40.43	Q	22.88
B	23.31	A	21.56	A	35.7	Q	42.0	B	53.6	A	27.45
L	33.33*	L	77.77	L	50.0	H	77.77	H	155.54	H	99.99
H	66.66	H	88.88	G	83.3	G	80.0	G	200.0	L	100.22
G	133.33	G	150.0	H	111.1	L	100.0	L	240.0*	G	129.33

vi. Male Process Workers

1970		1971		1972		1973		1974		5 year Mean	
R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.
Q	21.82	B	12.45	B	16.70	B	24.35	B	43.78	B	27.22
B	38.88	Q	14.47	Q	19.50	Q	41.90	G	45.71	Q	29.62
G	50.97	A	53.93	H	44.44	A	56.76	Q	50.67	G	57.40
A	62.98	G	68.06	G	61.72	G	60.58	A	66.46	A	60.82
H	83.88*	H	111	A	63.98	H	122.22	H	83.33	H	88.82

* Estimated from incomplete data

vii   Labourers

1970		1971		1972		1973		1974		5 year mean	
R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.
H	0*	H	0	H	0	H	0	H	0	H	0
Q	15	Q	22.16	Q	16.66	A	29.4	Q	28.28	Q	25.99
G	52.17	G	33.28	A	20	Q	47.74	G	55.9	A	28.92
A	59.15	B	33.3	B	53.28	L	53.83	A	57.12	G	53.23
L	90*	A	38.08	G	58.17	G	68.64	B	86.64	B	85.29
B	140	L	90	L	90	B	113.22	L	262.38*	L	117.24

vii   Female Process Workers

1970		1971		1972		1973		1974		5 year mean	
R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.	R.O.	%L.T.
H	0*	H	0	Q	14.13	Q	13.18	B	22.4	Q	17.17
B	22.22	Q	8.82	B	30.54	B	17.60	Q	26.58	B	25.57
Q	23.26	L	33.63	G	43.03	H	25.0	H	33.33	H	26.66
L	27.27*	B	34.91	L	47.06	G	39.08	G	40.45	L	39.81
G	62.47	G	45.36	A	55.05	L	50.94	L	42.21	G	46.08
A	63.86	A	54.78	H	75.0	A	54.19	A	56.86	A	56.94

*Estimated from incomplete data

These results underline the fact that skilled workers enjoyed lower turnover rates than semi-skilled or unskilled categories. However, the highest rate is shown by the storekeepers* conventionally regarded as semi-skilled, and exceeding the figure for unskilled labourers. Both male and female process workers show lower turnover rates than either the unskilled labourers or the storekeepers.

Certain firms appear to enjoy consistently lower turnover rates than others. One of these is firm Q, where the annual turnover ranged between the limits of zero and 50 per cent, with a mean average over all jobs of just 18 per cent. Firm G, on the other hand, suffered from turnover rates of up to 200 per cent, with a mean average over all jobs of 47 per cent. Firm L was even less fortunate, with a mean average of 59 per cent.

Variations also show from year to year, although it is significant that skilled workers show samller fluctuations and a different pattern over the years to semi-skilled and unskilled workers (a point discussed later). 1974 seems to have been a particularly bad year for most firms.

The question of whether female workers show higher turnover rates than males has frequently been discussed (Ref. 39, 40 & 42). Most comparisons have been very crude, making little or no distinction for the type of job or level of skill the men or women workers have to cope with. In this study a comparison was made between male and female process workers, (although it must be stressed that the tasks undertaken were frequently not identical). Table A.7.1 (Appendix) presents a detailed comparison of male and female process workers, and the results are summarised in Table 7.2 below.

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*Actually the term 'storekeeper' covers both semi-skilled and relatively unskilled personnel.

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TABLE 7.2 - A COMPARISON ON THE LABOUR TURNOVER OF MALE
AND FEMALE PROCESS WORKERS, 1970-74,
AGGREGATED DATA FOR 6 FIRMS.

Process Workers	LTO 1970	LTO 1971	LTO 1972	LTO 1973	LTO 1974
Males	34.13	23.42	25.74	41.23	50.40
Female	50.73	41.03	42.52	44.64	42.67
TOTAL	41.16	31.33	33.18	42.67	47.08

In four out of the five years male process workers
show lower turnover rates. Female process workers,
however, show greater consistency, suggesting that they
were not so heavily influenced by year to year economic
flunctuations. However, this table has to be interpreted
with caution, because one particular firm (Q) employed a
high proportion of the process workers included in the
count. When the relevant data in Table 7.1 is extracted
and re-tabulated in order to make allowance for this, as
in Table 7.3 below, the picture looks a little different.

TABLE 7.3 - A COMPARISON OF THE LABOUR TURNOVER OF MALE AND FEMALE PROCESS WORKERS, 1970-74, SEPARATE DATA FOR 6 FIRMS

Firm	A		B		G		H		Q	
Year/Sex	M	F	M	F	M	F	M	F	M	F
1970	62.98	63.86	38.88	22.22	50.97	62.47	88.88	0	21.82	23.26
1971	53.93	54.78	12.45	34.91	68.06	45.36	111	0	14.47	8.82
1972	63.98	55.05	16.70	30.54	61.72	43.03	44.44	75.0	19.5	14.13
1973	56.76	54.19	24.35	17.60	60.58	39.08	122.22	25.0	41.90	13.18
1974	66.46	56.86	43.78	22.40	45.71	40.45	83.33	33.33	50.67	26.58

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In this firm by firm analysis it can be seen that during the 3 year period 1970-72 little difference existed between male and female process worker labour turnover. On 7 out of 15 occasions in Table 7.3 female process workers show higher turnover rates. But during the two year period 1973-74 male process workers show higher wastage figures than females in 10 out of 10 observations. These results underline the danger of simplistic generalisations to the effect that female labour turnover exceeds that of males.

Although the number of firms participating in the 5 year study was small, the results do suggest that the factors of job, firm, sex, and the particular year of employment are important in accounting for labour wastage. Two of these factors are shown up more clearly still in the bigger sample of firms analysed for the year 1974.

I - B. LABOUR TURNOVER IN 1974

A large sub sample of 9 firms were able to contribute information on labour turnover for the year 1974, and the processed results are presented in Tables 7.4 and 7.5 below. All 6 of the firms featured in the previous section were included.

1974 was a turbulent year for employers and employees alike on account of inflation and an incipient wage explosion and this appears to be reflected in the labour turnover figures. Firms which had maintained good records during earlier year of low labour turnover, such as firm Q, clearly found it harder to retain staff. The inclusion of 3 more firms, in fact, makes little difference to the pattern previously shown in the 5 year study of 6 firms. Occupation, firm, and sex continue to account for considerable variations in labour turnover.

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Table 7.4

LABOUR TURNOVER IN 1974 FOR 9 FIRMS

- A 'League Table' for 8 Manual Jobs

TOOLMAKERS		ELECTRICIANS		MAINTENANCE FITTERS		INSPECTORS		STOREKEEPERS		MALE PROCESS		LABOURERS		FEMALE PROCESS	
FIRM	%	FIRM	%	FIRM	%	FIRM	%	FIRM	%	FIRM	%	FIRM	%	FIRM	%
J	1.64	D	6.82	≠H	0	G	0	J	24.8	K	35.16	H	≠0	B	24.4
B	12.48	Q	24	Q	0	≠H	0	A	33.28	J	35.19	Q	28.28	Q	26.58
L	*12.51	B	26.64	J	11.11	Q	11.76	Q	40.43	B	43.78	G	53.9	H	33.33
A	13.8	J	31.25	D	21.33	J	14.29	D	33.53	D	44.56	A	57.12	K	33.33
Q	16.05	A	40	*L	27.27	A	17.04	B	53.6	G	46.66	J	82	G	39.81
G	20.8	G	40	G	30.76	B	17.88	K	72.22	Q	50.67	B	86.64	L	40.95
H	42.84	L	*54.54	B	53.28	L	*33.33	H	155.54	A	66.46	L	*262.3	D	47.57
								G	200	H	83.33			A	56.86
								L	240*						

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Table 7.5

ii – A Comparison of Male and Female Process Workers within Firms 1974

MALE PROCESS WORKERS				FEMALE PROCESS WORKERS			
FIRM	NO. EMP.	LEAVERS	%T.O.	FIRM	NO. EMP.	LEAVERS	%T.O.
A	164	109	66.46	A	598	340	56.86
B	466	204	43.78	B	125	.28	22.4
**D	490	210	42.86	D	370	176	47.57
G	105	48	45.71	G	309	123	39.81
H	18	15	83.33	H	12	4	33.33
K	91	32	35.16	K	45	15	33.33
Q	1261	639	50.67	Q	316	84	26.58
TOTAL	2595	1257	48.44	TOTAL	1775	770	43.38

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*   Estimated from incomplete data   ≠ Few employed in this job

** Dayworkers only

Discussion on Sections IA and IB

Lloyd Turner, in the study summarised in Chapter 2, concluded that labour turnover was related to skill. In a summary of this and more recent studies of labour turnover, including his own, Silcock (Ref.42) also found the following 'strongly marked characteristics'.

a) The annual rate of labour turnover exhibits wide variation between different firms (5 per cent to 287 per cent)*

b) The majority of terminations of employment are at the request of the employee.

c) The amount of wastage decreases as length of service increases.

d) Wastage is higher among females than males, and higher among married than single women.

e) Wastage decreases as the amount of skill exercised increases.

The results of the N.W. London study reported in Section I agree with conclusions a), but provide considerable qualification to items d) and e). (Item c) is discussed in the next section). Annual turnover for the different job categories varied from 0 to 200 per cent (262 per cent if we include firm L). Variations as between firms for all categories of employee were not calculated. As noted earlier, wastage was not found to be higher amongst females than males when the comparison was confined to semi-skilled employment. Wastage was only found to decrease 'as the amount of skilled exercised increases' if skilled workers were lumped together and compared with the rest. Thus, more highly skilled occupation of storekeeper showed a higher average turnover rate than did unskilled labourer. These results again point firmly to the necessity for discriminate analysis based on occupational categories.

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*Table I on the Glacier Metal Company given in Chapter 2 showed gross turnover rates of between 14 and 51 per cent.

MacKay does not present detailed results on the labour turnover rates which he calculated for the Glasgow and Birmingham engineering firms investigated. On the basis of average quarterly plant quit rates ('voluntary' quits) for all workers, without the benefit of occupational analysis, he concluded that (pg.139) 'The relationship between plant quit rates displays some stability over time inasmuch as there are units which tend to have relatively high or relatively low quit rates in most quarters..... Similarly, a unit with a high (or low) quit rate for one occupational group tends to occupy a similar position for all other groups.....'. This accords with the pattern in N.W. London reported in Section I above.

The findings on male versus female rates of labour turnover warn against the danger of generalising on this topic. If labour turnover is related to skill, and female workers generally occupy the less skilled positions - and less well paid - then it is hardly surprising if their turnover rates have appeared to be higher than those for males in earlier studies! This is not a fair measure of their propensity to leave. An exact match in the occupations filled by males and females may be hard to come by, but the crude match of semi-skilled process work provided in this study did suggest that factors other than sex are likely to provide a more adequate explanation for variations in turn-over rates, and provides fresh support for Parnes' sensible conclusions on this subject (op.cit. pg.109). 'Mobility rates for men and women have been compared in numerous studies, but the resulting evidence is inconclusive...... two important problems which have received insufficient attention complicate any analysis of mobility differentials between men and women. First, pronounced differences in the length of time spent in the labor force by men and women of

all ages may result in statistical measures of mobility that are not at all indicative of their relative propensities to change jobs. Second, because of differences in the occupational composition of the male and female labor force, variations in mobility rates and patterns between men and women may be more a function of occupation than sex'.

The size of firm has sometimes been linked with turnover (e.g. Ingham, Ref.68, Action Society Trust, Ref.69), although this issue has sometimes been confused with that of the significance of the size of the work group. The number of firms in our sample was not large enough to permit of any valid statistical conclusions, but no obvious relationship between these two factors emerges from the data.

Section II – Completed Length of Service

Eight firms were able to contribute data on the completed length of service of leavers during 1974. The results are presented in Tables 7.6 and 7.7 below. A more detailed analysis is shown in Appendix A.7.2. The data has been plotted in profile on graphs for a number of these firms to provide a simple illustration of the inter firm differences, and these are given in Appendix A.7.3.

Once again the data shows considerable variation as between firm, occupation, sex, and year of analysis. Semi-skilled and unskilled workers tended to leave their new employments rather more quickly than did skilled workers. Female process workers show a different pattern from male process workers. For example, more male process workers left in the first 12 weeks of employment, on average, than left during the subsequent 10 years. However, proportionately as many female process workers left during the ensuing two years as left during the first 12 weeks of employment.

It was noted that when personnel records concerning leavers were being analysed and where these contained a note of reason for leaving, a significant proportion of female process workers had left their employers one to five years after commencement giving 'pregnancy' or 'domestic reasons' as the reason.

Probably the most interesting evidence to emerge from these figures was that a number of exceptions exist to the principle which is frequently advanced as if it were a universal law to the effect that the propensity to leave decreases as service increases. (Discussed later, but see, for example, Refs.42 and 54). Toolmakers, electricians and inspectors in a number of firms showed an increased propensity to leave at certain critical stages in their careers. For example, toolmakers in firms A, B and Q who had achieved 2 years of service could, by no means, have been regarded as having 'settled down' (Table 7.6.i).

As has been noted in Chapter 3 the chief virtue of this type of analysis is that it indicates the stability of employees and makes possible a useful forecast of future labour losses. It has, therefore, found much popularity with manpower planners. Authoritative sources (for example, Lane and Andrews,Ref.55) predict that when leavers are plotted on a graph in accordance with their completed length of service, a curve resembling a log normal distribution will result, i.e. this is a phenomenon common to all labour wastage. If transferred onto log normal graph paper and plotted as cumulative data, we would expect this to show as a straight line relationship.

Table 7.6

Completed Length of Service 1974

Analysed by Job and Firm, Leavers expressed as % of number employed

i. Toolmakers

% Leaving \ Firm	A	B		G	H	J		Q	*Average %
0-6 wks	1.15	0		4.17	0	0		1.23	1.31
6wks- 3 mths	0	2.08		0	0	0		1.23	0.66
3mths - 6 mths	0	0		0	0	0		0	0
6 - 12 mths	0	2.08		0	42.85	0		2.47	0.91
1 - 2 yrs	0	0		0	0	0		1.23	0.25
2 - 5 yrs	2.30	4.16		0	0	0		2.47	1.786
5 - 10 yrs	5.75	4.16		10.42	0	0		1.23	4.31
10 yrs +	4.60	0		4.17	0	1.6		6.17	3.31

Excl. Firm H

ii. Electricians

% Leaving \ Firm	A	B	D	G	J		Q	*Average %
0 - 6wks	0	0	2.23	10	0		4	3.25
6wks - 3mths	0	0	0	0	0		0	0
3 - 6 mths	0	0	0	0	6.25		4	2.05
6 - 12mths	0	0	0	10	6.25		4	4.05
1 - 2 yrs	0	0	0	0	6.25		4	2.05
2 - 5 yrs	0	13.33	4.46	0	0		0	3.56
5 - 10 yrs	0	20	0	0	6.25		0	4.37
10 yrs +	33.3	0	2.23	10	6.25		8	4.41

Excl. Firm A

Special notes Tables CLS1

Firms employing small numbers have been excluded from final average % column.

For Firm J only one figure is available for the first 3 months and one for period 1 - 5 years.

For Firm D only one figure is available for first 3 months and for period 3 months - one year.

Persons leaving during these periods are where possible shared equally between the shorter time spans shown in these tables. In the case of odd numbers, the 'odd' person has been included in the earlier of the 2 leavers categories.

iii. Maintenance Fitters

% Leaving \ Firm	B	D	G	J	Average %				
0 - 6 wks	13.33	3.79	15.38	2.7	8.80				
6wks - 3 mths	0	3.32	7.69	0	2.75				
3 - 6 mths	0	1.90	0	0	0.47				
6 - 12 mths	0	1.90	7.69	2.7	2.40				
1 - 2 yrs	0	2.37	0	2.7	1.27				
2 - 5 yrs	6.66	2.37	0	0	2.26				
5 - 10 yrs	13.33	2.84	0	2.7	4.72				
10 yrs +	26.66	2.84	0	0	7.57				

iv. Inspectors

% Leaving \ Firm	A	B	H	J	Q	*Average %			
0 - 6 wks	4.25	7.14	50.0	0	0	2.85			
6 wks - 3 mths	2.13	3.57	0	0	2.94	2.16			
3 - 6 mths	0	0	0	0	0	0			
6 - 12 mths	2.13	0	0	0	2.94	1.27			
1 - 2 yrs	0	0	0	2.86	0	0.71			
2 - 5 yrs	6.38	0	0	2.86	2.94	3.04			
5 - 10 yrs	2.13	7.14	0	0	0	2.32			
10 yrs +	0	10.7	0	8.57	2.94	5.55			

* Excl. Firm H

v. Storekeepers

% Leaving \ Firm	A	B	D	G	H	J	K	Q	*
0 - 6 wks	10.42	24.0	5.0	100	44.44	6.40	38.88	2.13	
6 wks - 3 mths	4.17	2.40	5.0	0	33.33	6.40	27.77	6.38	
3 - 6 mths	6.25	7.20	2.94	0	22.22	5.6	0	2.13	
6 - 12 mths	0	3.20	2.94	20	33.33	0	0	8.51	
1 - 2 yrs	0	10.40	7.35	0	22.22	0.80	0	8.51	
2 - 5 yrs	8.33	5.60	8.23	40	0	0	5.55	2.13	
5 - 10 yrs	2.08	1.16	1.18	0	0	4.0	0	0	
10 yrs +	0	0.80	0.88	40	0	1.60	0	6.38	

*Excl. Firms G and H

vi. Male Process Workers

% Leaving \ Firm	A	B	✝ D₁	✝ D₂	G	H	J	K	Q	Average %
0 – 6 wks	28.66	22.13	13.47	13.52	7.62	38.88	8.37	16.48	7.14	17.36
6 wks – 3 mths	13.41	4.29	13.27	13.33	9.52	22.22	8.15	1.10	6.90	10.24
3 – 6 mths	10.36	2.36	4.69	4.44	6.66	11.11	3.22	2.19	7.69	5.86
6 – 12 mths	3.05	1.93	4.49	4.44	8.57	0	2.79	3.30	7.93	4.06
1 – 2 yrs	7.93	1.93	2.04	3.70	3.81	5.55	3.43	1.10	8.17	4.18
2 – 5 yrs	6.10	3.43	1.63	3.88	6.66	5.55	3.22	1.10	6.74	4.29
5 – 10 yrs	2.44	2.79	0.82	0.74	1.90	0	2.15	5.50	2.85	2.13
10 yrs +	6.71	1.28	2.45	2.03	1.90	0	3.86	4.40	2.93	2.84

✝ D_1 represents Day workers, D_2 represents Night workers

vii. Labourers

% Leaving \ Firm	A	B	G	H	J	Q	Average % *
0 – 6 wks	23.81	80.0	11.54	0	52.0	0	33.47
6wks – 3 mths	0	13.33	0	0	48.0	5.0	13.27
3 – 6 mths	0	6.66	3.85	0	10.0	1.66	4.43
6 – 12 mths	4.76	6.66	7.69	0	0	5.0	4.82
1 – 2 yrs	0	0	0	0	16.0	8.33	4.87
2 – 5 yrs	0	0	3.85	0	16.0	1.66	4.30
5 – 10 yrs	19.05	0	3.85	0	2.0	5.0	5.98
10 yrs +	4.76	0	7.69	0	4.0	1.66	3.62

Excl. Firm H

viii. Female Process Workers

% Leaving \ Firm	A	B	D	G	H	K	Q	Average %
0 – 6 wks	8.86	6.40	8.11	9.70	8.33	13.33	4.11	8.41
6 wks – 3 mths	5.35	2.40	8.11	2.59	8.33	2.22	2.85	4.55
3 – 6 mths	9.70	2.40	8.65	6.47	0	4.44	2.85	4.93
6 – 12 mths	8.19	0.80	8.38	3.88	8.33	4.44	3.48	5.36
1 – 2 yrs	9.03	1.60	4.86	3.56	8.33	2.22	3.80	4.77
2 – 5 yrs	7.19	7.20	5.41	4.53	8.33	4.44	4.43	5.93
5 – 1C yrs	2.34	1.60	1.35	4.53	0	2.22	2.22	2.04
10 yrs +	2.84	0	2.70	4.53	0	0	1.90	1.71

Completed Length of Service in 1974

Analysed by completed Length of Service using aggregated data for all firms surveyed

Table 7.7

C.L.S.	Toolmakers	Electricians	Mtce Fitters	Inspectors	Store-keepers	Male Process Workers	Labourers	Female Process Workers	All job categories
0 – 6wks	1.20	2.59	4.73	3.42	10.74	12.47	18.97	7.94	10.16
6 wks – 3mths	0.60	0	2.91	2.05	5.72	8.86	9.77	4.73	6.64
3 – 6 mths	0	1.72	1.45	0	4.46	5.50	4.60	6.99	5.16
6m – 1 yr	1.81	2.59	2.18	1.37	3.07	5.14	4.02	6.03	4.74
1 – 2 yrs	0.30	1.72	2.18	0.68	6.28	4.92	5.17	5.58	4.76
2 – 5 yrs	1.81	3.45	2.18	3.42	6.0	4.55	3.45	5.80	4.72
5 – 10 yrs	3.92	3.45	3.27	2.05	1.67	2.17	5.17	2.42	2.40
10+ yrs	3.61	6.19	3.64	4.79	1.53	2.80	3.45	2.65	2.81
SAMPLE SIZE	332	116	275	146	717	3601	174	1775	7136

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This prediction has been tested by transferring the data shown in Tables 7.6 and 7.7 onto log paper, with the results shown on graph 7.8 below.

These results raise questions concerning the confident predictions by Rice Hill and Trist, Silcock, Lane and Andrew, and others (op.cit.) that the completed length of service distribution closely represents a log normal distribution. As will be seen from the graph, a number of the lines show considerable deviation, particularly in the cases of toolmakers and inspectors, and to a lesser degree, storekeepers and female process workers.

Further data was available from two of the firms, A and G, that permitted tabulation of their completed length of service distributions over the complete 5 year period. These are shown in chart form as graphs 7.9 and 7.10 below. The results are sufficiently similar to those found for 1974 to indicate that 1974 was not atypical in respect of completed length of service patterns and provide further support for the conclusions already drawn.

Graph 7.8   LEAVERS 1974 FROM 8 FIRMS - Completed Length of Service - Cumulative Totals

TIME

10 yrs
5 yrs.
2 yrs.
1 yr.
6 mths.
3 mths.
6 wks.

Legend:
- TOOLMAKERS
- ELECTRICIANS
- INSPECTORS
- FITTERS
- FEMALE PROCESS
- STOREKEEPERS
- MALE PROCESS
- LABOURERS

Log 3 Cycles × Probability

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GRAPH 7.9

C.L.S. FIRM A, 1970-74
Leavers as % of no. employed, intervals of
6 wks/3 mths/6 m./1 yr/2 yrs/5 yrs/10 yrs +

GRAPH 7.18
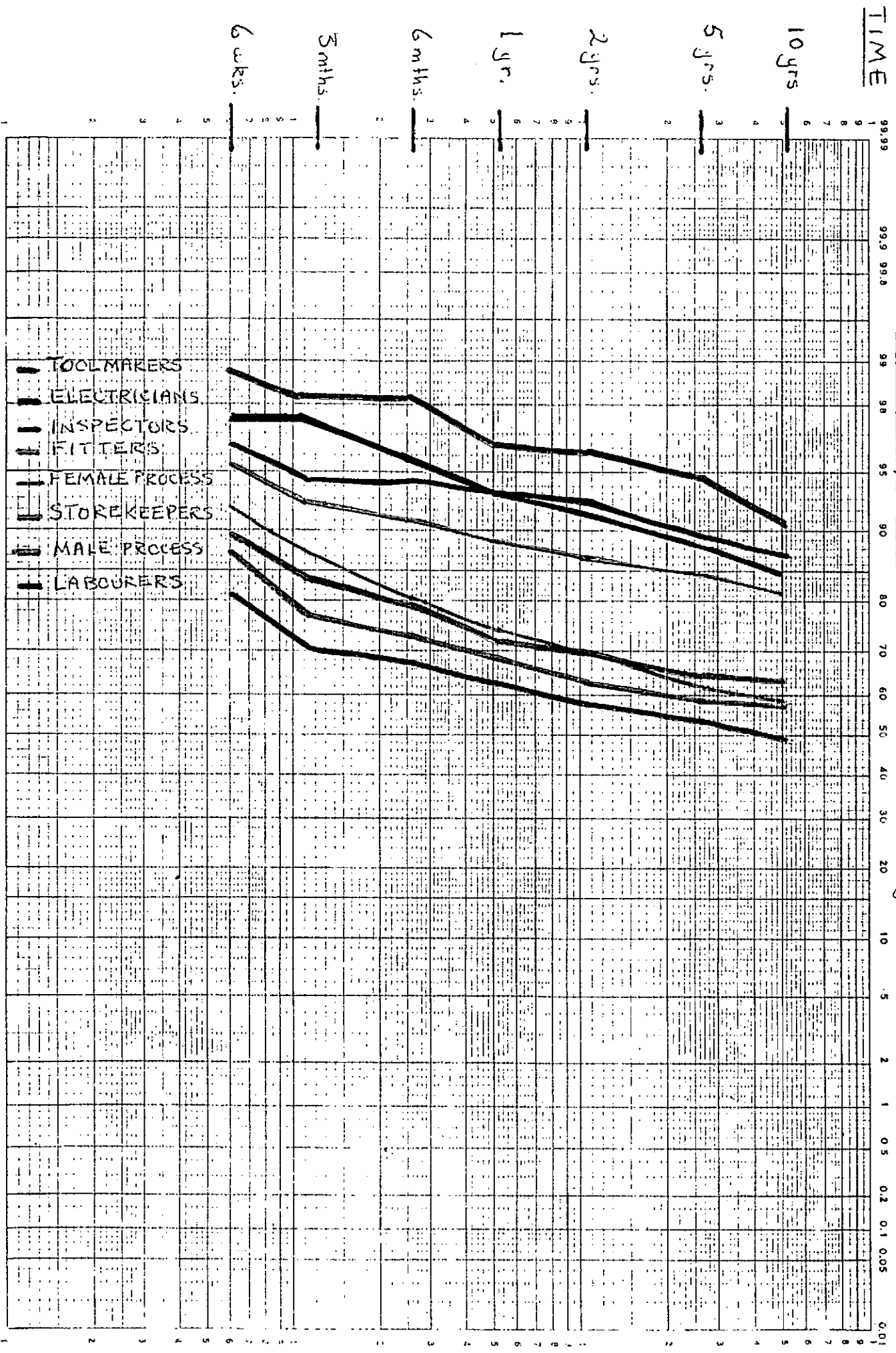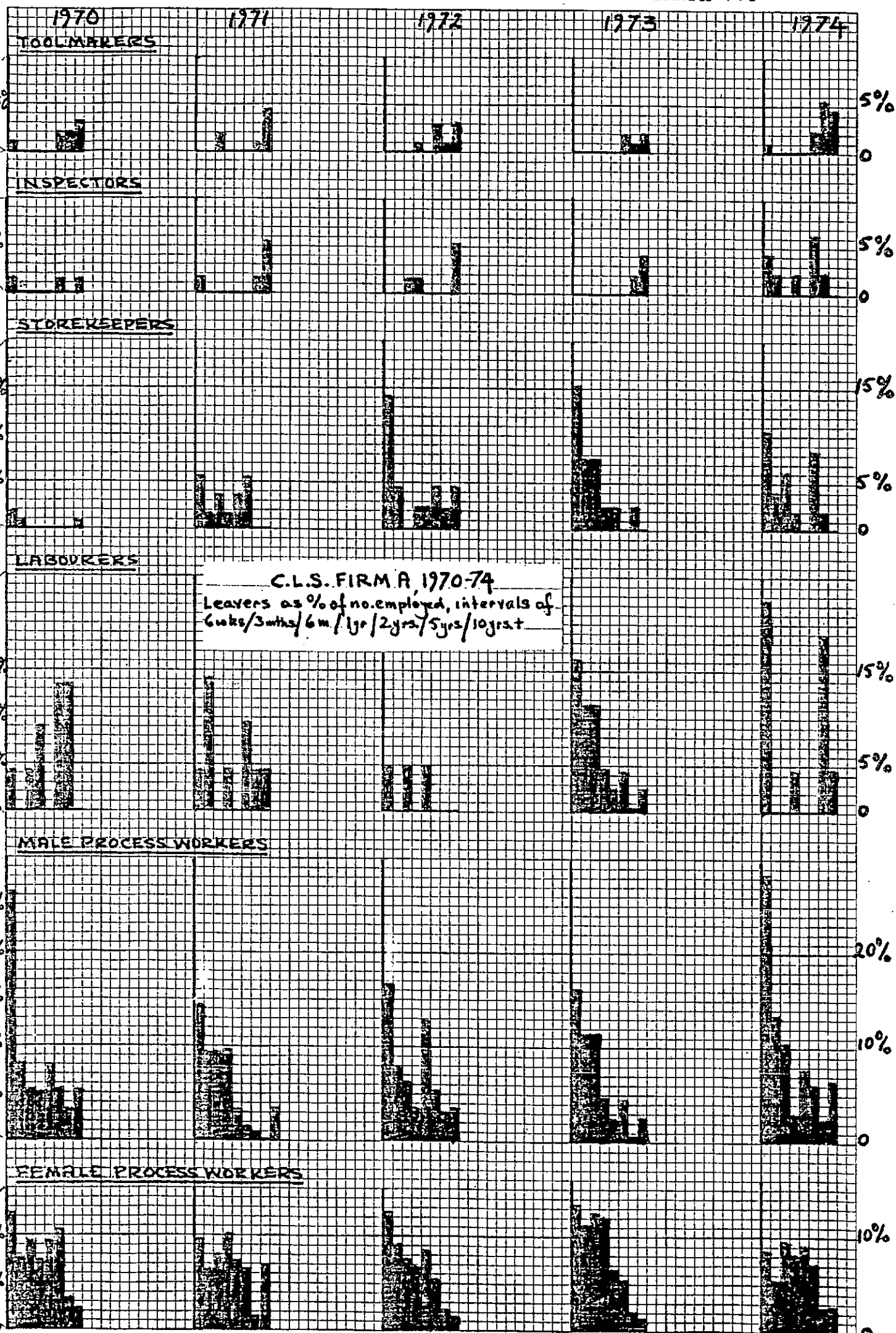
1970 **1971** **1972** **1973** **1974**

TOOLMAKERS
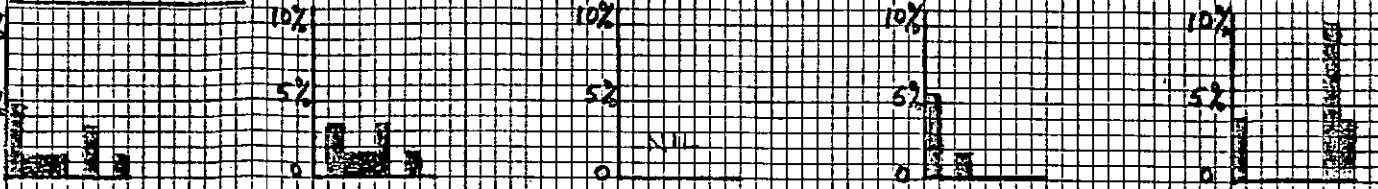
ELECTRICIANS
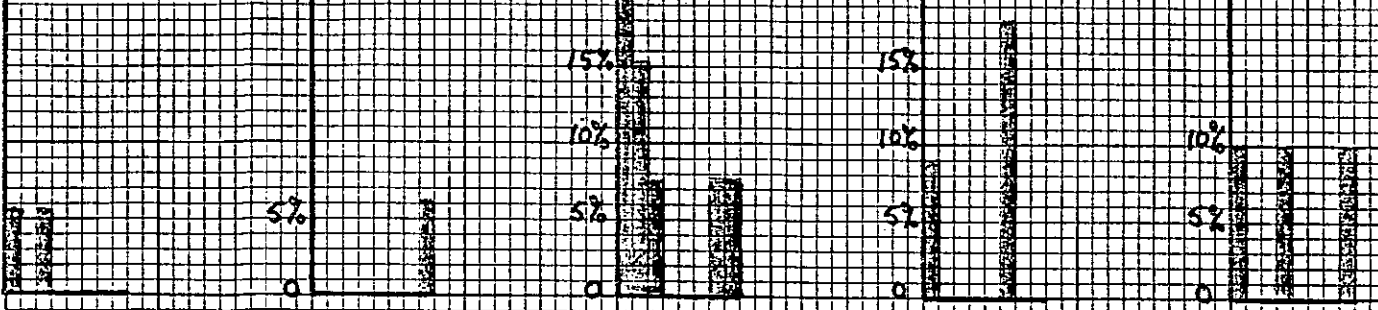
FITTERS
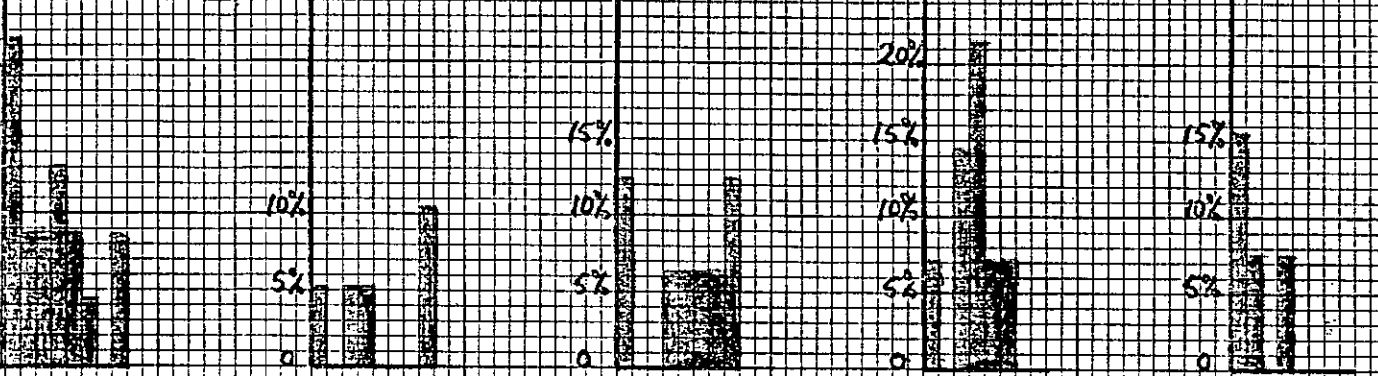
C.L.S. FIRM G 1970-74
Leavers as % of no. employed, intervals of
6 wks / 3 mths / 6 m / 1 yr / 2 yrs / 5 yrs / 10+ yrs.

MALE PROCESS
WORKERS
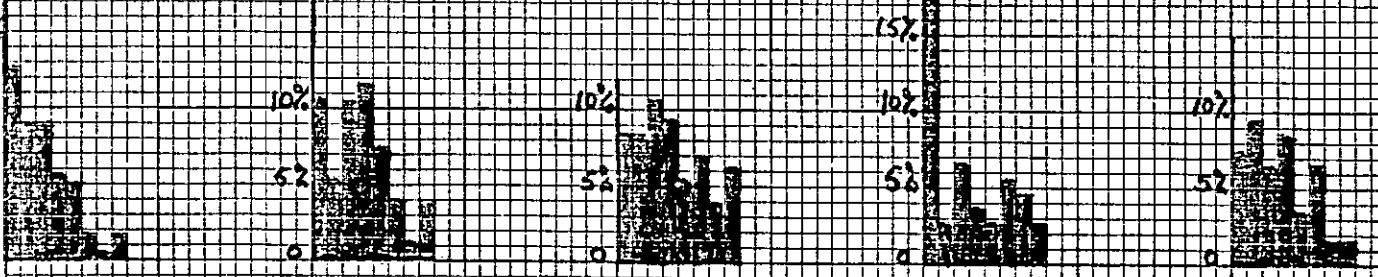
LABOURERS
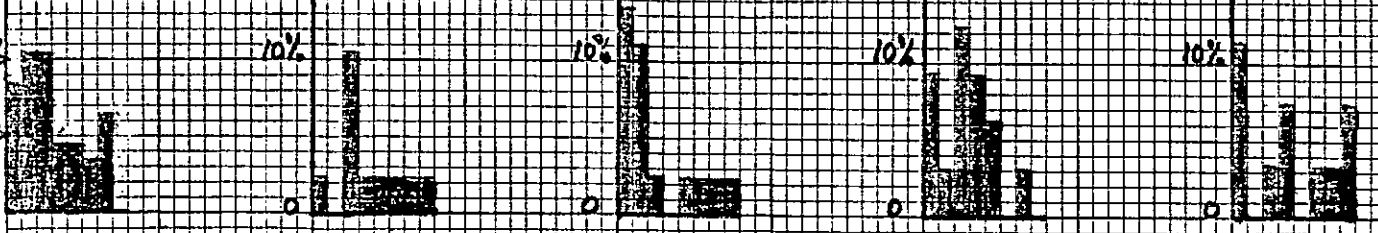
FEMALE PROCESS
WORKERS
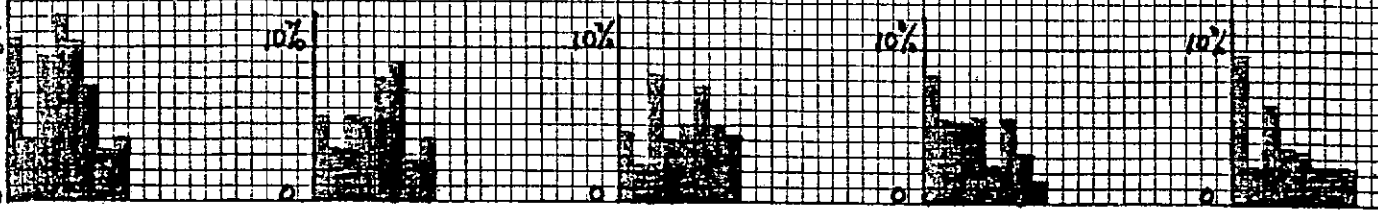
Discussion - Section III

Measures of the stability of labour forces have not usually been included in local labour market studies. Reliance has traditionally been placed on the labour separation rate, despite criticism by statisticians of its inadequacy as a reliable statistic. One exception is provided by Hyman (Ref.20) who used it in conjunction with an analysis of survival curves and the completed length of service distribution. Another is provided by Lloyd Reynolds who had earlier (op.cit, pg.22) analysed 'voluntary changers' in accordance with their length of service in years, finding that 44% of leavers had lasted for only one year or less in their previous employment. Reynolds concluded that 'most labor turnover occurs within a small segmant of the labour force' and the 'propensity to change employment diminishes rapidly with increasing length of service'.

The findings on completed length of service profiles in Section II provides some support for such generalisations, but with qualification. As with labour turnover, a combination of the three factors consisting of the nature of the employer, the skill of the occupation and the predominant sex of the work group appear to account for a large part of the considerable variations in C.L.S. profiles shown in the tables. The first six weeks of employment for semi-skilled and unskilled workers appeared to correspond with Rice Hill and Trist's 'Induction Crisis' (described by them as the first few weeks of employment 'during which a certain number of casualties results from the first mutual interaction between the engaging company and the entrant group' (op.cit, pg.359)), when labour losses reached their greatest frequency. However, this was frequently not the case with the skilled occupational groups of toolmaker,

electrician, and inspector in the eight N.W. London firms.
Fitters were an intermediate case showing heavier losses
in the early weeks of employment. An examination of the
original data used by Rice Hill and Trist shows that these
and other skilled groups were lumped together with the
rather larger numbers of semi-skilled and unskilled workers
in their statistical analysis, thus disguising the nature
of the significant difference between them. Compare their
tables reproduced in Chapter 2 with tables A.7.3.v in the
Appendix for firm J, which was also, in fact, the Glacier
Metal Company. Skilled workers in Table A.7.3 present
vastly different C.L.S. profiles to the semi and unskilled
groups that have been profiled for this company. Here too
is further evidence to support the general proposition
number 4 in the Introduction to the effect that 'Different
manual occupations exhibit significantly different patterns
of labour wastage'. Further research is needed into the
manner in which the different socio-economic groups within
the work force respond to the varied stimuli provided by
employers and the local labour market. Generalisations
concerning the nature and substance of labour wastage will
no longer do.

CHAPTER 8

Labour Turnover, Unemployment and Inter Firm Earnings Differentials Within the Context of the Local Labour Market

Labour wastage is a highly complex subject and considerable debate exists as to the extent, nature and reasons for labour turnover. The full range of this debate is beyond the scope of this project, but a major issue can now be tackled using evidence provided in earlier chapters. This is whether labour turnover is significantly influenced by relative pay levels within the local labour market. Another major - and related - issue is the influence which local levels of unemployment might have upon decisions to leave employment and hence labour turnover rates. Relevant data was also to hand on this aspect of mobility within our local labour market and sample of firms.

Authoritative opinion appears to be more certain about the significance of local unemployment levels than of pay relativities as an influence on labour wastage. Parnes wrote (Ref.1, pg.142) 'That the amount of voluntary labor mobility varies directly with the extent of employment opportunities is amply substantiated by data on labor turnover.....' and 'many, if not most, of the mobility differentials among various groups of workers are explainable, at least in part, by differences in the employment opportunities available to them'. And more recently March and Simon commented (Ref.6P, pg.100) 'Under nearly all conditions the most accurate single predictor of labor turnover is the state of the economy..... when jobs are plentiful, voluntary movement is high; when jobs are scarce, voluntary movement is small'.

On the issue of pay and wastage, so important to the traditional labour economists' assumption that workers will tend to move to jobs offering the highest rewards (economic and otherwise), thus exerting pressure towards equilibrium rates of pay and associated benefits within the labour market, opinion has been more divided. On the one hand, the 'human relations' school have, in recent years, stressed the importance of individual attitudes and group pressures upon workers, whilst the 'institutionalists' have pointed to the 'imperfections' created within labour markets by such influences as trade unions and employers hiring preferences. Derek Robinson concluded (Ref.29, pg.38) 'Above all, there is little evidence, if any, to support the view that more intensive competition in a local labour market, through wage levels, is the way to increase a labour force, or even that this is a necessary defensive tactic in order to retain a labour force'. On the other hand, Angela Bowey comments that (Ref.23, pg.15) 'When employees feel their earnings are not as high as they might earn in some other organisation, they are likely to move to improve their earnings', and she quotes relevant studies by J.R.Long and B.Bowyer (Ref.71), F.J.Minor (Ref.72) and Kerr (Ref.73). Considering the significance of the topic, however, it is fair to note a paucity of studies bearing directly on this issue.

Labour turnover, local unemployment and earnings levels in local firms combine to firm an interesting triangular set of relationships within the local labour market, each factor exerting some influence upon the other two. It was noted, for example, in Chapter 5 that the spread of earnings within our 'submarket' of firms appeared to vary inversely with the level of local unemployment, indicating the possibility of some causal link. The reverse situation

whereby local pay levels might have influenced the level of local unemployment (aspects of the Phillips curve?) was beyond the scope of this project, as indeed were other possible relationships, including the influence of labour quit rates upon local unemployment levels. In order to take some account of the inter-relatedness of these factors, the observed influence of local unemployment levels within the N.W. London labour market is examined first, followed by the relationship between standard hourly earnings and labour turnover.

Labour turnover (as defined in the previous chapter), has been treated as the major dependent variable, rather than recruitment rate, mainly on the grounds that it provides a better indication of workers' response to local economic and employment conditions. A local firm might be paying its workers at rates considerably in excess of the majority of local firms, and yet not be carrying out any recruitment. Any desire on the part of workers with these other firms to move to the high employer is thus thwarted. Indeed, if higher pay levels lead to lower labour wastage, high paying firms are probably going to demonstrate _lower_ recruitment rates (other things being equal) than many lower paying firms within the neighbourhood. This fact would seem to indicate a major conceptual weakness on the part of earlier studies that attempted to measure the movement by workers from low to high paying firms within the labour market in an attempt to find support for the traditional economic theories postulating a tendency to wage equilibrium arising out of such mobility. For example Myers and Maclaurin noted a "slight tendency for movement to be in the direction of higher-wage firms" (Ref.8, pg.23) and Parnes comments (op.cit. pg.181) '....the data show clearly that there is a relationship between the wage level of a

firm and its ability to attract workers'. But as MacKay comments (op.cit, pg.142) '....there is little reason to suppose that job openings are necessarily more plentiful in plants with high earnings'. On the other hand, workers who are dissatisfied with their earnings are relatively free to leave their employment at any time (although likely to be influenced by other factors such as the availability of jobs within the local labour market, information about local pay rates, etc.) which makes labour wastage the better variable for measurement and analysis.

As noted in the previous chapter, only six out of the twenty firms were willing and able to provide data on labour wastage that covered the complete five year period. These firms, A, B, G, H, L and Q varied in size from a few hundred employees to several thousand, which is reflected in the numbers employed within the 8 manual occupations (see Table 3.1 for details). However, the total number of workers covered represents an appreciable sample size and includes 320 toolmakers, 65 maintenance electricians, 50 maintenance fitters, 130 skilled inspectors, 215 storekeepers, 1900 male process workers, 120 labourers and 1500 female proces workers. In the correlation analysis exercise presented below, these manual workers have been disaggregated by occupation and employer in order to avoid distortion of the results by the larger firms.

Section I - Labour Turnover in Relation to Local Unemployment Levels.

The numbers registering as unemployed in the local employment areas of Willesden, Wembley and Hendon as well as the numbers of notified job vacancies, were obtained from the Department of Employment covering the period 1970 to 1974. Collated data on unemployment and vacancies is presented on Graph 8.1 below. (For detailed statistics on local employment

in the areas of Wembley and Willesden see Table A.8.1 in the Appendix).

This graph gives an interesting picture of changes within the local labour market area over the five year period. Unemployment reached its highest levels during this period in the winter of 1971/72, and fell to its lowest level two years later. As might be expected, the level of notified job vacancies varied inversely with local unemployment.

A comparison of the information on males and females over this period highlights the curious fact that female workers appear to have been in shorter supply, relative to demand, than were males. Notified vacancies for women exceed those registered as unemployed for almost the entire period, with the exception of 9 months at the height of the economic recession in 1971/72. Unemployed males exceeded the number of vacancies notified from the commencement of the 5 year period right up to early in 1973. Whilst the actual situation was clearly far more complex than this, the underlying 'market ability' of female workers within the local area may account for some of the differences in male and female mobility patterns which have been noted.

It is unfortunate that official statistics do not contain an occupational analysis of the numbers out of work, or of the registered job vacancies. It is possible, for example, that a shortage of skilled workers persisted throughout this period, even when unemployment was at its peak. Local personnel managers frequently commented on the shortage of skilled workers in the area, although such comments proved difficult to verify.

REGISTERED UNEMPLOYED & NOTIFIED JOB VACANCIES
EMPLOYMENT AREAS OF HENDON WEMBLEY & WILLESDEN 1970-1974

GRAPH 8.1

197
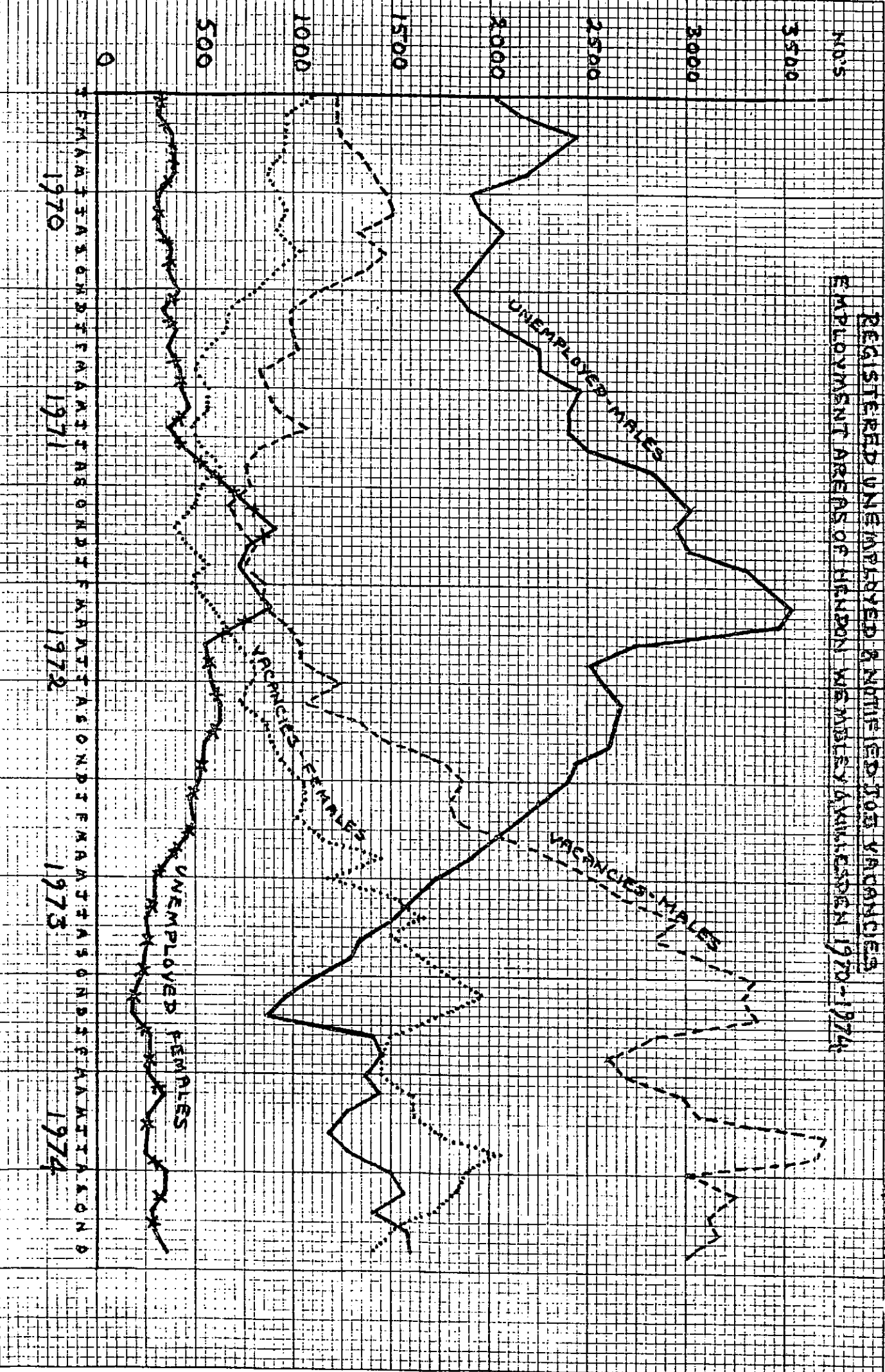
MALE UNEMPLOYED AND LABOUR TURNOVER - TOOLMAKERS

Registered Unemployed males in Local Employment Areas and
Quarterly Separation Rates in 5 manufacturing plants.
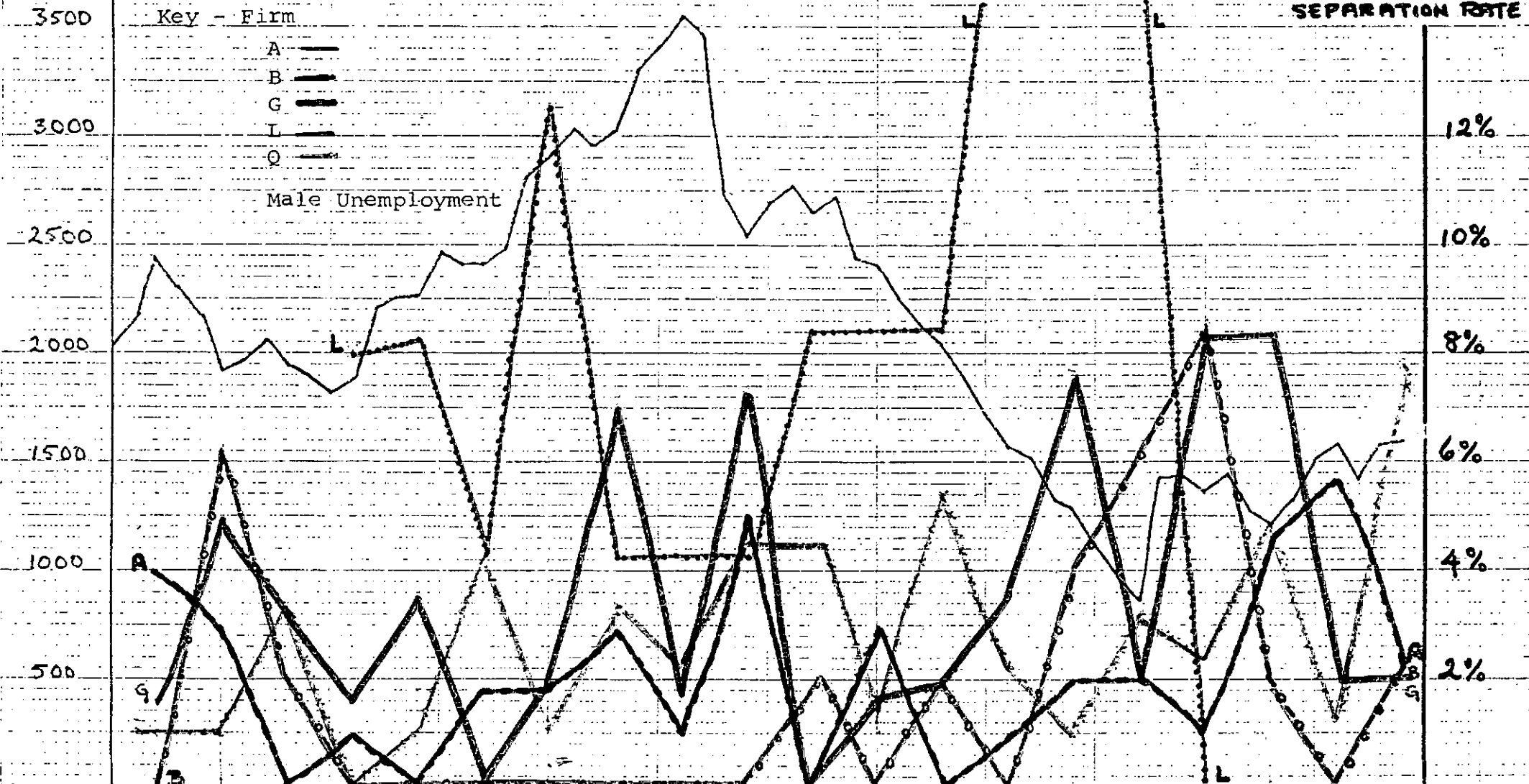
GRAPH 8.3

MALE UNEMPLOYED AND LABOUR TURNOVER - MALE PROCESS WORKERS

UNEMPLOYED

LABOUR TURNOVER

KEY ~ FIRM
A
B
G

Registered unemployed males in Local Employment Areas and Quarterly Separation Rates in 4 plants
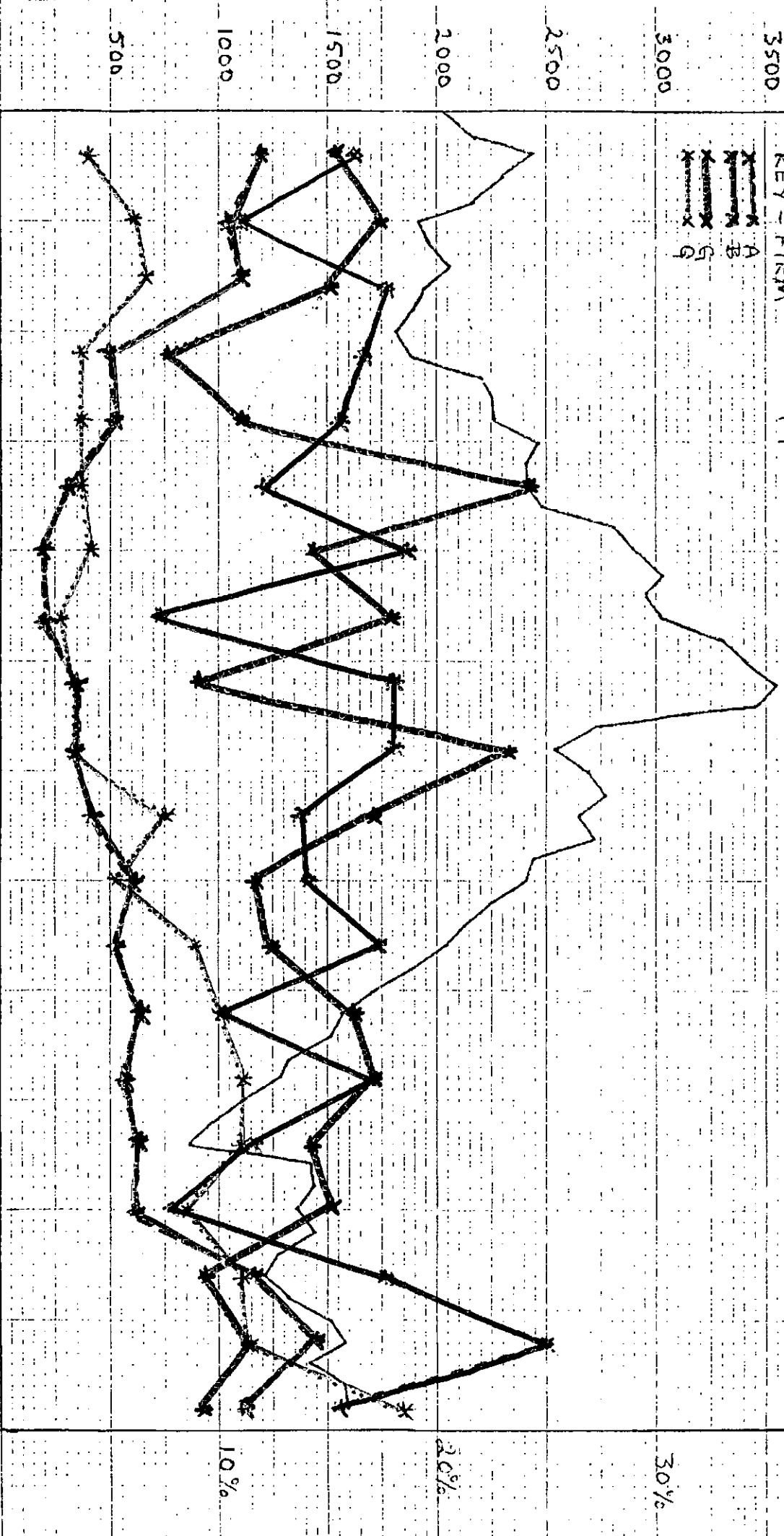
3500
3000
2500
2000
1500
1000
500

30%
2.0%
10%

1970   1971   1972   1973   1974

FEMALE UNEMPLOYED AND LABOUR TURNOVER-FEMALE PROCESS WORKERS.

UNEMPLOYED

Registered Unemployed Females in Local Employment Areas and Quarterly Separation Rates in 5 plants.

LABOUR TURNOVER

KEY

FIRM G
FIRM A
FIRM L
FIRM B
FIRM Q
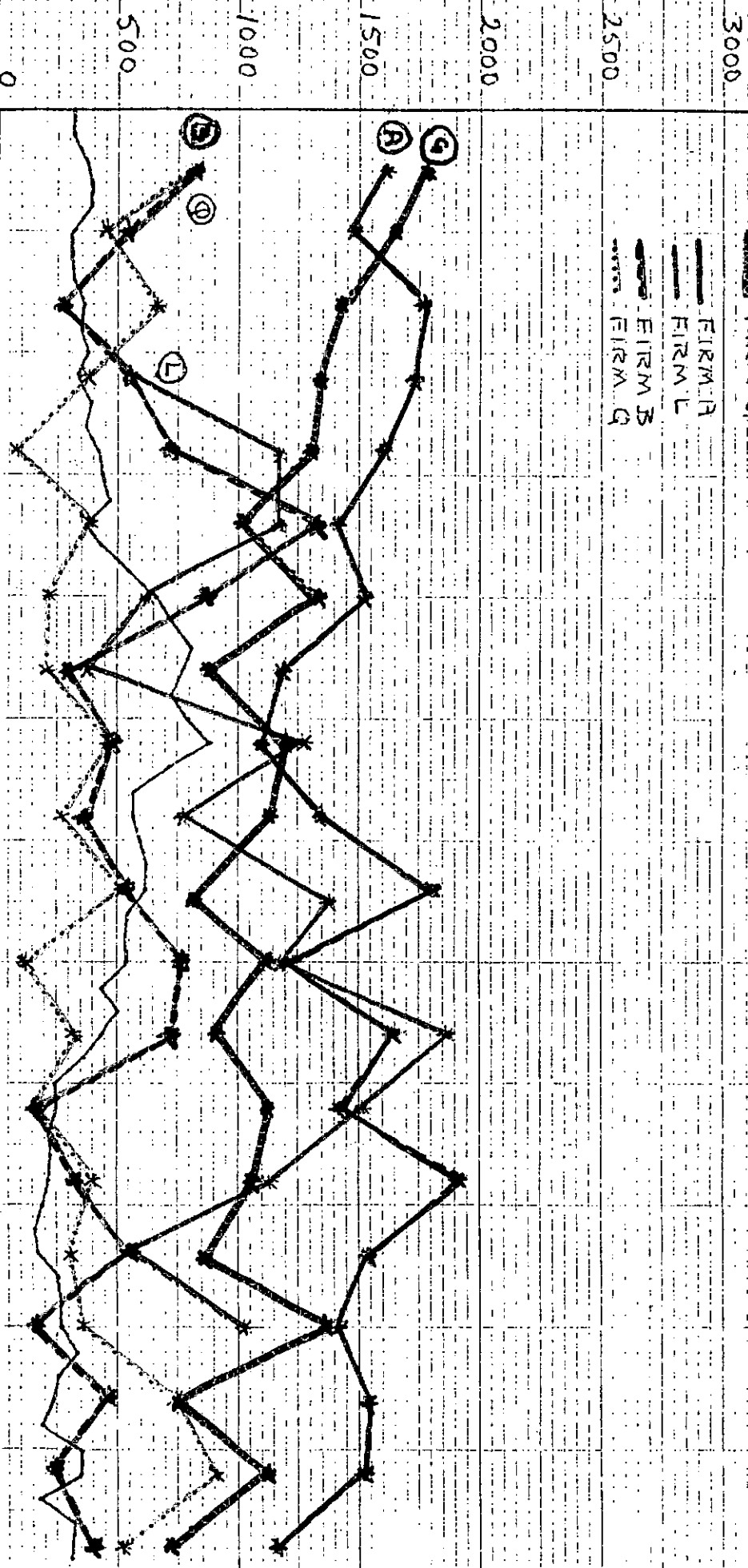
GRAPH 8.4

TABLE 8.5 - SEPARATION RATES AND LOCAL UNEMPLOYMENT LEVELS - I

Correlation between Average Number Unemployed in the Employment District of Wembley and Willesden, and
Unweighted Averages of Separation Rates for Eight Job Categories for the 20 Quarters 1970-74 for 6 firms

A - NUMBERS UNEMPLOYED AND SEPARATION RATES **

Qtr.	Local Unemployed 3 mthly. average		Average Separation Rates							
	Male Adults	Female Adults	Toolmakers	Electricians	Fitters	Inspectors	Storekeepers	Male Process	Labourers	Female Process
1	1720	222	0.57	2.22	3.12	1.67	3.24	4.00	6.69	4.22
2	1651	244	1.28	0	4.67	0.60	5.90	3.85	5.52	3.47
3	1514	216	0.72	0.55	2.17	0.48	5.14	4.55	7.06	2.76
4	1473	233	1.70	2.50	4.01	0.60	3.66	3.76	3.67	2.40
5	1830	278	0.87	3.49	1.32	1.09	6.95	4.98	4.27	2.51
6	1977	305	0.71	1.31	1.32	1.85	3.86	5.46	3.54	2.96
7	2159	384	1.16	0.52	2.44	0.43	11.20	3.76	4.03	2.55
8	2365	600	1.17	0	5.61	0.16	0.62	3.14	2.46	1.83
9	2814	654	0.61	0.76	1.81	0.15	4.64	2.26	3.90	3.27
10	2351	483	1.40	3.27	0.74	0.15	4.20	4.65	2.94	5.17
11	2035	439	0.99	3.88	5.09	0.93	1.36	2.86	5.49	3.77
12	1902	410	0.96	2.83	3.24	1.48	4.41	3.98	3.56	2.59
13	1665	381	1.18	2.22	1.59	1.94	5.64	5.19	6.29	3.06
14	1330	245	2.41	3.43	3.39	1.21	4.94	6.23	6.07	3.43
15	1031	171	2.67	1.66	2.54	0.43	3.80	4.93	3.61	3.17
16	690	117	2.01	3.05	3.12	0.72	3.53	4.04	4.90	2.09
17	1037	166	1.35	4.53	1.75	1.02	3.82	2.89	7.07	2.90
18	959	181	1.66	1.92	2.39	0.95	4.49	5.60	6.39	2.40
19	1055	176	0.75	1.18	5.90	0.90	7.53	5.67	8.09	3.66
20	1084	172	1.16	1.55	4.61	1.02	7.74	5.17	4.47	2.48

** Excluding firms employing small numbers in these job categories.

B - CORRELATION COEFFICIENTS BASED ON TABLE A ABOVE, MALES TO MALES, FEMALES TO FEMALES

Year	Toolmakers	Electricians	Fitters	Inspectors	Storekeepers	Male Process	Labourers	Female Process
1970	-.55	-.1	.16	.76	0	-.19	.47	0
1971	.78	-.92	.91*	-.76	.13	-.90*	-.82	-.89
1972	-.42	-.82	-.62	-.87	.44	-.47	-.25	0
1973	-.55	-.15	-.63	.86	.97ƒ	.67	.67	.53
1974	-.75	-.11	.59	.28	.69	-.14	-.24	-.11
5 Yrs.	-.52ƒ	-.26	-.18	-.23	-.09	-.47ƒ	-.53ƒ	.14

CORRELATION MALE TO FEMALE UNEMPLOYMENT 1970-74 = .92

* Significant at the .1 level   ƒ Significant at the .05 level

Labour separation rates for all 20 quarters were calculated, and are shown in the Appendix (Table A.8.2) covering the 6 firms co-operating in the five year study of labour wastage. The data on toolmakers and male and female process workers was extracted, for purposes of illustration, and has been plotted on Graphs 8.2, 8.3 and 8.4. These graphs also show numbers registered as unemployed, as in Graph 8.1, for the appropriate sex.

Considerable variations in labour turnover between firms and occupations are to be seen. If we assume some causal link between local unemployment and decisions to quit, then a visual inspection of these graphs suggests that local unemployment may have some influence on toolmakers in all the firms concerned, male process workers in firms A, B and Q (but not firm G), and female process workers in firm Q towards the end of the 5 year period. Toolmakers in firm L clearly went through a traumatic time in 1973.

Correlation coefficients have been calculated to see if a statistical relationship exists between turnover and local unemployment levels for categories of worker featuring in the survey. The results are shown in A.8.1 and in the summary tables 8.5A and B.

No clear overall pattern emerges. The five year coefficient values are negative in all but one of the cases, suggesting that in the long term, the wastage from most of the manual occupations may be influenced to a greater or lesser degree by local unemployment. In the cases of toolmakers, male process workers and labourers, the values overall are sufficiently high to support a hypothesis that local unemployment influences their decisions to quit their jobs. Female process workers do not show this pattern.

Only in the year 1972 are most of the signs significantly negative. 1972 was, of course, a year of relative economic depression. In other years a high proportion of positive signs emerge. This evidence suggests that, with the exception of storekeepers and female process workers, unemployment levels within the local labour market only had a marked effect on labour turnover when unemployment reached unusually high levels, and then only on skilled and semi-skilled production workers and labourers. Storekeepers and female process workers continued to leave their jobs at approximately the same rate even when local unemployment was high.

Discussion

It seems reasonable to expect the level of labour turnover in local firms to show a statistical relationship with local unemployment levels. Local unemployments levels are an index of what March and Simon termed 'the perceived ease or difficulty of movement from the employer' (Ref.70, pgs.93-106) and as mentioned earlier, the weight of evidence from earlier studies points to such a relationship.

The proposition tested in this section closely resembled that used by MacKay in his Glasgow and Birmingham local labour markets (op.cit. pg.177), namely that labour turnover will be influenced by the ease or difficulty with which alternative jobs can be obtained within the labour market area. In the study presented above, the labour market area was defined as the local employment areas of Willesden and Wembley, discussed in Chapter 4. The official Department of Employment figures were taken as providing the best guide to the local employment situation, rather than the level of notified job vacancies. Many job vacancies

are not notified to the Department od Employment, a fact confirmed by local personnel managers in North West London and by previous studies (see, for example, MacKay, pgs. 350-356).

MacKay's results appeared to support this proposition, and he concluded (pg.200) that 'In each market and in each group the proportion of quits to separations was inversely related to the level of unemployment'. Manual workers leaving the N.W. London sub sample of six manufacturing organisations, however, displayed a more complex and sometimes apparently contradictory set of responses. As there is little to indicate that our sample of workers was in any way peculiar, apart from the fact that the majority were resident within this particular area, it is interesting to seek for possible explanations for this behaviour.

One possible explanation is that unemployment levels, whilst subject to fluctuation, only once reached levels high enough in the N.W. London area between 1970 and 1975 to seriously inconvenience manual workers looking for employment. Graph 8.1, however, shows unemployment levels as being considerably greater than notified job vacancies right up until the winter of 1972/73 suggesting a general excess of supply over demand for much of the time. It is also possible that the workers employed within the six firms were of a sufficiently high standard to obtain jobs with other local employers at all except the most difficult of times. Certainly N.W. London is known locally as a 'tight labour market', a point which MacKay noted concerning his Birmingham labour market (as against the Glasgow area), and which is linked to his comment that '.....the percentage of unfilled vacancies is of little assistance in explaining variations in quit rates in Birmingham with the sole

exception of unskilled males' (pg.194). Unfortunately
MacKay did not distinguish between occupational groups in
any detail, and so a more direct comparison cannot be
made. It is also unfortunate that the official local
unemployment statistics do not distinguish between the
different occupational groups; as noted earlier, it
was possibly the case that certain categories of workers
were in short supply even when the general level of
unemployment was at a peak and local personnel managers
commented throughout on the shortage of skilled manual
workers.

Even if the 'tight labour market' is accepted as a
possible explanation, account still has to be taken of the
deviant behaviour of female process workers and store-
keepers. These represent somewhat different occupational
groups and may not be subject to the same socio-economic
pressures. For example, female process workers have been
shown in the previous chapter to quit jobs at a far steadier
rate over the five year period investigated, and during the
first few years of employment, than do male manual workers.
Leaving employment because of pregnancy, or a change in
the husband's place of employment, is not likely to be much
influenced by local unemployment levels.* Male storekeepers
on the other hand show the highest labour turnover and
lowest stability rates of any of our eight occupational
categories. They appear to 'drift' into and out of jobs
in the local labour market with little concern for local
unemployment levels. This is possibly the shared 'culture'
or 'life style' of stores personnel, and further evidence of
the need to investigate the behavioural characteristics of

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* Table 8.1 does suggest a more continuous 'excess demand'
  for female than male workers over this period within the
  local labour market area.

different occupational groups of workers. In general the evidence in Section I suggests a modified hypothesis concerning the relationship between labour wastage and local unemployment levels that takes the different occupational groups into account.

Section II - Labour Turnover and Standard Hourly Earnings

This section presents an analysis of the observed statistical relationship between the median standard hourly earnings of the eight categories of manual workers in the six firms, and their respective labour turnover rates, analysed over the 20 quarters between January 1970 and December 1974. Because the Pay Surveys conducted by firm A and discussed in Chapters 3 and 4 did not coincide precisely with the first day of each quarterly period, the level of standard hourly earnings prevailing for any quarter has been taken to be that established at the last pay survey, preceeding that quarter. In the event of a pay survey having been conducted in a particular quarter, its results have been taken as applying to the whole of that quarter. This inevitably means that standard hourly earnings are understated in the cases of firms which have raised their pay rates prior to the survey dates. Whilst it would have been ideal to have possessed the actual median standard hourly earnings for every quarter, it is reasonable in the context of this investigation to assume some lag between an increase in earnings, and dissemination of this information within and without the firms concerned. It also raises the interesting question, discussed later, of whether workers are more likely to execute decisions to move to another employer on the basis of their perception of its previous record of pay and conditions of service, or its current or anticipated future position.

Table A.8.2 in the Appendix, already referred to, also contains data on median standard hourly earnings for workers in the 6 firms, and the quarter by quarter correlation coefficients produced from their combination with labour separation rates. Because skilled electricians, fitters and

inspectors were not employed in all the firms in what was already a rather small sample for statistical purposes, these occupations have been combined. The results are summarised in Table 8.6 and 8.7 below.

TABLE 8.6 - CORRELATION BETWEEN PAY AND SEPARATION RATE
                1970/74 - METHOD I

Correlation Coefficients between average median hourly
rates of pay and separation rate, 6 firms.

Job Qtr.	Tool-makers	Electri-cians Fitters Inspec-tors	Store-keepers	Male Process	Labourers	Female Process
1	.38	.28	.64	-.79	.53	-.86⧹
2	-.59	-.11	.3	-.88*	.2	-.88*
3	-.49	-.23	.88	-.53	0	-.76
4	-.66	-.28	.88	-.6	-.78	-.17
5	-.79	.12	0	-.67	-.24	-.75
6	.18	.18	0	-.91*	-.53	-.4
7	-.56	0	-1.0	-.79	-.3	-.21
8	-.20	0	N/A	-.96**	-.73	-.37
9	-.20	-.61	-.93	N/A	-.53	-.99**
10	0	0	-1.0	-.96**	0	-.68
11	-.14	-.31	-.84	N/A	-.17	1.49
12	-.43	0	-.91	-.91*	.29	-.95*
13	-.50	0	-.43	-.10	.8	-.76
14	-.40	-.53	-.82	N/A	.74	-.96**
15	-.38	-.14	-.89	-.49	0	-.78
16	-.11	-.48	-.25	-.52	.20	-.52
17	0	.17	.98⧸	-.88*	-.10	-.94*
18	-.9 ⧸	.45	-.15	.19	-.42	-.57
19	-.32	-.41	.59	-.16	-.11	-.79
20	.43	-.38	.64	.3	.5	-.81⧸
Mean	-.28	-.11	-.12	-.51	-.03	-.68

⧸ Significant at the .1 level
* Significant at .05 level
** Significant at .01 level

TABLE 8.7 - CORRELATION BETWEEN PAY AND SEPARATION RATE 1970/74 - METHOD II

a) Correlation Coefficient b) Coefficient of Determination and
c) Standard Error calculated for 5 inter Pay Survey Periods, using quarterly data, average
of median hourly rates of pay and separation rates for 6 firms in N.W. London.

Job		Period 1 6 months Jan.-May'70	Period 2 15 months June'70-Sept.'71	Period 3 15 months Oct.'71-Dec.'72	Period 4 18 months Jan.'73-May'74	Period 5 6 months June-Dec.'47
Toolmakers	a)	-.15	-.49 **	-.18	-.28	O
	b)	.02	.23	.03	.08	O
	c)	.378	.208	.204	.189	.378
Other Skilled	a)	O	-.11	-.12	-.14	-.39
(Electricians	b)	O	.01	.01	.02	.14
Mtce. Fitters	c)	.258	.160	.160	.146	.258
& Inspectors						
Storekeepers	a)	.37	-.16	-.64 ⧸	-.3	.55
	b)	.14	.03	.4	.09	.3
	c)	.447	.267	.267	.243	.447
Male Process	a)	-.82 ⧸	-.67 ⧸⧸⧸	-.57 ⧸⧸	-.14	O
	b)	.66	.44	.32	.02	O
	c)	.378	.204	.204	.186	.333
Female Process	a)	-.85 ⧸⧸	-.39 *	-.63 ⧸⧸	-.76 ⧸⧸⧸	-.74 **
	b)	.7	.15	.39	.56	.54
	c)	.378	.208	.204	.189	.378
Labourers	a)	.4	-.25	O	.18	.15
	b)	.16	.06	O	.03	.02
	c)	.378	.208	.204	.189	.378

```
 *    Significant at .1 level
 **   Significant at .05 level
 ⧸    Significant at .02 level
 ⧸⧸   Significant at .01 level
 ⧸⧸⧸  Significant at .001 level
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The evidence in Table 8.6 supports the hypothesis that firms which pay relatively low rates of pay will suffer from relatively high rates of labour turnover, and vice versa. The evidence is particularly strong for the occupational categories of male and female process workers. It also provides some support in the case of skilled workers. It does not, however, apply in the two special cases of storekeeper and labourer, who on the evidence appear to change jobs without being influenced by local pay differentials. A more qualified hypothesis is therefore called for, namely that firms which pay relatively low standard hourly earnings to skilled workers and process workers, will suffer from relatively high rates of turnover, and vice versa; firms which pay relatively low rates of standard hourly earnings to storekeepers and labourers will not necessarily suffer from higher rates of turnover than the firms offering higher wages for these occupations.

Calculation of correlation coefficients for each quarter gives a low value for r and has inevitably meant that few of the results were statistically significant at an appropriate level of confidence. This situation has been improved upon by calculating the value of r for the longer inter pay survey periods, and shown on Table 8.7. The most conclusive results are shown in the case of female process workers, where high negative values for r are to be found in all five periods. Two of these values are significant at the .01 level, one at the .05 level, one at the .1 level and the fifth at the highly significant level of .001.* Male process workers also show significantly

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* It should also be emphasised that the coefficient of determination is remarkably high with the process workers. Taken in conjunction with the high significance levels, this clearly points to pay as explaining (statistically) a large part of the reason for leaving. There is, of course, ample scope for other causal factors in these results.

high negative values in the first three periods, covering
a three year period, but curiously lower values over the
final two periods and two years. There may be some
connection with the fact that unemployment was low during
these two years, or that pay rates were beginning to
accelarate, but none ·of the other occupational categories
exhibit the same behaviour.

Evidence presented earlier in this section suggested
that relatively high local unemployment levels inhibit
decision to quit jobs on the part of toolmakers and male
process workers. If this is the case, then it might be
reasonable to expect relative pay differentials to lose
some of their impact during periods of high unemployment.
Quarters 8 and 9 on Table 8.6 correspond with the time of
relative economic depression and high unemployment during
the winter of 1971/72. However, an examination of the
values on this table do not support such a hypothesis, and
in turn support the conclusion that where pay differentials
are observed to relate to accomplished decisions to quit
or remain in jobs for particular occupational categories,
this relationship holds irrespective of local unemployment
levels. In other words, low pay firms still continue to
lose workers during periods of relatively high unemployment,
on the evidence of our sample.

Discussion of the Findings on the Relationship between
Standard Hourly Earnings and Labour Turnover.

As mentioned in Chapter 2 and again in the introduction
to this chapter, considerable differences of opinion have
existed on the influence if earnings on labour wastage.
The simple statistical tests of association used above
indicate a strong possibility of some causal connection
between standard hourly earnings and labour turnover for

skilled workers and semi-skilled process workers, employed
in our six firms, the evidence being most marked in the
case of female process workers. It is tempting to
attribute this relatively clear cut result to the use of
occupational categories in the analysis, but this sophisti-
cation in methodology, whilst clearly important, does not
put the matter to rest. Due modesty must be retained
concerning the sample size,* reliance on labour turnover
as the major dependent variable, and general assumptions
concerning the homogeneity of the various occupational
groups. Nonetheless, the result is strongly at odds with
Silcock's conclusion on labour turnover, that if pay were
a major factor "....we should expect the firm providing
higher earnings to retain the labour it attracts. The
movement of labour should be to some extent a one-way
traffic from lower to higher earning occupations. There
is no evidence that this is so." (Ref.42, pg.431).

Labour turnover can, of course, be treated as a
variable in its own right; the rate at which workers leave
is obviously important. It's limitations as a measure of
wastage and stability have already been discussed, but it
is worth noting that the completed length of service data
in the previous chapter shows that firms with the lowest
turnover rates generally enjoy the greatest stability as
measured by the C.L.S. index, within the sub sample of
firms.

Statistical association does not necessarily indicate
a causal relationship. There may have been other reasons

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* Although the male and female process workers represent
  large samples of 1900 and 1500 workers respectively.

why workers left in greater numbers, proportionate to
the work force, from, say firm A, than firm Q (particularly
noticeable for male and female process workers), although
A showed a better 5 year average for toolmakers than did Q
(Table 7.1 refers). Possible explanations for differences
in turnover rates are provided by Silcock (op.cit). The
first of these is length of service. It is possible that
the labour forces within our sample enjoying the lowest
turnover had the greatest collective length of service,
and length of service has been found to possess a strong
relationship with labour stability and low turnover.

This point cannot be tested directly as data was not
available on the length of service distributions of the
respective work forces. However, the inverse relationship
noted between completed length of service distributions
and labour turnover (i.e. the higher the quarterly or annual
labour turnover, the greater the incidence of early leaving)
suggests that this might be the case. But we are still left
with the question of what circumstances might have led to
a high proportion of long service employees in these firms?
In other words, why have they decided not to quit at some
time during their years of service? The data provides a
prima facie case to the effect that relatively high pay
levels may have persuaded them to say. There, thus, still
remains a plausible case for an association between high
earnings and low wastage largely brought about by the
intervening variable of labour stability.

Then there is Silcock's factor of plant size. The
plant rank order in size (largest first) runs Q, A, B, G, L, H.
Firm Q enjoyed the lowest turnover, on average, of these
plants, followed by B. These two firms also tended to appear
in the top standard hourly earnings brackets. The two

smaller firms L and H tended to show higher turnover rates, and lower pay. But if we concentrate on the process workers, where the most significant correlation coefficients were established, we notice that firm A, the second largest plant in the sub sample, suffered from relatively high turnover, whilst paying relatively low wages. We are forced to conclude that evidence on this point is con- flicting, and that a larger sample of firms is required. There might have been an association between size of plant and labour turnover within our sample of firms.

Silcock also cites method of selection and working conditions as possible factors. Discussion with the personnel managers of these plants and personal acquaintance with their selection methods and working conditions suggest that similar methods and conditions prevailed in all 6 firms; furthermore, it was shown in Chapter 4 that they were drawing the majority of their manual workers from the same labour pool.

Method of payment has been cited by some authorities as an important factor in labour turnover, and piecework has frequently been indited, e.g. Gowler and Legge (Ref.15, pg.168-214) Table 4.3.A show firms A, Q and H as utilising piecework for male and female process workers in both 1970 and 1975, whilst firms B, L and G only pay on time rates. There is therefore not clear cut association between methods of pay and labour turnover, and again a larger sample would have been useful.

MacKay found a statistical association between pay and wastage in his Glasgow and Birmingham labour markets (see his Table 6.4 reproduction in Chapter 2), using average plant gross weekly earnings for both male and female workers. When male workers were disaggregated into skilled,

semi-skilled and unskilled groups, a similar result was found, and he concluded that (op.cit. pg.154) '.....we find that high-wage plants do, indeed, tend to have relatively low quit rates and hence low separation rates, and vice versa'. Whilst his correlation coefficients were generally of a low value, he supports his conclusion by pointing to the consistency of observed statistical results. Firstly, he quotes T.P. Hill's(Ref.83) statement that '.....the strengths of the correlations observed in a micro-economic enquiry of this kind are almost irrelevant in assessing the economic significance of the relations examined, and weak correlations are not regarded as particularly disturbing provided they are not so small as to raise serious doubts that they may have arisen purely by chance'. And secondly, he points out that the sign for r in his results are 'negative in almost all cases' (op.cit, pg.154). It is worth stressing that the N.W. London study showed markedly higher values for r than did MacKay, particularly for process workers, and a comparable level of consistency in showing a negative sign. This point about consistency lends further weight to the N.W. London results. A highly pertinent comment on this issue which MacKay made in Robinson's book (Ref.15, pg.92) was that 'The weak relationship between quits and earnings' levels arises perhaps because our discussion does not distinguish earnings and quits by occupations groups'. As mentioned, MacKay took his disaggregation no further than the 3 crude skill groups. The N.W. London results, if taken in conjunction with MacKay's findings, provide a strong case for arguing the significance of pay in influencing the wastage of manual workers.

A similar conclusion concerning manual workers by Hyman from his study of Coventry engineering plants was mentioned in Chapter 2. Similarly James Price (Ref.75, pg.58)

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commented that "A sizable amount of research can be cited which indicates that the importance of pay varies among different types of employees (Lawler, 1971, Goldthorpe et al 1968, McGee 1971, Greely 1972, Ingham 1970)". Stoikov and Raimon (Ref.54) considered both 'gross average annual earnings' and the 'magnitude of recent wage changes' and concluded that pay was a determinant of turnover. Perceval (Ref.74) collected data for 49 American industries for 1959-60 and his analysis demonstrated (pg.22) that "the depressing effect of the level of wages on quits seems established". Burton and Parker used data for 1960 for 49 American manufacturing industries and concluded (pg.213) 'the importance of the wage variable is evident'. The combined weight of evidence favouring the significance of earnings as a major influence on the wastage of industrial workers is appreciable, and casts serious doubts on the earlier conclusions of Silcock and Robinson.

A number of the firms within the sample kept a record of the reasons given by leavers for quitting, usually given to their supervisor. As the forms were frequently filled in by the supervisor for despatch to the personnel department, there was no way of checking their veracity, and indeed experience suggests that the results should be treated with a large measure of caution. A pilot exercise was carried out in the case of firm B, where the reasons given by factory leavers during 1974 were collated and counted. The results are given in Table 8.8 below.

TABLE 8.8 - REASONS GIVEN FOR LEAVING, MANUAL WORKERS, FIRM B, 1974.

Reason for leaving	Actual	Percentage
1. Domestic reasons	75	15.30
2. Going Abroad	64	13.03
3. Alternative employment	61	12.40
4. Job not suitable	56	11.39
5. Leaving the district	48	9.75
6. Unsatisfactory worker	40	8.11
7. Better pay	34	6.87
8. Absent without leave	24	4.88
9. Health	24	4.88
10. Better prospects	15	3.05
11. Travel problems	11	2.24
12. Absenteeism	11	2.24
13. Further eduction	8	1.63
14. Boredom	5	1.02
15. Left at own request	-	-
16. Retirement	-	-
17. Personality clashes	4	.81
18. Miscellaneous	10	2.40
TOTAL	490	100.00

It is difficult to draw any useful conclusion from this type of analysis. Even if the reasons given are both correct and comprehensive, they still require considerable interpretation. Items which might include a fincancial motive for leaving this employer include 'Alternative Employment',

'Job not suitable' (i.e. not suitable financially?) 'Better
Pay', 'Better Prospects', 'Absenteeism' (i.e. looking for
alternative employment?) and 'Miscellaneous'. In general,
the opinion of local personnel managers on the subject
closely resembled the views expressed to Rees in his series
of interviews, (Ref.34, pg.41) expressed typically as
"We pay what has to be paid to get people to work for us
and what has to be paid to keep them". There appears to
exist a larger element of truth in such a statement than
some labour economists have been willing to concede.

The Accuracy of Information Concerning Inter-Firm Pay Differentials Held by Workers Within the Local Labour Market

The research project reported in this dissertation has aimed to quote Harold Parnes' words, at a set of 'sharply focussed studies' within a local labour market in North West London. In this penultimate chapter the final study, carried out on a smaller scale than the others, and with less clear cut results, is presented. It was concerned with the accuracy of information about the relative levels of pay offered by firms recruiting within the local labour market area held by manual workers within the area.

Traditional labour market theory rests heavily upon the assumption that workers possess sufficient information concerning pay and conditions of work in local firms to enable them to come to rational decisions on whether to remain in their present employment or move to a new employer. Yet the weight of opinion amongst labour economists of which some examples are given below, has favoured the view that possession of such information is normally very limited and imperfect. The assumption that employers are well informed concerning the pay and conditions offered by rival local employers has also been questioned.

In this country Derek Robinson gave ignorance by workers as one likely reason for the wide spread of earnings he uncovered in his surveys, commenting (Ref.27, pg.82) 'One explanation might be the very poor state of knowledge of relative wages and conditions on a local labour market.

If workers are not aware of the level of earnings in alternative employment, many of the 'imperfections' of the market can be accepted, or even explained'. In the States, Lloyd Reynolds asked a sample of workers how much they knew about the availability of jobs and about terms of employment in other localities (Ref.9, pg.84) "Almost two-thirds replied that they knew nothing whatever about other areas. The remainder had picked up a certain amount of information through working in other areas, through their trade-union, through friends and acquaintances, or from off items in newspapers". He found similar results concerning job opportunities within the workers own local area, leading him to conclude that workers generally "are poorly informed about job opportunities". In Sweden, Bengt Rundblad in his study of the Norkoping labour market found (Ref.28) "The most interesting thing, however, was that so many of the interviewed men could not give any other reason for choosing their new job than "chance" or "no other choice".

Somewhat different conclusions concerning the extent of workers' knowledge of jobs were drawn by Myers and Shultz from their study of the labour market behaviour of textile workers displaced by a mill shutdown in a New England city of medium size (reported in Parnes Ref.1, pg.167). Their findings "suggest that in a small compact labor market, at least, displaced workers are likely to have a pretty good knowledge of job characteristics of other available jobs in the community" (Ref.11, pg.60). Rottenberg (Ref.41) chose to interpret the evidence that "quits are more frequent in times and places of expanding employment than in those of constant or diminishing employment" as showing that workers possess a ".....more or less correct understanding of the 'going rate in different employments.....".

It may be unrealistic to expect all workers to be actively interested in alternative employment opportunities, particularly if they are reasonably content with their job or 'locked in' by security and pension considerations. Parnes concluded that "only a very small minority of the labor force is at any one time realistically in the labor market in the sense of being interested in or available for jobs other than the ones currently held" (op.cit. pg.188). He further concluded that many workers who change employment quit their previous jobs before looking around for new - and possibly better - ones. These earlier studies suggest that the target for enquiries as to the accuracy of information held by workers should either be workers actively contemplating a move, or who have recently completed a move. There is clearly a need for such studies in this country, but many obstacles exist to the effective execution of adequate research, as illustrated by a small scale investigation carried out as part of the N.W. London labour market project.

The original intention of this investigation was to carry out a survey amongst workers who had recently left or joined one of the twenty firms participating in the pay survey. Accurate information concerning their earnings was readily available, and could have been compared with the accuracy of information held by these workers. Regrettably, no employer would co-operate, the principal reasons advanced being the fear of trade union hostility and the stated conviction by personnel managers that the personal particulars of employees or ex employees was confidential. A 'second best' target population therefore had to be selected, which consisted of householders resident within a square mile area in Cricklewood, London, N.W.2., identified in the studies discussed in Chapter 4 as providing a high proportion of the

manual workers employed by local firms participating in the pay survey. The hypothesis that householders resident in this area would be correctly informed as to the relative pay levels of manual workers in a selection of large local firms was tested, and five firms, A, B, C, D and E, all within easy travelling distance, were selected for this purpose.

A simple questionnaire was designed which requested householders to rank skilled craftsmen, male production workers and female production workers according to their pay, as well as ranking the firms "taking everything into account" (sample forms are shown in the appendix as A.9.1 and A.9.2). This was tried out in a pilot study in the Burnt Oak area, London, N.W.9, on a sample of 70 houses in a council housing area (identified in the local labour market area studies in Chapter 4). The forms were delivered one day and collected the next, on the assumption that the householder would have had time to study and complete the form. A total of 55 forms were retrieved, only 6 of which had been filled in in accordance with the instructions. The majority of the householders interviewed on the doorstep complained that the form was too complicated to understand, or expressed their suspicion that the research was being conducted in a disguised fashion by a major local employer or by the local council, or alleged that the form itself had been eaten by their dog or been lost overnight.

Accordingly, the form was simplified still further, (see A.9.2) and the small scale survey conducted upon the target population. The precaution was taken of collecting the form later on the same day in which it was delivered. The time chosen, April 1975, coincided with the major pay survey being undertaken by firm A, presented in Chapter 5, covering the 5 firms included within the questionnaire.

Streets within the square mile were selected on a random basis, and 200 questionnaires were delivered. The active response consisted of 95 replies, 39 of these taking the form of verbal statements by householders to the researcher to the effect that ignorance prevented completion of the form. 46 questionnaires were completed in a manner that permitted analysis.

Analysis was carried out by using Friedman's Two-way Analysis of Variance by Ranks. Out of the 3 manual job categories listed in the questionnaire, i.e. skilled, male production and female production work, only female production work showed a significant rank order. Under the null hypothesis of no significant difference between the total (rank) score for each of the five companies, their total scores should differ only to (chance) random sampling errors. Using the sample size employed in the survey, it could be shown that X_r^2 was distributed approximately as chi-squared with (k-1) degrees of freedom where $X_r^2 =$

$$\left[\frac{12}{Nk\,(k+1)} \sum_{i=1}^{k} (R_i)^2 \right] - 3N\,(k+1)$$

and N = sample size, k = number of companies and R_i the sum of ranks of the i^{th} company. The value of X_r^2 for female production workers was 15.44, or significant at the .005 level, a very high level of significance, but did not approach even the .05 level of confidence in the other two cases. The null hypothesis could therefore be rejected in the case of female production workers. The results so far therefore indicated that nearly half the responding sample professed ignorance on the local pay levels of the five firms, and of those that evinced an opinion, the results were only statistically significant in the case of female production workers. It was thus possible that a

significant proportion of local residents held correct opinions on the relative pay levels of local female production jobs. If this were so, then this implied an important conclusion, namely that within the residential area supplying manual workers to local factories, a high level of information existed concerning female production work amongst a pool of potential employees. This might go some way to explaining the fact established in Chapter 8, that labour turnover of female process workers showed a significant correlation with the pay levels of local employers.

However, when the rank order for female production workers established by the opinion survey is compared with the rank order pertaining between the five firms based on the pay surveys, no such result emerges. Table 9.1 below shows three rank orders, namely those established in the opinion survey and in the 2 pay surveys conducted in August 1974 and April 1975.

TABLE 9.1 – A COMPARISON OF THE RANK ORDERS IN THE HOURLY EARNINGS OF FEMALE PRODUCTION IN 5 FIRMS IN THE N.W. LONDON LABOUR MARKET ESTABLISHED IN TWO PAY SURVEYS (BASED ON STANDARD HOURLY EARNINGS) AND THE PERCEPTION OF THE RANK ORDER SHOWN IN A SURVEY OF LOCAL HOUSEHOLDS, APRIL 1975.

Actual Rank Order August '74 Survey	Actual Rank Order April '75 Survey	Perceived Rank Order April '75 Household Survey
C	D	A
B	C	D
E	B	E
A	E	B
D	A	C

It is unfortunate that the rank order changed for these five firms between August 1974 and April 1975, largely because

of the varied impact of the Equal Pay Act. However, this
fact makes little difference to the outcome, because when
the perceived rank order is correlated with the '74 results
the coefficient is -.9 and with the '75 results is -.6.
This suggests that the clear cut local opinion on relative
pay levels for female workers held by a section of local
householders is at variance with the facts established in
the pay surveys.

There exist a number of limitations to this survey
which means that too much should not be read into this
result. The sample size is small, the composition of the
sample does not match the 'ideal' target population of
mobile manual workers and data was not available on gross
earnings in the 5 firms. But it has been included because
it serves to illustrate a number of points concerning
information in the local labour market, and does possess
some significance for the recruitment and advertising
campaigns of the local firms.

All five firms made use of job advertisements in local
newspapers to attract manual workers; one example is given
overpage, and shows the stress placed upon weekly wage
rates. All five firms had been recruiting manual workers
during the previous months and had used this type of
advertising. When Lloyd Reynolds had asked workers in two
sample groups how they had located their present jobs, only
13% of the first sample and 5% of the second sample cited
advertisement (Ref.9) as against the 24% in both groups
mentioning 'acquaintances or relatives working in the plant'
and 20% in the first sample and 42% in the second sample
mentioning 'direct application to the plant'. Many large
employers in this country appear to rely heavily on expensive
staff advertising, and there exists a need for research on its
contribution to the level of information in the labour market.

Two further sources of information on pay and
conditions of service for manual workers in our local
labour market were provided by the Department of Employment
job centres and the trade unions. The combined job
centres of Willesden and Wembley, already featured in Chapter
4 claimed to place between 180 and 240 persons a week in
jobs during the early years of the 1970-75 period. As
was noted in the previous chapter, the numbers registering
as unemployed at their local job centres during the five
year period ranged (Table A.8.1) from 600 to 3000 men and
from 100 to 740 women. The term 'employment exchange' was
phased out by the Department of Employment during this
period, and job centres were established in their place
to concentrate on job placement. Unemployment benefit
payment then became the responsibility of separate social
security offices (sometimes still in the same building,
sometimes moved to new premises), and compulsory attendance
to collect unemployment pay was replaced by postal payment.

Up to this time unemployed workers would have gained
some impression of local pay levels by means of the job
vacancy display within the employment exchanges/job centres.
However, once this new system came into operation, informa-
tion from this source would only have come with the specific
invitations from the job centres to attend for interviews
at firms notifying suitable job vacancies. Research is
required into the proportion of vacancies actually filled by
workers sent by the job centres; discussion with local
personnel managers suggested that a high proportion of
skilled and semi-skilled vacancies were filled as a result
of a direct approach by workers by passing the Department
of Employment. As has been noted, a proportion of vacancies
are not notified to local job centres.

Some information concerning pay and conditions in local firms is disseminated through the Trade Unions, although it was not possible to investigate this. The engineering workers union (A.U.E.W.), for example, has for some time operated a procedure whereby shop stewards are expected to file a regular report (see Appendix A.9.3) to their District Secretary, who in turn files a report to head office. Contact was made with the organiser responsible for N.W. London, who seemed uncertain as to what happened to the information collated at head office. This might prove a useful field for research. However, the information appears to be intended for pay negotiation purposes rather than dissemination to rank and file members contemplating a change of employer.

On the employers side there was the reliance placed on the inter firm pay survey conducted by firm A and featured in earlier chapters. Members of employers federations also had access to their reports, notably from the Engineering Employers Association. From time to time firms carried out their own small scale local surveys, usually by telephone. Personnel managers also commented on the existence of a regular meeting between some of their number in order to discuss relative pay levels. Other sources of information mentioned by personnel managers included the reports of specialist publications such as 'Incomes Data' and reports from their own employment officers. Once again further research on the accuracy of the information gleaned from these sources if required. "Much work" Robinson and Conboy said in 1970 (Ref.15, pg.253) "must be done on the subject of knowledge within both external and internal labour markets. Perhaps if knowledge within both external and internal labour marks. Perhaps if knowledge is imporved, labour markets will function more

in accord with theory". The position remains largely unchanged today. In the meantime, the subject of 'information' within the local labour market will continue to be a topic for speculation rather than one resting on established facts.

CHAPTER 10

IN CONCLUSION: A review of the propositions put forward
in the first chapter of this dissertation, in the light
of the research and discussion presented in subsequent
chapters, and a consideration of their relevance to the
subject areas of Industrial Relations and Personnel
Management.

Four propositions were advanced in the Introduction

that were felt to be central to the research project carried

out into the N.W. London local labour market. Reference has

been made to these propositions on a number of occasions

in this dissertation, notably when relevant findings have

been discussed at the conclusion of the various chapters.

A review of the four propositions is now possible, which

require modification in the light of these findings. This

is tackled in section one below in a concise fashion,

bearing in mind the extensive earlier discussion. The

dissertation is then brought to an end by a consideration

in section two of the relevance of this exercise and similar

local labour market studies to the subjects of Industrial

Relations and Personnel Management. Much of the discussion

in earlier chapters has inevitably been conducted with

reference to the subject of Labour Economics. However,

the local labour market should be the concern of persons

taking a special interest in the activities of employers,

trade unions and groups of workers at the place of work.

It is also appropriate that a dissertation presented to a

graduate business centre should conclude with some comment

relevant to the effective administration of business

organisations.

A special word is required at this stage on the two

related concepts of 'submarket' and 'reference group',

which have been introduced into the text on a number of

occasions, and have assumed increasing importance to the thesis as it has progressed. As noted in Chapter 4, the term 'submarket' was used as early as 1951 by Myers and Shultz to describe four 'non-competing' groups in a United States labour market, each of which exhibited a narrower wage dispersion than was to be found in the labour market as a whole (Ref.11, pg.186). In 1970 Rees and Shultz referred to '.....separate but interrelated occupational and geographical submarkets' (Ref.34, pg.222). J.F.B.Goodman referred to '.....a multiplicity of submarkets demarcated by various criteria, but linked by mobility' (Ref.22) (echoes here of Clark Kerr's 'Balkanised' labour markets). Addison found the term useful in 1971 when describing his Southampton local labour market (Ref.60).

The local labour market can be subdivided in a number of different ways, creating different types of submarket. The peculiar features of the submarkets referred to above rest on the exchange of information between a group of local employers, and an element of concerted action on pay and conditions of services. Therefore the sociologists' term 'reference group' is a particularly apt way of describing this type of submarket. As it is also concerned with employers (rather than, e.g. Trade Unions), the correct term should be 'employers reference group submarket'. This term can then be applied to the collection of 20 manufacturing firms in N.W. London featured in this research project and displaying a relatively stable pay hierarchy for manual workers as well as a relatively low coefficient of variation in standard hourly earnings. Here was no 'chaotic' labour market, but rather a relatively well ordered corner of the local labour market. Had it been possible to investigate a large cross section of firms in N.W. London, it is of course possible that wide ranges in pay and confused internal labour markets might have been found.

The cumulative evidence of the research studies
referred to in this dissertation indicates that the local
labour market is a highly complex institution, which may
well create an impression of chaos to the outside observer.
If, however, the focus can be narrowed down to the
significant parts that go to make up the whole, in
particular the various submarkets, then a reasonably
rational economic and social system may be found to prevail.
This point of view has also been made by Rees and Shultz
(op.cit) who,in the conclusion to their book describing
an urban labour market in Chicago, wrote: 'However we
cannot concur in the view that because economic forces are
mingled with others, they are inoperative, or that because
a process is highly complex it is necessarily in large
part irrational..... But on the whole employers and
workers seem to pursue reasonable goals in appropriate
ways. If at first their behaviour does not appear to make
sense, it may be simply because the employment of a worker
is a much more complicated transaction and one with many
more dimensions than a purchase of a contract in the wheat
future market."

Section I - A review of the four basic propositions
            concerning aspects of labour market behaviour
            put forward in the introduction and examined
            in the principal chapters of this dissertation.

The first proposition advanced in Chapter 1 concerned the definition of boundaries to local labour market areas, and stated that the problems encountered in such a process could be overcome by making the definition specific to each major employer of labour and by making a distinction between manual and non-manual employees. This proposition was the first to be tested within the dissertation because of the need to define the perimeter of the local labour market within which the research project was being conducted. The issue at stake was also seen as being fundamental to the development of a theory of local labour market behaviour. Adam Smith could talk happily about ".....the same neighbourhood' and E.J.Robertson might claim to '.....know one when we see one' (Ref.15, pg.17), but scientific investigation requires a more systematic approach to the definition of subject areas.

The more obvious problems investigated and discussed in Chapters 4 and 9 included the complex nature of travel to work patterns in large modern conurbations, the dearth of useful official statistics in this area, whether to adopt the perspective of the employer, the trade union, or the worker, the lack of empirical research, and the possible channels of information available to the parties involved. Following the advice and example of earlier researchers, such as Lloyd Reynolds in the United States and Derek Robinson in this country, an attempt was made at defining the local labour market in terms of a large employer, firm A. Official statistics and the earlier studies referred

to, indicated that the term 'local labour market' was probably inappropriate for administrative professional and office personnel who fell into the category of 'city commuter', but that manual workers provided a useful field for investigation. The data on travel to work distances for a sample of manual workers in three manufacturing plants provided clear evidence as to the limited nature of such journeys and further provided confirmation for earlier speculation on the subject. By concentrating on one of these three firms, it was found possible to map out a sensible boundary to its local labour market area for manual workers.

Whether the problems presented in the proportion had, in fact, been overcome, or just conveniently avoided, is probably a matter for debate. Further studies in other labour market areas are also necessary in order to provide general support to the proposition. The main point is that the evidence uncovered in the research project generally favoured the first proposition.

In the second proposition it was asserted that the pay structure of manual workers in medium to large manufacturing plants operating in the same local labour market area would tend to exhibit a coherent pattern of inter and intra firm pay relativities. The expression 'coherent pattern' was taken to refer to the extent and the consistency of the observable relationship between the level of earnings and the content of the job over a period of time, both within and between firms. Conflicting evidence had been provided on this issue by earlier studies, which had led to considerable debate amongst economists concerning the operation of market forces upon levels of remuneration. Chief protagonist in the onslaught upon attempts to depict an economically rational and coherent situation within

local labour markets in this country has been Derek
Robinson, whose comments following a major research
investigation which had shown wide variations and ranges
in the standard earnings of jobs with similar titles had
acted as a stimulus for this research project. A major
weakness of the majority of earlier studies has been the
lack of precise definition of local labour markets and of
varied manual occupations.

The evidence provided by the pay surveys which
covered the sample of firms in N.W. London did, however,
indicate a measure of coherence and economic rationality.
A clear hierarchy existed within and between the firms,
and this situation prevailed over a five year period. The
evidence was probably stronger in relation to the internal
structures of earnings within firms, based on standard
weekly earnings, than to the inter firm structure. Nonethe-
less a relatively low coefficient of variation amongst the
twenty firms was observed, and in the majority of cases
earnings fell within a band ten per cent either side of
the mean average for the sample. Note was also made of
the trend to a narrowing of differentials and an improvement
in the relative position of female workers over the five ·
year period.

However, the nature of the sample makes it dangerous
to generalise from the findings. Whilst on the one hand
the results contribute to refuting the statement that all
parts of a local labour market are 'chaotic', the sample
cannot claim to represent anything like all the firms
operating within the area of the local labour market described
in Chapter 4. The term 'submarket' appears to be an
appropriate description of this sample, and by virtue of
the fact that the firms reguarly exchanged information on
pay and conditions of service, and took note of each others

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actions, they could also be described as a 'reference group'. A further limitation to the study was provided by the reliance on standard hourly earnings, data on gross earnings not being available. It would therefore seem appropriate to reword proposition two along the following lines:

> 'The structure of standard hourly earnings of manual workers in medium to large manufacturing plants operating as a reference group submarket will tend to exhibit a coherent pattern of inter and intra firm pay relativities'.

But clearly more research is needed in this area. The third proposition paid special attention to labour wastage, and predicted that different manual occupations would exhibit significantly different patterns of labour wastage. Earlier studies in the United States and in this country have led to a set of generalisations concerning the nature of labour wastage which are given widespread credence. These suggest that the incidence of labour wastage is determined principally by the factors of completed length of service, level of skill, age, the nature of the firm, local unemployment and the sex of the job holder. Little attention has been given to the possibility of significant differences between different manual occupation apart from the reference to level of skill.

However, the evidence provided by the analysis of wastage patterns amongst manual workers in eight manual occupations in a sub sample of nine manufacturing firms in N.W. London, using labour turnover and completed length of service as the principal indeces, pointed to the significance of the job holders' occupation. This was not simply related to the degree of skill involved; skilled inspectors showed considerably lower wastage levels than skilled maintenance

fitters, and storekeepers frequently showed a higher level than did the unskilled labourers. When account was taken of local unemployment levels, it was found that certain occupations appeared to be influenced by this in their propensity to leave, whereas others, particularly female process workers and storekeepers, did not. Confirmation was provided of the importance of factors such as length of service and the nature of the firm, but the results for female process workers gave the lie to the suggestion that female wastage is generally higher than that of males. Again an important factor was occupation; in this study, unlike many earlier studies, an attempt was made to match the male and female occupations, using the category of semi-skilled process work, and it was found that female workers were more stable than their male counterparts during their first year of employment. Overall their turnover was no higher than that of male workers.

In retrospect it does seem surprising that the significance of occupation in influencing the propensity to leave has not been given due prominence. Sociology and social psychology point to different patterns of behaviour between groups possessing different economic, social and occupational backgrounds. Because of this lack of research into labour wastage using an adequate system of occupational classifications, we must be cautious about generalising too far from the results shown for our nine London firms. However, the indications are that further research may well provide additional support for the assertion that different manual occupations exhibit significantly different patterns of labour wastage.

The fourth proposition also concerned labour wastage, but with the emphasis placed upon the significance of inter-firm pay relativities. Traditional labour market theory suggested that workers would move from firms offering

relatively low benefits to those offering more attractive conditions of work, other things being equal. Adam Smith, for example, stated in the well known phrase in his 'Wealth of Nations' (Ch.10) that 'If, in the same neighbourhood, there was any employment evidently either more or less advantageous than the rest, so many people would crowd onto it in the one case, and so many would desert it in the other, that its advantages would soon return to the level of the other employments'. He was, of course, careful to use the word 'advantage' rather than 'pay', and to qualify his statement in terms of freedom of mobility. Classical economists were rather more didactic; their approach was summed up by Richard Lester (Ref.37, pg.96) in the comment: 'Accepted theory is based primarily on inter firm mobility of labor and on job applications and acceptances differentiated according to relative levels of compensation.....paid by companies.....'. J.R.Hicks (Ref.52, pg.76) put it that '.....the differences in net economic advantages, chiefly differences in wages, are the main causes of migration'. The debate on this issue is well exemplified by the widely publicised argument between Simon Rottenberg and Robert Lampman conducted in the pages of the Industrial and Labor Relation Review (Ref.41).

In spite of the fundamental importance of the question, we have noted a surprising lack of research in this area; the importance of pay has generally been played down in recent books and articles. Where useful research has been carried out, conclusions have varied on the significance of pay. Analysis of the correlation between levels of standard weekly earnings and labour separation rates amongst eight manual occupations within six manufacturing plants in N.W. London pointed to the possibility of a significant

connection between these two variables in the case of
particular occupations, e.g. semi-skilled male and female
process workers.   It is thus possible that the semi-
skilled production workers approximate rather more to
the model of 'rational economic man' put forward by the
classical economists than do other categories of worker.
We noted that MacKay in his rather more extensive research
in Glasgow and Birmingham had found some association between
pay and labour turnover. Taking these results together,
it seems appropriate to modify the wording of the fourth
proposition so that it should commence 'The labour turnover
of certain categories of manual worker in medium to large
manufacturing plants.....etc.'.

There still remains a large number of unanswered
questions concerning this issue. We still remain largely
ignorant about the accuracy and extent of information con-
cerning pay and conditions of service held by individuals
within the local labour market. The assumption that certain
categories of worker leave low paying jobs at a faster rate
than they leave high paying firms, rests heavily on the
further assumption that they are well enough informed as
to which are the high and low paying firms. Another
unanswered question concerns the relative significance of
gross weekly earnings and 'take home pay' as compared with
standard weekly or hourly earnings. Other questions remain
concerning the relative significance of factors such as job
security, the 'quality' of workers in similar occupations,
and the ease of mobility between firms and occupations.   In
this particular investigation, it must be conceded that the
sample size of firms was small, even if the number of
employees included within the analysis was relatively large.
Also, the differences noted in labour turnover between the

firms was probably exaggerated by the connection between length of service and propensity to leave. "To him that hath, shall more be given", meaning that the firm enjoying relatively low turnover is likely, in time, to employ a large proportion of workers with extended periods of service who are likely to be highly stable employed whereas the high turnover firm is trapped in a vicious circle. However, this serves to underline the need for further research into the causes of labour mobility within the local labour market, as well as indicating the practical importance of local labour market studies, discussed in the next section.

Section II - A discussion of findings in relation to the
subject areas of industrial relations and
personnel management.

Inter and intra firm pay differentials, inter and intra
occupational pay differentials, labour mobility, the
influence of local unemployment levels, the definition of
local labour markets - these are all matters of direct
concern to those actively involved in Industrial Relations,
whether representing management, workers, the government,
or observers and academics attempting an overview of the
situation in this country. And yet, strangely, these
issues taken within the context of the local labour market
appear to be somewhat neglected at the present time in the
study of industrial relations. In the 'post Donovan'
excitement caused by the shift in emphasis from the
national to the plant level scene (see, for example, the
quotation from Marsh below*) the intervening area of
influence, represented by the local labour market appears
to have been by-passed. A specific case in point, and
of some relevance to this research project, is the
influence of local labour market pressures on what has
been termed 'domestic bargaining' (Clegg, Ref.76) or 'work-
place bargaining' (Marsh, Ref.77). Discussion with
personnel managers, and to a lesser extent, shopstewards,
within some of the 20 factories in N.W. London provided
ample confirmation of a high degree of awareness by these
persons of such pressures. The results of the pay surveys

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* 'If we assume that, as one writer has suggested, the second
half of the twentieth century may see an increasing
emphasis on industrial relations in the workplace, many
issues involving the domestic relations of managers and
workers become matters of pressing importance, and our
need to appraise the workplace bargaining situation a
question of importance' - Marsh, Ref.77, pg.11.

conducted by firm A were eagerly sought by participating employers so that they could be used in domestic bargaining activities.

To be fair, the significance of issues raised in this project has been pointed out from time to time by leading writers. For example, J.R.Crossley, in discussing pay differentials in British industry, commented that: 'Strictly defined, industry differentials are wage comparisons between workers who differ only in respect of the product they make and their measurement should ideally be restricted to common occupations within a single local labour market', (Ref.61, pg.193, my underlining). Indeed the literature on the topic of local comparability in wage determination can claim a pedigree that dates back to the debate in the nineteen forties between Dunlop and Ross as to the relative importance of 'economic' and 'political' factors in wage determination.

Yet references in modern texts on industrial relations to local labour market studies are few; Clegg for example, makes just the one reference in his widely used text (Ref.76) and that is to the research by Derek Robinson already referred to. Possible reasons for this state of affairs includes the waning of interest in this topic in the United States in recent years, and the dearth of good empirical studies in this country.

Specific examples of the influence of local labour market issues on domestic bargaining within the 20 firms were not collected, apart from the data from the pay surveys. The manner in which the 20 firms adjusted their pay schedules following receipt of the results of these surveys, usually through a process of negotiation with shopstewards, indicates the importance attached to local comparability. The results

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of this process have been noted in the examination of the
pay survey results and the ensuing inter and intra firm
pay hierarchy that prevailed over the five years. This
evidence of the influence of local comparability based
on actual results which took the form of changes in
standard hourly earnings is probably more reliable than a
number of case studies of domestic bargaining within the
firms, useful as that might be. This point was also made
by Brown and Sisson in describing their Coventry and
Fleet Street studies in wage determination: 'A mere totting
up of the comparisons used will tell us little about whether
any of them actually carry any weight'. (Ref.49, pg.9).

Recent work in the Social Sciences also provided
support for greater emphasis upon local labour markets in
the study of Industrial Relations. Use has already been
made of the concept of the 'reference group', applied to
a collection of employers, in this dissertation. Both this
and the related concept of 'relative deprivation' have
featured in the work of writers on industrial relations,
such as Lipset and Trow (Ref.78), Hyman and Singer (Ref.79),
and W.G.Runciman (Ref.80). The studies of the so called
'affluent workers' in three plants in Luton by the team of
sociologists led by Goldthorpe and Lockwood (Ref.94) found
that behaviour within the plants was considerably influenced
by attitudes fashioned in local society; this had important
implications, amongst other things, for participation in
trade union affairs. The attention paid to the behaviour
of work groups by contemporary writers on Industrial
Relations (well summarised in the first chapter of Clegg's
book, already referred to) runs the risk of concentrating
on what happens within the plant, whilst ignoring the extent
to which occurences outside the factory gates might be having

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an influence. Both sociologists and social psychologists have progressed from 'closed system' theory to 'open system' theory; the study of industrial relations within the plant equally needs to adopt an 'open system' approach, which means paying due attention to the local labour market. Derek Robinson, speaking when deputy chairman of the government's 'pay board' (now defunct) commented that 'comparisons of pay derive from people's subjective attitudes to the fairness and equity of their own situation'. It is reasonable to suggest that these sub-jective attitudes are influenced by a perception of what is happening in the local labour market as well as the norms and values operating in local society. Where, as in the case of firm A, workers were being drawn from a number of local housing estates, depicted in Chapter 4, research along lines similar to that carried out at Luton might uncover social forces that had a considerable bearing on industrial relations within this and other local firms.

As well as exhibiting its own special characteristics under the influence of local pressures, our N.W. London labour market also showed trends that were generally in line with national trends over the five year period con-cerning inter and intra occupational earnings differentials. One of these trends was towards a considerable narrowing in differentials. A similar trend had been noted by Brown and Sisson in their Coventry labour market over the nine year period 1964-1973, which they comment "was contrary to the widening that labour market theory would lead us to expect" (op.cit). This trend, uncovered in local labour market studies, (also descernable in official statistics, although obscured by lack of attention to occupational classification)

possesses major implications for industrial relations in this country. It does not take a wise man to conclude that either earnings differentials between different manual occupations are liable to disappear altogether, and/or there will be a major and possibly violent reaction on the part of skilled workers in the near future. Recent industrial action by skilled groups such as toolmakers in the Midlands car industry may be a portent of things to come. This trend also carries serious implications for the supply of skilled workers to industry; the shortage of skilled workers and drop in apprentice training in N.W. London was noted earlier. The irony of this situation is that traditional labour economics suggests that such a shortage of skilled workers should have led (pari passu) to an increase in their pay differentials. A further justification for local labour market studies is that the results frequently demand a re-examination of theoretical positions.

Labour wastage attracts considerable attention from labour economists and writers on personnel management topics, but rather less from the texts on industrial relations. The findings discussed in Chapters 8 and 9, particularly the apparent significance of occupational status and inter firm earnings differentials on the propensity to quit, have some significance for all parties. Labour wastage can be an expensive matter to the business organisation. In one respect the results did go some way to vindicating one of the tenets of the conventional wisdom of personnel managers, namely that earnings influence labour turnover. But this was only found to be the case with certain occupational groups, thus suggesting that this conventional wisdom, and the generalisations of the manpower

planners, require reconsideration. There was also a lesson in methodology to be learnt here; it is dangerous, as some well known studies of labour wastage have done, to apply sophisticated statistical methods to aggregated data on groups of workers who differ markedly in their training, aspirations, and norms. MacKay made a similar criticism of labour economists when he said '.....much of the work in this field underlines the chief current weakness of empirical analysis, namely a tendency to concentrate on the manipulation of simplistic and highly aggregative models at the expense of detailed investigation of decision-taking at the level of individual employers and employees..... this is particularly relevant in labour market analysis for the key decisions are usually made by individuals operating in a local context' (Ref.116, pg.9).

Personnel management as a subject suffers from lack of a coherent body of theory to support it as a unified discipline, and as G.F.Thomason recently put it '.....the definition of personnel management is itself still problematical.....' (Ref. 85 pg.7). The local labour market would seem to be a natural and obvious area of interest at both practical and theoretical level for the development of its subject matter, yet the local labour market is neglected in the well known texts on Personnel Management, examples of which are given at the bottom of this page.* One exception is Pigors Myers and Malm's book of Readings, which includes Malm's research study of the San Francisco Bay area labour market in 1949.

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*See for example D.S.Beach 'Personnel' 3^D Ed. Collier MacMillan, 1975, and P.Pigors and S.Myers 'Personnel Administration' 7th Ed., McGraw Hill, 1975 as representative American texts, and G.S.Thomason 'A Text book of Personnel Management', 1975, published by the I.P.M. in this country.

Such ommission is surprising in view of the influence which the local labour market can have upon the work of the personnel manager involved in the activities of recruitment, industrial relations, wage administration and employee services. Successful recruitment of blue collar workers, for example, demands a detailed knowledge of the local labour market in respect of where potential employees are located, and the pay and conditions of service that might attract and retain an adequate labour force. Yet amongst the 20 firms investigated, only one (firm D) had attempted any systematic mapping out of its catchment area. Only a minority of the firms maintained useful analysis of labour turnover and stability and none were aware of how their labour wastage compared with neighbouring firms. The pay survey carried out by firm A could be said to indicate a systematic approach to the analysis of relative earnings levels in the local labour market, and its relevance to wage administration and personnel policy is obvious, although one suspects emulated by a minority of personnel departments in this country. Hopefully the current progress towards a more professional approach to their work in this country will lead to a further systematic studies of local labour market conditions, including the topics featured in this dissertation.

GENERAL INFORMATION ON COMPLETING THE SURVEY FORMS

1. The Survey circulates amongst 25 companies in N.W. London, other than the Smith's factories.

2. The Surveyor is intended to show level of pay; and thus it is total remuneration for a 40 hour week that is being sought, expressed as an hourly rate. This would, for the purpose of the survey, include bonuses of all kinds paid weekly or monthly, merit additions etc., but would exclude overtime pay or shift allowances. If your company does not work a 40 hour week, could you please note this on the return; we would then convert your pay levels, by proportioning, to a 40 hour level so that direct comparison could be made.

3. Would you please enter under the grade headings and against the pay level, the number of employees on that grade and paid at that level during the week commencing 20th November, 1967. If this date is not possible, could you please attempt to complete the return for a week as close to the 20th November, 1967, as is convenient.

   If your range of pay levels is below 5/- per hour or above 12/2d. per hour, could you please us the blank rows to indicate the pay levels and the numbers paid at those levels.

4. In the boxes marked "Range of Rates Available" could you please show the minimum and maximum book rate in your Company. Our experience is that the maximum is often under pressure, whilst the minimum inevitably becomes disused. With an indication of the maximum and minimum rates for all companies we feel we might be able to attempt to show how true this experience is in the area.

5. Job descriptions for the Smiths organisation were circulated with the February 1964 survey sheets in order that the pay for the closest grade in your company could be entered on the sheets. If you would care to receive a further copy, we shall be pleased to supply you with one.

<u>JOB DESCRIPTION</u>

<u>TOOLMAKERS</u>

A toolmaker ought to have served an engineering apprenticeship and to have obtained the Ordinary National Certificate, or the City and Guilds Certificate. He will be a highly skilled man; with an advanced degree of manual dexterity; capable of, though not necessarily required to exercise, all the skills of toolmaking.

He should in particular be able to operate precision lathes, millers, grinders, jig borers, radial drills etc. with accuracy and precision, and to work to fine limits. He should be familiar with both English and metric means of measurement, and have a knowledge and understanding of production machines, the structure and behaviour of metals used in toolmaking and in production processes, of mathematics including trigonometry. He should be skilled in the use of means of measuring and checking work including optical aids such as shadowgraphs etc.

A toolmaker should be able to produce first-class tools from drawings, and in the higher grades from dimensioned sketches. He should be skilled in the making, repair and modification of all forms of tools and fixtures, from simple drilling jigs to multi-stage press tools/tools for use in transfer presses, and complicated mould making.

JOB DESCRIPTION

MAINTENANCE ELECTRICIAN

TO START

Must have served a 5 year apprenticeship or equivalent training and have reached a satisfactory standard of proficiency in Electrical Technology and be familiar with some Office Regulations and Institute of Electrical Engineering recommendations.

GRADE D

As above, including general experience of installation work (e.g. bench wiring, machine wiring in all systems, minor repairs to process plants such as soldering irons, boiling pots, portable tools etc.). This grade of work calls for good working knowledge of the more common types of electrical measuring instruments including the ammeter, voltmeter, avonmeter, wattmeter, and the capability for working out power calculations from the readings of these meters.

GRADE C

As above with the additional experience of installation and maintenance work of a more complex nature such as generators, rectifiers and various types of starters and relays. This class of work requires knowledge of working drawings and the ability to assess requirements of materials from the drawings; it also includes, the carrying out of larger installations with minimum supervision.

GRADE B

As above, but in addition requires knowledge of maintenance and of fault finding on the more common types of machines - (e.g. capstans, milling and grinding machines, gear hobbers etc.) and a knowledge of the electrical circuitry of these machines.

GRADE A

As above with the additional experience of installation and maintenance of all types of machine tool control gear, including American and Continental types and this includes making a diagnosis of faulty conditions and repairing with a minimum of delay such faults as occur.

For this class of work, knowledge of the electrical techniques of machine tool control, and such features as multi-speed change pole motors, the various D.C. and electronic methods of control, the braking of AC motors by plug stopping and DC injection, and the efficient use of automatic devices, is necessary as well as their efficient application to improve efficiency and reduce fatigue.

Also for this class of work an elementary knowledge of mechanical engineering is necessary and it also requires the ability to follow electrical circuit diagrams and drawings. It is necessary also to appreciate the cycle of functions of incorporated hydraulic and pneumatic systems electrically linked, and found, in moulding, diecasting and other mechanised and special purpose machines and processes.

JOB DESCRIPTION

MAINTENANCE FITTER

Maintenance of all equipment appertaining to the factory including gas, steam, water and air installations and site overhauls.

Running repairs to all production, special purpose, Tool Room and Development machines and equipment excluding electrical work.

Ability to work to drawings or sketches for building racks, tanks or special purpose equipment.

JOB DESCRIPTION

SKILLED INSPECTOR (MALE)

Must have a technical background to Ordinary National Certificate standard or its equivalent. Need not necessarily have served an apprenticeship. Must be capable of setting up a surface table and be trained in the use of standard measuring instruments. Must be able readily to understand blue-prints and operation sequence layouts, and should have had at least five years experience on inspection work. Must be able to accept responsibility and work with little supervision.

Specific tasks undertaken by this grade of labour would include:-

(a) Checking and approval of all "first off" components (on a machine shop) against drawings and layouts. Checking and release of first batches of finished instruments.

(b) Routine checking of running components, assemblies, sub-assemblies.

(c) Acting as the first reference for a Grade IV (Semi-Skilled) inspector - especially those on a production line.

He would make his own decision on all routine inspection issues but would keep the Senior Floor Inspector (a higher grade) advised of all action taken. He is empowered to stop a machine, process or operation if he detects sub-standard work.

JOB DESCRIPTION

STOREKEEPER

A man who has had at least six months experience of storekeeping (longer is preferred on some sites – up to three years at the major sites), and be capable of accepting responsibility for the correct receipt, storage and issue of raw materials and components against Goods Receiving Sheets, individual requisitions and Assembly Lists. He must be able to maintain clear and accurate Stock records and deal, where necessary, with the clearing of shortage notes for sets of components needed on assembly lines.

This grade entails some physical handling of goods helped where necessary by an Assistant Storekeeper working under his guidance and instruction.

A good understanding of Stores procedure and records systems is necessary.

JOB DESCRIPTION

ASSISTANT STOREKEEPER

A man who prepares sets of materials under the
direct supervision of a Storekeeper and transports
them under guidance and instruction to the appropriate
departments. He assists in all the manual elements
of the stores function. He also received goods into
the stores, counts them accurately if required, and
puts them away in accordance with instructions.

JOB DESCRIPTION

SEMI-SKILLED PIECEWORKERS (MALE)

Machining

Must be capable of operating machines such as capstans, grinders, presses, gear shapers, millers, drills with accuracy and precision. Whilst the machines will be set and the tools adjusted by setters the operator should have sufficient knowledge and experience to avoid wasting material and to determine when sub-standard work has been produced.

Should have an elementary knowledge of blue prints and measuring instruments so that checks of components can be carried out at specified frequencies, and should be aware of and capable of observing any necessary safety precautions. Must have a basic knowledge of engineering techniques so as to prevent damage to the machines and tools in use.

Assembly

Must have knowledge of elementary assembly, techniques, jigs, fixtures, hand tools, air operated tools, soldering, brazing, etc. Must be capable of reading gauges, meters etc. use in calibrating and adjusting instruments, and appreciate the need for accuracy in these processes, and for close conformity to written specifications and instructions.

JOB DESCRIPTION

LABOURER

A labourer is a workman who basically fetches, carries, cleans and sweeps; who performs work regularly requiring manual labour but no use of tools or of skill.

The current list of duties which a labourer might be called upon to perform includes:-

> Cleaning floors, sweeping yards
> Loading and unloading conveyors
> Emptying dustbins
> Cleaning tea urns
> Collecting boxes, skips, pallets
> Moving work by hand barrow (no urgency)
> Operating lifts and hoists
> Recharging water softeners
> Delivering and collecting tools for repair
> Feeding production lines with packing boxes

(There is another grade of worker - a production utility man who performs such duties as:-

> moving components to assembly lines
> moving components to checking stations
> refilling hoppers with components
> removing swarf from machines
> sorting components
> filling grease fixtures/containers

These duties - being intimately connected with the production process are no part of a labourer's duties.

JOB DESCRIPTION

FEMALE PIECEWORKERS

Except where they are employed and required to perform work normally done by men as defined by National Agreements, are unskilled and are employed as machine minders, assemblers and the like.

(Rates are not sought for women employed on mens' work).

TABLE A.4.1.i

FIRM A - MALE WORKERS

GROUPS	1	2	3	4	TOTAL %
AGE	%	%	%	%	
Under 20	-	-	-	-	-
20 - 25	8	5	3	3	5
26 - 35	15	15	8	9	14
36 - 45	21	24	12	17	21
46 - 55	23	23	42	43	27
56 - 60	15	23	25	11	20
61 & Over	18	10	10	17	13
	100	100	100	100	100
MARITAL STATUS					
Single	41	35	20	23	34
Widowed	1	-	-	-	-
Divorced	-	2	-	-	1
Married	58	63	80	77	65
	100	100	100	100	100
JOB STATUS					
Semi-Skilled	72	79	73	48	74
Unskilled	22	15	12	20	17
Skilled	6	6	13	29	9
Trainee	-	-	2	3	-
	100	100	100	100	100
NATIONALITY					
British	34	42	65	66	45
Irish	37	27	17	20	28
West Indian	10	15	7	9	12
Indian	4	4	1	-	3
Other	15	12	10	5	12
	100	100	100	100	100

TABLE A.4.1.ii

FIRM A — FEMALE WORKERS

GROUPS	1	2	3	4	TOTAL %
AGE	%	%	%	%	
Under 20	3	2	–	10	2
20 – 25	20	13	6	27	17
26 – 35	30	33	29	–	31
36 – 45	24	26	26	–	24
46 – 55	13	17	29	27	16
56 – 60	9	8	10	18	9
61 & Over	1	1	–	18	1
	100	100	100	100	100
MARTIAL STATUS					
Single	44	38	13	55	40
Widowed	2	1	–	–	1
Divorced	–	1	–	–	1
Married	54	60	87	45	58
	100	100	100	100	100
JOB STATUS					
Semi-skilled	96	97	94	100	96
Unskilled	4	3	6	–	4
Skilled	–	–	–	–	–
Trainee	–	–	–	–	–
	100	100	100	100	100
NATIONALITY					
British	19	21	35	55	21
Irish	63	51	39	36	57
West Indian	8	15	10	9	11
Indian	3	4	10	–	4
Other	7	9	6	–	7
	100	100	100	100	100

TABLE A.4.1.iii

FIRM B - MALE WORKERS

GROUPS	1	2	3	4	TOTAL %
	%	%	%	%	
AGE					
Under 20	4.	3	3	-	3
20 - 25	10	11	9	8	10
26 - 35	10	16	23	26	17
36 - 45	25	25	22	16	24
46 - 55	26	24	19	22	23
56 - 60	16	13	15	16	14
61 & Over	9	8	9	12	9
	100	100	100	100	100
MARTIAL STATUS					
Single	20	28	26	16	26
Widowed	1	1	3	-	1
Divorced	1	1	2	2	1
Married	78	70	69	82	72
	100	100	100	100	100
JOB STATUS					
Semi-skilled	67	78	73	66	74
Unskilled	6	2	4	-	3
Skilled	21	16	19	34	19
Trainee	6	4	4	-	4
	100	100	100	100	100
NATIONALITY					
British	76	71	61	78	70
Irish	10	7	9	6	8
West Indian	5	14	13	10	12
Indian	1	2	4	2	2
Other	8	6	13	4	8
	100	100	100	100	100

TABLE A.4.1.iv

FIRM B - FEMALE WORKERS

GROUPS	1	2	3	4	TOTAL %
AGE	%	%	%	%	
Under 20	-	1	8	-	1
20 - 25	14	17	12	17	16
26 - 35	20	27	24	17	25
36 - 45	26	20	24	-	21
46 - 55	30	28	28	49	29
56 - 60	10	7	4	17	8
61 & Over	-	-	-	-	-
	100	100	100	100	100
MARITAL STATUS					
Single	20	33	28	34	30
Widowed	8	5	4	-	5
Divorced	2	3	-	-	2
Married	70	59	68	66	63
	100	100	100	100	100
JOB STATUS					
Semi-skilled	100	98	100	100	99
Unskilled	-	2	-	-	1
Skilled	-	-	-	-	-
Trainee	-	-	-	-	-
	100	100	100	100	100
NATIONALITY					
British	58	54	56	83	56
Irish	20	30	32	17	28
West Indian	6	11	12	-	10
Indian	4	1	-	-	1
Other	12	4	-	-	5
	100	100	100	100	100

Average percentage for wards in each of 9 clusters on
8 socio-economic groupings (from GLC Study)

	Variable							
	1	2	3	4	5	6	7	8
	Pro-fessional workers	Employers and Managers	Other self-employed workers	Skilled manual workers	Other non-manual workers	Service semi-skilled workers	Un-skilled manual workers	Armed Forces & inade-quately described
	SECs 3,4	SECs 1,2,13	SECs 12,14	SECs 8,9	SECs 5,6	SECs 7,10,15	SECs 11	SECs 16,17
	%	%	%	%	%	%	%	%
Cluster A	1.0	6.1	5.1	32.3	15.7	19.9	15.4	4.0
B	2.3	7.6	6.7	35.3	18.0	17.3	9.5	3.3
C	3.2	9.1	4.4	36.2	21.0	15.5	8.4	2.2
D	4.5	13.7	3.1	9.8	14.6	10.6	6.4	37.3
E	5.7	11.7	4.5	25.5	25.5	14.0	8.0	5.2
F	5.1	13.3	7.1	30.0	24.9	12.4	5.1	2.0
G	9.7	21.0	5.9	20.9	28.5	8.5	3.2	2.1
H	14.6	27.9	4.0	13.9	29.1	6.2	2.0	2.2
J	14.1	25.6	3.1	6.3	27.2	8.9	4.5	10.3
GLC	6.0	13.7	5.4	27.5	23.3	13.4	7.3	3.3

N.B. It must be stressed that the above percentages are averages of ward percentages.
In general, the true percentage of a given variable over a whole cluster will
differ from those given above. Only in the extreme case where the economically
active male populations of each ward in a given cluster are the same, will the
above percentages be correct for the cluster as a whole.

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EMPLOYMENT RECORD II (INDUSTRY GROUPS) JUNE 1972

EMPLOYEES IN EMPLOYMENT IN:- WEMBLEY

BASED ON THE STANDARD INDUSTRIAL CLASSICIATION (1968)

	(Thousands)		
	Males	Females	Total
Primary Industries (Orders I & II)	0.0	0.0	0.0
Manufacturing Industries (Orders III - XIX)	11.8	4.5	16.3
Construction (Order XX)	2.7	0.3	2.9
Gas, Electricity & Water (Order XXI)	0.3	0.4	0.7
Distributive Trades (Order XXIII)	3.4	3.4	6.7
Miscellaneous Services / (Order XXVI)	2.6	1.9	4.4
Public Administration (Order XXVII)	1.0	0.5	1.5
Other Service Industries * (Orders XXII, XXIV & XXV)	4.7	4.9	9.6
Not Classified by Industry	0.0	0.0	0.0
Total - All Industries & Services	26.4	15.8	42.2

* Transport & Communication, Insurance, Banking,
  Finance & Business Services, & Professional &
  Scientific Services.
/ Excluding Private Domestic Service.

EMPLOYMENT RECORD II (INDUSTRY GROUPS)

EMPLOYERS IN EMPLOYMENT IN:-   WILLESDEN

BASED ON THE STANDARD INDUSTRIAL CLASSIFICATION (1968)

(Thousands)

	Males	Females	Total
Primary Industries (Orders I & II)	0.0	0.0	0.0
Manufacturing Industries (Orders III - XIX)	26.4	11.0	37.3
Construction (Order XX)	2.9	0.2	3.1
Gas, Electricity & Water (Order XXI)	1.0	0.2	1.3
Distributive Trades (Order XXIII)	6.3	3.7	10.0
Miscellaneous Services / (Order XXVI)	4.3	2.5	6.8
Public Administration (Order XXVII)	2.5	0.8	3.3
Other Service Industries * (Orders XXII, XXIV & XXV)	13.1	10.1	23.2
Not Classified by Industry	0.0	0.0	0.0
Total - All Industries & Services	56.5	28.5	85.0

* Transport & Communication, Insurance, Banking, Finance & Business Services, & Professional & Scientific Services.

/ Excluding Private Domestic Service.

Department of
Employment (Stats C6)
Orphanage Road
Watford   Herts

LO Code 01 21 543

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RESIDENTS IN EMPLOYMENT

KEY:

92760   Men

59090   Women

Men

Women

FIGURES ARE TO THE NEAREST WHOLE FIGURE

HILLINGDON
HOUNSLOW
HARROW
RICHMOND
EALING
HAMMERSMITH
KINGSTON
BARNET
WANDSWORTH
MERTON
KENSINGTON
SUTTON
CAMDEN
WESTMINSTER
LAMBETH
HARINGEY
ISLINGTON
C. OF LONDON
ENFIELD
SOUTHWARK
CROYDON
TOWER HAMLETS
HACKNEY
LEWISHAM
WALTHAM FORST
NEWHAM
GREENWICH
BROMLEY
REDBRIDGE
BARKING
BEXLEY
HAVERING

ENFIELD
BARNET
WALTHAM FOREST
HARROW
REDBRIDGE
HARINGEY
HAVERING
BRENT
HACKNEY
HILLINGDON
CAMDEN
ISLINGTON
BARKING
EALING
NEWHAM
WESTMINSTER
TOWER HAMLETS
C. OF LONDON
KENSINGTON
HAMMERSMITH
GREENWICH
HOUNSLOW
BEXLEY
SOUTHWARK
LAMBETH
WANDSWORTH
LEWISHAM
RICHMOND
MERTON
KINGSTON
BROMLEY
SUTTON
CROYDON

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TRAVEL TO WORK PATTERNS IN THE LONDON BOROUGH OF BRENT
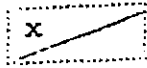
APPENDIX A.4.5

(Sample Census 1966)

NUMBER EMPLOYED IN AREA

92700	Men
47950	Women

KEY -

[x /] Men

[/ x] Women

PERCENTAGES ARE TO THE NEAREST WHOLE FIGURE

Grid row labels (left side, partial / right side, full):

left	right
D	ENFIELD
	BARNET
M FOREST	WALTHAM FOREST
	HARROW
IDGE	REDBRIDGE
GEY	HARINGEY
ING	HAVERING
	BRENT
EY	HACKNEY
HGDON	HILLINGDON
N	CAMDEN
GTON	ISLINGTON
NG	BARKING
IG	EALING
M	NEWHAM
INSTER	WESTMINSTER
HAMLETS	TOWER HAMLETS
LONDON	C. OF LONDON
NGTON	KENSINGTON
ERSMITH	HAMMERSMITH
WICH	GREENWICH
SLOW	HOUNSLOW
EY	BEXLEY
WARK	SOUTHWARK
ETH	LAMBETH
SWORTH	WANDSWORTH
SHAM	LEWISHAM
MOND	RICHMOND
ON	MERTON
STON	KINGSTON
LEY	BROMLEY
ON	SUTTON
DON	CROYDON

Values in grid: 6, 10/10, 45/67, 8/4, 3/2, 8/5, 3/2, 2/1

IS 4% Men
2% Women

M OTHER
EAS

Men
Women

Bottom column labels:
HILLINGDON, HOUNSLOW, HARROW, RICHMOND, EALING, HAMMERSMITH, KINGSTON, BARNET, BRENT, WANDSWORTH, MERTON, KENSINGTON, SUTTON, CAMDEN, WESTMINSTER, LAMBETH, HARINGEY, ISLINGTON, C. OF LONDON, ENFIELD, SOUTHWARK, CROYDON, TOWER HAMLETS, HACKNEY, LEWISHAM, WALTHAM FOREST, NEWHAM, GREENWICH, BROMLEY, REDBRIDGE, BARKING, BEXLEY, HAVERING

TABLE A.5.1.i   MEDIAN STANDARD HOURLY EARNINGS OF TOOLMAKERS

Results of 6 Pay Surveys incorporating 20 firms in N.W.London expressed in pence.

Firm	May '69 Rate	May '69 R.O.	Sept.'70 Rate	Sept.'70 R.O.	Oct. '71 Rate	Oct. '71 R.O.	Jan. '73 Rate	Jan. '73 R.O.	*Aug. '74 Rate	*Aug. '74 R.O.	Apr. '75 Rate	Apr. '75 R.O.
A	64.5	2	74	3	79	4	94.5	4	102.5	5	137.5	1
B	63	3	N/A		N/A		96.5	2	N/A		133.5	4
C	N/A		80.5	1	N/A		94.5	4	103	4	N/A	
D	N/A		N/A		N/A		N/A		N/A		N/A	
E	N/A		N/A		N/A		N/A		90.5	11	131.	5
F	55	10	65	14	73.5	11	80.5	16	87	13	112.5	15
G	N/A		69.5	11	76.5	6	86	14	N/A		N/A	
H	N/A		69	12	74.5	9	88	12	N/A		127.5	7
I	N/A		65.5	13	71.5	12	N/A		90	12	102	16
J	N/A		73.5	5	84.5	1	93	6	108.5	3	129.5	6
K	67.5	1	71	6	79.5	3	90.5	7	97	8	117	13
L	N/A		N/A		N/A		88.5	8	98.5	7	136.5	2
M	60.5	8	75.5	2	74	10	86.5	13	93.5	10	115	14
N	61	7	70	9	77	5	96	3	113	1	136	3
O	63	3	70	9	69	13	N/A		N/A		126.5	9
P	57	9	63	16	N/A		88.5	8	N/A		121	12
Q	N/A		74.	3	81	2	88.5	8	107	3	N/A	
R	N/A		65	14	N/A		101	1	N/A		127.5	7
S	62.5	5	70.5	8	76.5	6	88.5	8	100.5	6	124.5	10
T	62.5	5	71	6	76.5	6	82.5	15	94	9	122	11
Mean	61.65		70.437		76.384		90.219		100.808		123.25	
Standard Deviation	3.391		4.362		3.923		5.220		7.510		12.867	
Coefficient of Variation	5.798		6.395		5.346		5.975		7.754		10.782	
Range as %	22.73%		27.77%		22.46%		25.47%		29.88%		34.80%	

*Excluding Threshold Payments

TABLE A.5.1.ii MEDIAN STANDARD HOURLY EARNINGS OF MAINTENANCE ELECTRICIANS

Results of 6 Pay Surveys incorporating 20 firms in N.W. London expressed in pence.

Firm	May '69 Rate	May '69 R.O.	Sept. '70 Rate	Sept. '70 R.O.	Oct. '71 Rate	Oct. '71 R.O.	Jan. '73 Rate	Jan. '73 R.O.	*Aug. '74 Rate	*Aug. '74 R.O.	Apr. '75 Rate	Apr. '75 R.O.
A	60	2	67	7	74.5	3	85.5	6	102	4	130	2
B	58.5	4	N/A		N/A		96.5	1	N/A		133.5	1
C	N/A		69.5	4	N/A		94.5	2	103	3	N/A	
D	53	7	66	9	73.5	4	81.5	8	93	7	126.5	5
E	N/A		N/A		N/A		N/A		90.5	9	121.5	8
F	45.5	10	54.5	15	64.5	10	71	16	79	15	102.5	19
G	N/A		67	7	70.5	7	77.5	12	N/A		N/A	
H	N/A		N/A		N/A		N/A		N/A		N/A	
I	N/A		65.5	10	71.5	6	81.5	8	90	11	101.5	15
J	N/A		75	1	82.5	1	92	3	106	2	128.5	4
K	60.5	1	55.5	14	67.5	8	79	12	86	13	105	13
L	N/A		N/A		N/A		79.5	11	90.5	9	129	3
M	N/A		72.5	3	73	5	84.5	7	91.5	8	114	12
N	49.5	8	52.5	16	64	11	81.5	8	96.5	5	125	6
O	54.5	6	65.5	10	63.5		N/A		N/A		N/A	
P	49	9	62	12	N/A		70.5	17	N/A		118	11
Q	N/A		74.5	2	80.5	2	88.5	4	107	1	N/A	
R	N/A		67.5	6	N/A		88.5	4	94.5	6	125	6
S	57.5	5	58.5	13	66	9	77	14	83	14	120.5	9
T	59.5	3	68	5	66.5	8	74	15	90	11	119	10

	May '69	Sept. '70	Oct. '71	Jan. '73	*Aug. '74	Apr. '75
Mean	54.75	65.062	70.615	82.529	93.5	119.967
Standard Deviation	5.041	6.612	5.874	7.449	7.893	9.814
Coefficient of Variation	9.705	10.495	8.658	9.303	8.738	8.468
Range as %	32.96%	42.86%	28.90%	36.88%	35.44%	31.53%

*Excluding Threshold Payments

TABLE A.5.1.iii MEDIAN STANDARD HOURLY EARNINGS OF MAINTENANCE FITTERS

Results of 6 Pay Surveys incorporating 20 firms in N.W.London expressed in pence.

Firm	May '69		Sept.'70		Oct. '71		Jan. '73		*Aug. '74		Apr. '75	
	Rate	R.O.	Rate	R.O.	Rate	R.O.	Rate	R.O.	Rate	R.O.	Rate	R.O.
A	N/A		N/A		N/A		N/A		97	4	130	3
B	59	2	N/A		N/A		94.5	1	N/A		133.5	1
C	N/A		70.5	4	N/A		94.5	1	100.5	2	N/A	
D	52	6	65.5	6	72.5	6	80	10	91.5	5	126	4
E	N/A		N/A		N/A		N/A		88.5	10	119	8
F	45.5	9	55	15	60.5	13	71	16	79	13	102.5	14
G	N/A		65	7	68.5	9	77	14	N/A		N/A	
H	N/A		63.5	9	71.5	7	80	10	N/A		105	12
I	N/A		58	13	69.5	8	81.5	8	89.5	8	101.5	15
J	N/A		73	2	80	2	90	3	106.5	1	130.5	2
K	56	4	58.5	12	67.5	11	79	13	86	12	105	12
L	N/A		N/A		N/A		79.5	12	91.5	5	125.5	5
M	58	3	71.5	3	73	5	82.5	6	89.5	8	112	11
N	45.5	9	67.5	5	76.5	3	90	3	100.5	2	125	6
O	51.5	7	53	16	63.5	12	N/A		N/A		N/A	
P	50	8	57	1	N/A		71	16	N/A		N/A	
Q	N/A		74.5	9	80.5	1	88.5	5	N/A		N/A	
R	N/A		63.5	9	N/A		81	9	90.5	7	118	10
S	63.5	1	63.5	8	75.5	4	82	4	76	14	120.5	7
T	56	4	64.5	8	68.5	9	73	15	87	11	119	8
Mean	53.7		64.0		71.346		82.059		90.964		118.2	
Standard Deviation	5.56		6.242		5.685		7.094		7.920		10.34	
Coefficient of Variation	10.913		10.074		8.294		8.911		9.036		9.055	
Range as %	39.56%		40.57%		33.06%		33.09%		40.13%		31.53%	

*Excluding Threshold Payments

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TABLE A.5.1.iv   MEDIAN STANDARD HOURLY EARNINGS OF SKILLED INSPECTORS

Results of 6 Pay Surveys incorporating 20 firms in N.W.London expressed in pence.

Firm	May '69 Rate	May '69 R.O.	Sept.'70 Rate	Sept.'70 R.O.	Oct. '71 Rate	Oct. '71 R.O.	Jan. '73 Rate	Jan. '73 R.O.	*Aug. '74 Rate	*Aug. '74 R.O.	Apr. '75 Rate	Apr. '75 R.O.
A	52.5	4	59.5	7	64.5	6	73	12	87.5	8	111.5	8
B	54	3	N/A		N/A		96.5	1	N/A		122.5	5
C	N/A		N/A		N/A		82.5	5	97.5	5	N/A	
D	N/A		N/A		N/A		N/A		N/A		N/A	
E	N/A		N/A		N/A		N/A		95	6	124	4
F	47	10	55	12	62.5	11	70	13	76.5	12	100.5	14
G	N/A		66.5	3	68.5	5	79	8	N/A		N/A	
H	N/A		62	5	74.5	3	85.5	3	N/A		128.5	1
I	N/A		N/A		64.5	6	N/A		84.5	10	103	12
J	N/A		66.5	3	76.5	1	85	4	102	2	127	2
K	52.5	4	59.5	8	69.5	4	80	7	86.5	9	111	9
L	N/A		N/A		N/A		75	9	88	7	119	7
M	54.5	2	74.5	1	N/A		N/A		N/A		N/A	
N	50.5	7	54.5	13	63	8	81	6	100	3	124.5	3
O	56	1	60.5	6	63	8	N/A		N/A		N/A	
P	48	8	57.5	10	N/A		74	10	N/A		104	11
Q	N/A		70.5	2	76	2	89	2	106.5	1	N/A	
R	N/A		54.5	0	N/A		N/A		98	4	121	6
S	52.5	4	59	9	63	8	73.5	11	84	11	108.5	10
T	48	8	56	11	60.5	12	67	14	77	13	101	13
Mean	51.55		61.143		67.167		79.357		91.0		114.714	
Standard Deviation	2.902		5.977		5.467		7.71		9.150		9.806	
Coefficient of Variation	5.934		10.145		8.501		10.082		10.466		8.871	
Range as %	19.15%		36.69%		26.45%		44.03%		38.31%		27.86%	

*Excluding Threshold Payments

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TABLE A.5.1.v   MEDIAN STANDARD HOURLY EARNINGS OF STOREKEEPERS

Results of 6 Pay Surveys incorporating 20 firms in N.W.London expressed in pence.

Firm	May '69 Rate	R.O.	Sept.'70 Rate	R.O.	Oct. '71 Rate	R.O.	Jan. '73 Rate	R.O.	*Aug. '74 Rate	R.O.	Apr. '75 Rate	R.O.
A	44.5	6	50.5	7	55.5	5	60	14	74	8	97	9
B	50	2	N/A		N/A		75.0	2	N/A		112	3
C	N/A		N/A		N/A		87.0	1	84.5	3	N/A	
D	43.5	10	55	3	66	1	N/A		N/A		113.5	1
E	N/A		N/A		N/A		N/A		76.5	7	109	4
F	39	11	47.5	13	52.5	14	61.50	12	67.5	12	87	14
G	N/A		51.5	6	53.5	11	58.5		N/A		N/A	
H	N/A		59	2	58.5	4	62.5	10	N/A		90.5	12
I	N/A		N/A		54.0	10	N/A		82.5	5	100	8
J	N/A		N/A		60.5	3	69	5	84	4	113	2
K	53.5	1	50.5	7	55	6	N/A		N/A		88	13
L	N/A		N/A		N/A		68	6	78.5	6	108	5
M	44.5	6	53	5	53.5	11	64.5	7	67	13	85	15
N	99	3	N/A		55	6	72	3	85	2	106	7
O	45	4	50	9	53.5	11	N/A		N/A		N/A	
P	41	8	49.5	12	N/A		63	9	N/A		N/A	
Q	N/A		61.5	1	64	2	70	4	85.5	1	N/A	
R	N/A		55	3	N/A		64.5	7	72.5	9	106.5	6
S	45	4	50	9	55	6	62.5	10	69	11	96.5	10
T	44	8	50	9	54.5	9	61	13	71	10	95	11
Mean	45.36		52.538		56.50		66.6		76.731		100.467	
Standard Deviation	3.881		3.90		4.031		7.104		6.753		9.625	
Coefficient of Variation	9.158		7.726		7.403		11.042		9.160		9.917	
Range as %	37.18%		29.47%		25.71%		45.0%		27.61%		33.53%	

*Excluding Threshold Payments

TABLE A.5.1.vi MEDIAN STANDARD HOURLY EARNINGS OF MALE SEMI-SKILLED PROCESS WORKERS

Results of 6 Pay Surveys incorporating 20 firms in N.W.London expressed in pence.

Firm	May '69 Rate	R.O.	Sept.'70 Rate	R.O.	Oct. '71 Rate	R.O.	Jan. '73 Rate	R.O.	*Aug. '74 Rate	R.O.	Apr. '75 Rate	R.O.
A	47.5	4	57	3	62.5	3	69	6	76.5	7	105	6
B	49	2	N/A		N/A		N/A		N/A		112	2
C	N/A		66	1	N/A		77	1	N/A		N/A	
D	N/A		N/A		N/A		N/A		N/A		N/A	
E	N/A		N/A		N/A		N/A		89.5	1	119	1
F	47	8	55.5	5	61.5	6	72	3	81	4	100	8
G	N/A		51.5	9	N/A		59	10	N/A		N/A	
H	N/A		52.5	8	54.5	9	70.5	5	N/A		109	5
I	N/A		49.5	12	N/A		N/A		79	5	N/A	
J	N/A		N/A		N/A		N/A		N/A		N/A	
K	41	9	50	11	N/A		N/A		N/A		N/A	
L	N/A		N/A		N/A		N/A		N/A		99.5	9
M	49	2	56	4	58	8	64.5	7	70	8	N/A	
N	47.5	4	51.5	9	62.5	3	N/A		86.5	2	112.5	2
O	70	1	N/A		74	1	N/A		N/A		N/A	
P	39.5	10	49.5	12	N/A		64	9	N/A		N/A	
Q	N/A		61.5	2	69.5	2	74	2	N/A		N/A	
R	N/A		N/A		N/A		N/A		N/A		N/A	
S	47.5	4	55.5	5	62.5	3	71	4	86.5	2	111.5	4
T	47.5	4	55	7	59.5	7	66	7	77.5	6	103.5	7
Mean	48.55		54.692		62.722		68.70		80.812		108.0	
Standard Deviation	7.786		4.672		5.528		5.075		6.020		6.110	
Coefficient of Variation	16.905		8.891		9.348		7.787		7.964		6.000	
Range as %	77.22%		33.33%		35.78%		30.51%		27.86%		19.60%	

*Excluding Threshold Payments

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TABLE A.5.1.vii MEDIAN STANDARD HOURLY EARNINGS FOR LABOURERS

Results of 6 Pay Surveys incorporating 20 firms in N.W.London
expressed in pence.

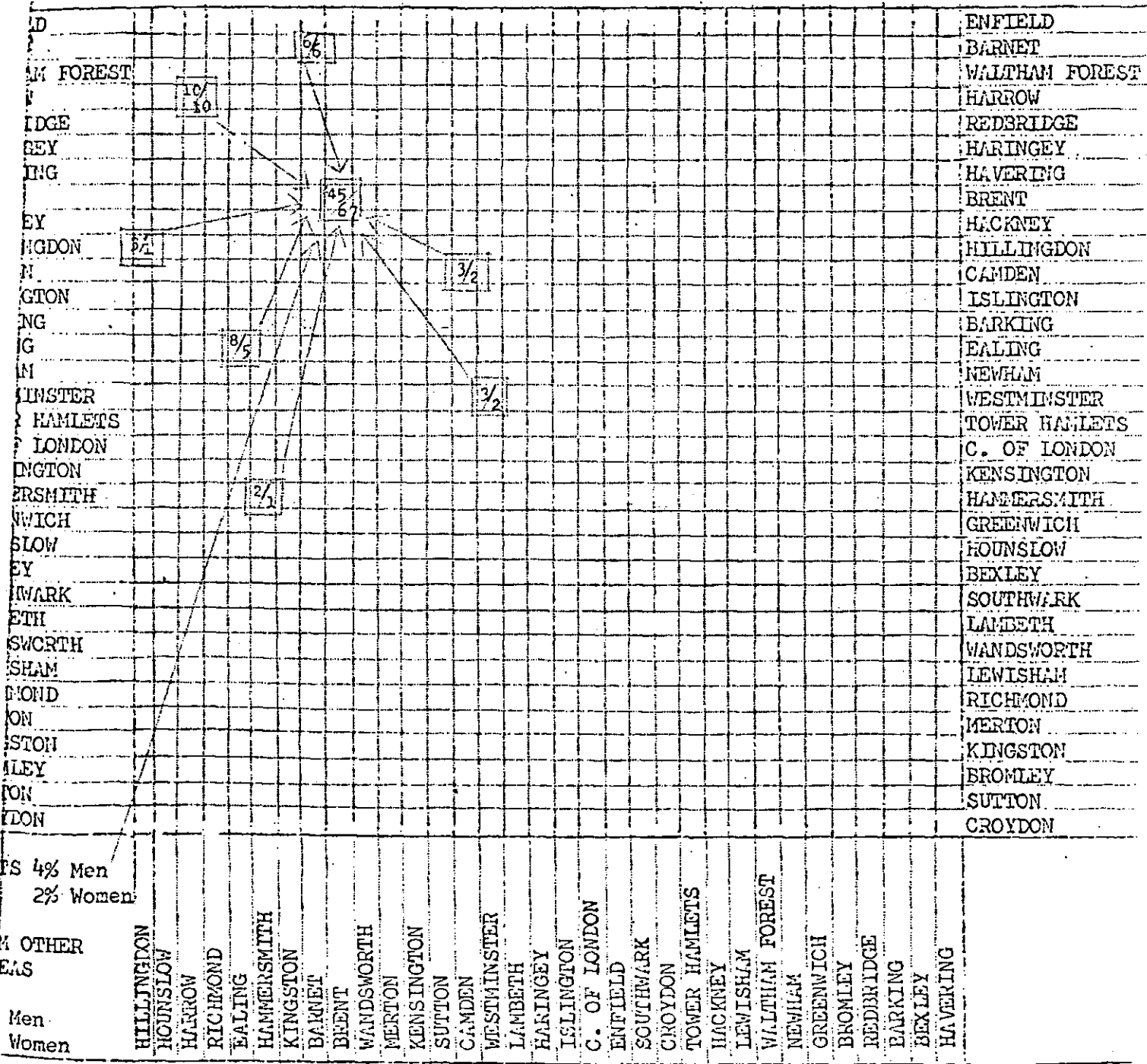| Firm	May '69 Rate	May '69 R.O.	Sept.'70 Rate	Sept.'70 R.O.	Oct. '71 Rate	Oct. '71 R.O.	Jan. '73 Rate	Jan. '73 R.O.	*Aug. '74 Rate	*Aug. '74 R.O.	Apr. '75 Rate	Apr. '75 R.O.
A	38	5	44	10	49.50	6	55	10	68	3	90	7
B	40.5	2	N/A		N/A		71	1	N/A		107	2
C	N/A		45.5	7	N/A		58.5	5	65.5	7	N/A	
D	41	1	N/A		N/A		N/A		N/A		N/A	
E	N/A		N/A		N/A		N/A		64	11	95.5	5
F	37.5	8	45	8	49	8	55	10	63.5	13	81	12
G	N/A		50	4	53.5	4	51.5	14	N/A		N/A	
H	N/A		53	2	57.5	1	56.5	9	N/A		102	3
I	N/A		42.5	12	42.5	13	50	15	58.5	14	102	3
J	N/A		48.5	5	55.5	3	60	4	74.5	2	111	1
K	35.5	10	39	15	47.5	9	58	6	66.5	5	83	10
L	N/A		N/A		N/A		58	6	67.5	4	93.5	6
M	37.5	8	51.5	3	52.5	5	61	3	65.5	7	83	10
N	38.5	3	42	14	47.5	9	N/A		65.5	7	N/A	
O	38	5	43	11	45.5	12	N/A		N/A		N/A	
P	35	11	39	15	N/A		54.5	14	N/A		80	13
Q	N/A		57	1	57.5	1	62	2	81.5	1	N/A	
R	N/A		47.5	6	N/A		57	8	65	10	86.5	9
S	38.5	3	42.5	12	47	11	55	10	64	11	N/A	
T	38	5	44.5	9	49.5	6	55	10	66	6	89.5	8
Mean	38.0		45.875		50.346		57.375		66.821		92.615	
Standard Deviation	1.692		4.855		4.465		4.675		5.222		9.857	
Coefficient of Variation	4.670		10.932		9.231		8.416		8.110		11.077	
Range as %	17.14%		46.15%		35.29%		42.0%		38.32%		38.75%	

*Excluding Threshold Payments

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MEDIAN STANDARD HOURLY EARNINGS FOR FEMALE SEMI-SKILLED PROCESS WORKERS

Results of 6 Pay Surveys incorporating 20 firms in N.W.London
expressed in pence.

Firm	May '69 Rate	May '69 R.O.	Sept.'70 Rate	Sept.'70 R.O.	Oct. '71 Rate	Oct. '71 R.O.	Jan. '73 Rate	Jan. '73 R.O.	*Aug. '74 Rate	*Aug. '74 R.O.	Apr. '75 Rate	Apr. '75 R.O.
A	36.5	6	45	5	49.5	5	53.5	8	67	10	93.5	7
B	N/A		N/A		N/A		69	2	N/A		108	3
C	N/A		52	1	N/A		64.5	4	100.5	1	N/A	
D	32.5	8	43.5	7	50.5	3	59	6	74.5	5	112.5	2
E	N/A		N/A		N/A		N/A		77	3	106	4
F	36	7	44	6	48.5	6	56	7	N/A		87.5	11
G	N/A		42.5	10	46.5	8	50	16	N/A		N/A	
H	N/A		43	9	44	10	52	12	N/A		80.5	14
I	N/A		N/A		N/A		52	12	69	8	92	9
J	N/A		N/A		N/A		70	1	75.5	4	116.5	1
K	37	4	39.5	11	N/A		60.5	5	68.5	9	85	12
L	N/A		N/A		N/A		51	15	66	12	97.5	5
M	40	2	46	4	46	9	54	8	N/A		78	15
N	31	9	36.5	13	43	11	52.5	9	67	10	93	8
O	43.5	1	N/A		51	2	N/A		N/A		N/A	
P	30	10	37.5	12	N/A		52.5	9	N/A		83	13
Q	N/A		50	2	60	1	69	2	88.5	2	N/A	
R	N/A		N/A		N/A		52	12	72.5	6	N/A	
S	37	4	43.5	7	47.5	7	52.5	9	60	13	89	10
T	37.5	3	47.5	3	50.5	3	57.5	7	71	7	97.5	5
Mean	36.10		43.885		48.818		57.08		73.615		94.633	
Standard Deviation	3.872		4.293		4.350		6.050		10.177		11.313	
Coefficient of Variation	11.305		10.182		9.345		11.060		14.390		12.374	
Range as %	45.0%		42.46%		39.95%		40.00%		67.5%		49.36%	

*Excluding Threshold Payments

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TABLE A.5.2 – RANK ORDER REPORTED BY J.T. ADDISON FOR SOUTHAMPTON LABOUR MARKET

APPENDIX A.5

Ranking of Firms by Standard Hourly Earnings. Quarterly, 1960-66. Process-Production Workers

YEAR		SAMPLE SIZE	U_1	U_2	U_3	U_4	U_7	U_8	U_9	U_{11}	U_{12}	U_{13}	U_{14}	U_{15}	U_{17}	U_{24}	U_{25}	U_{26}	U_{27}	U_{28}	U_{29}	U_{30}	U_{31}	U_{32}
1960	Q_1	10	3	7	5	6			2			9	8					1					10	4
	Q_2	10	3	7	5	6			2			9	8					1					10	4
	Q_3	10	2	7	5	4			3			9	0					1					10	6
	Q_4	12	2	7	5	4			3			11	9				8	1	10				12	6
1961	Q_1	12	2	7	5	4			3			11	9				10	1	0				12	6
	Q_2	12	1	6	4	4			3			11	9				10	2	8				12	7
	Q_3	12	1	7	5	5			3			11	9				10	2	4				12	0
	Q_4	12	1	7	5	5			3			11	10				9	2	4				12	0
1962	Q_1	12	1	4	3	4			4			9	11				10	2	7				12	8
	Q_2	12	1	4	3	4			4			10	3				11	2	7				12	0
	Q_3	14	1	7	6	7			5		4	12	11		2		13	3	9				14	10
	Q_4	14	1	7	6	7			5		4	13	12		2		10	3	9				14	11
1963	Q_1	14	1	6	5	6			8		4	11	13		2		10	3	9				14	11
	Q_2	14	1	7	5	5			8		4	12	13		2		11	3	9				14	10
	Q_3	14	1	7	5	5			8		4	13	10		2		12	3	9				14	11
	Q_4	14	1	7	5	5			8		4	13	11		2		9	3	10				14	12
1964	Q_1	16	1	7	5	5	10		8	14	4	15	12		2		9	3	11				16	13
	Q_2	16	1	7	5	5	11		8	14	4	15	13		2		10	3	12				16	8
	Q_3	18	1	9	7	7	12		10	16	5	17	14		3		13	4	14	2	6		18	10
	Q_4	18	1	10	7	7	13		7	16	5	17	15		2		14	4	11	3	6		18	12
1965	Q_1	18	1	0	7	9	14		10	13	5	16	17		2		15	4	11	3	6		18	12
	Q_2	21	1	5	5	5	14	12	11	10	9	20	17	10	2	8	19	4	15	3	12		21	16
	Q_3	21	1	7	7	7	7	14	13	16	6	20	18	12	3	11	19	4	15	2	5		21	17
	Q_4	21	1	8	0	6	12	14	13	17	11	20	19	6	3	5	16	4	15	2	7		21	18
1966	Q_1	22	1	9	11	6	13	15	11	19	4	22	17	7	2	5	10	6	16	3	10	14	21	20
	Q_2	22	1	10	8	9	15	17	12	20	4	22	13	5	2	6	19	7	16	3	11	15	21	19
	Q_3	22	1	12	10	11	15	10	13	7	5	22	14	6	3	4	20	8	17	2	9	16	21	19
	Q_4	22	1	12	10	11	15	18	14	7	5	22	13	6	3	4	19	0	17	2	9	16	21	20

APPENDIX A.6.1

MINIMUM AND MAXIMUM STANDARD HOURLY RATES OF PAY ANALYSED BY OCCUPATION WITHIN FIRMS PARTICIPATING IN BOTH THE 1970 AND 1975 PAY SURVEYS (pence per hour).

A - September 1970

Firm	Toolmakers		Electricians		Fitters		Inspectors		Storekeepers		Male Process		Labourers		Female Process	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
A	66.5	74	66	67.5	N/A	N/A	56.5	65	49	54	41.5	68.5	43.5	45	32.5	59
F	64	67.5	55	56	54	55	51.5	60	46.5	54	55	57.5	44	46	43.5	44
H	63.5	77.5	57.5	75	57.5	66.5	61.5	62.5	58.5	60	35	58.5	50	56	36.5	46.5
I	65	66	56	58.5	57.5	58.5	N/A	N/A	N/A	N/A	49	50	41.5	43.5	N/A	N/A
J	65	78.5	70	81	56	76	60	73.5	53.5	66	N/A	N/A	45	51	N/A	N/A
K	71	71.5	55	56	55	61.5	57.5	71	49	52.5	47.5	56.5	38.5	41.5	35	43.5
M	72.5	82.5	71	76.5	57.5	85	72.5	76.5	46.5	61.5	42.5	66.5	49	53.5	32.5	60
P	62.5	67.5	61.5	62.5	49	58.5	56	61	47.5	54	46	57.5	37.5	49	32.5	46
R	52.5	71.5	N/A	N/A	57.5	70	48.5	81.5	46.5	73.5	N/A	N/A	41	67.5	N/A	N/A
T	67.5	71.5	67.5	88.5	64	65	52.5	57.5	48.5	53.5	53.5	61	44	45	45	50

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B - April 1975

Firm	Toolmakers		Electricians		Fitters		Inspectors		Storekeepers		Male Process		Labourers		Female Process	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
A	124	137	133.5	133.5	130	130	107	125	94	100.5	97	114.5	89	91	90	107
F	111	114	102.5	102.5	102.5	102.5	96	103	86	92	97	108	81	81	85	90
H	119	133	N/A	N/A	105	105	117	128.5	84	96	91	126.5	84	104.5	75	96.5
I	101	102	101.5	101.5	81	102	103	103	99	101	N/A	N/A	70	102	92	92
J	120	142	120	142	120	142	120	134	111	114	N/A	N/A	107	112	110	123
K	116	117	105	105	105	105	111	111	88	88	N/A	N/A	83	83	85	85
M	110	118	112	116	106	120.5	N/A	N/A	84	94	71	99	80	85	65	94
P	120	121	118	118	N/A	N/A	99	121	83	96	N/A	N/A	74	81	77	90
R	120	133	125	125	105	125	115	125	100	110	N/A	N/A	82	95	N/A	N/A
T	122	122	113	119	113	119	97	102	93	95	99	109	87	90.5	95	101

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Period	Statistic	Female Process	Labourers	Male Process	Store-Keepers	Inspectors	Fitters	Electricians	Toolmakers
May 1969	Lowest	26	37.5	31.5	41.5	49	N/A	55	56
	Median	36.5	38	47.5	44.5	52.5		60	64.5
	Highest	48.5	39	72.5	48.5	59		61	65
	Range %	86.54	4.0	130.16	16.87	20.41		10.90	16.07
Sept. 1970	Lowest	32.5	43.5	41.5	49	56.5	N/A	66	66.5
	Median	45	44	57	50.5	59.5		67	74
	Highest	59	45	78.5	54	65		67.5	74
	Range %	81.54	3.45	89.16	10.20	15.04		2.27	11.28
Oct. 1971	Lowest	40	49	51	53	61	N/A	74	71
	Median	49.5	49.5	62.5	55.5	64.5		74.5	79
	Highest	68	50	81	59	73		75	80
	Range %	70.0	2.04	58.82	11.32	19.67		1.35	12.59
Jan. 1973	Lowest	47	55	53.5	59.5	70	N/A	85.5	83
	Median	53.5	55	69	60	73		85.5	94.5
	Highest	73	55.5	82.5	64.5	80.5		85.5	94.5
	Range %	55.32	0.91	54.21	8.40	15.0		0	13.86
Aug. 1974	Lowest	65	67	71	71	84	93	102	91
	Median	67	68	76.5	74	87.5	97	102	102.5
	Highest	74	68	82	77	101	100	102	104
	Range %	13.85	1.49	15.49	8.45	20.24	7.53	0	14.28
April 1975	Lowest	90	89	97	94	107	130	130	124
	Median	93.5	90	105	97	111.5	130	130	137.5
	Highest	107	91	114.5	100.5	125	130	130	137.5
	Range %	18.88	2.25	18.04	6.91	16.82	0	0	10.9

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RANGE OF STANDARD HOURLY EARNINGS IN FIRM B, 1969-1975   Appendix A.6.2.ii

	May 1969				Sept. 1970	Oct. 1971	Jan. 1973				Aug. 1974	April 1975			
	Lowest	Median	Highest	Range %	NOT AVAILABLE	NOT AVAILABLE	Lowest	Median	Highest	Range %	NOT AVAILABLE	Lowest	Median	Highest	Range %
Tool-makers	60	63	70	16.66			94	96.5	96.5	2.66		133	133.5	134	.75
Electricians	50	58.5	62.5	25.0			94	96.5	96.5	2.66		133.5	133.5	133.5	0
Fitters	58.5	59	67.5	15.38			92	94.5	94.5	2.72		133.5	133.5	133.5	0
Inspectors	53.5	54	62.5	16.82			94	96.5	96.5	2.66		122.5	122.5	122.5	0
Store-Keepers	49	50	53.5	9.18			72.5	75	76	4.83		112	112	112	0
Male Process	46	49	59	28.26				N/A				112	112	112	0
Labourers	37.5	40.9	45	20.0			68.5	71	71	3.65		107	107	107	0
Female Process		N/A					66.5	69	70	5.26		108	108	108	0

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Period	Metric	Toolmakers	Electricians	Fitters	Inspectors	Store-Keepers	Male Process	Labourers	Female Process
May 1969	NOT AVAILABLE								
Sept. 1970	Lowest	66	65	60	65	48.5	44	42.5	36.5
	Median	69.5	67	65	66.5	51.5	51.5	50	42.5
	Highest	75	73.5	71	69	52.5	57.5	53.5	58.5
	Range %	13.64	13.08	18.33	6.15	8.25	30.68	25.88	60.27
Oct. 1971	Lowest	71	69	67	67	53	50	50	41
	Median	76.5	70.5	68.5	68.5	53.5	N/A	53.5	46.5
	Highest	79	80	70	77	54		56	58
	Range %	11.27	15.94	4.48	14.93	1.89		12.0	41.46
Jan. 1973	Lowest	80	72.5	73.5	75	57.5	52	51.5	45.5
	Median	86	77.5	77	79	58.5	59	51.5	50
	Highest	98	79.5	79.5	82.5	59	65.5	51.5	62.5
	Range %	22.5	9.66	8.16	10.0	2.61	25.96	0	37.36
Aug. 1974	NOT AVAILABLE								
April 1975	NOT AVAILABLE								

Internal Wage Structures - II

RANGE OF STANDARD HOURLY EARNINGS IN FIRM H, 1969-1975

Period	Measure	Female Process	Labourers	Male Process	Store-Keepers	Inspectors	Fitters	Electricians	Tool-makers
May 1969		NOT AVAILABLE							
Sept. 1970	Lowest	36.5	50	35	58.5	61.5	57.5	N/A	63.5
	Median	43	53	52.5	59	62	63.5		69
	Highest	46.5	56	58.5	59	62.5	66.5		77.5
	Range %	27.40	12.0	67.14	0.85	1.63	15.65		22.05
Oct. 1971	Lowest	39	55	49	58	74	70	N/A	69
	Median	44	57.5	54.5	58.5	74.5	71.5		74.5
	Highest	50	60	64	59	75	75		84
	Range %	28.21	9.09	30.61	1.72	1.35	7.14		21.74
Jan. 1973	Lowest	46	53	58	61	83	75	N/A	87
	Median	52	56.5	70.5	62.5	85.5	80		88
	Highest	60	60	78.5	64.5	88	85		90
	Range %	30.43	13.21	35.34	5.74	6.02	13.33		3.45
Aug. 1974		NOT AVAILABLE							
April 1975	Lowest	75	84	91	84	117	105	N/A	119
	Median	80.5	102	109	90.5	128.5	105		127.5
	Highest	96.5	104.5	126.5	96	128.5	105		133
	Range %	28.66	24.40	39.01	14.29	9.83	0		11.76

RANGE OF STANDARD HOURLY EARNINGS IN FIRM L, 1969-1975

Appendix A.6.2.v

May 1969 — NOT AVAILABLE
Sept. 1970 — NOT AVAILABLE
Oct. 1971 — NOT AVAILABLE

Job	Jan. 1973 Lowest	Median	Highest	Range %	Aug. 1974 Lowest	Median	Highest	Range %	April 1975 Lowest	Median	Highest	Range %
Tool-makers	82.5	88.5	90.5	9.70	91	98.5	104	14.30	113	136.5	149	31.86
Electricians	75.5	79.5	79.5	5.30	86	90.5	99	15.12	118	129	134	13.56
Fitters	75.5	79.5	79.5	5.30	86	91.5	94	9.30	120	125.5	131	9.17
Inspectors	71.5	75	75	4.90	83	88	93	12.05	114	119	129	13.16
Store-Keepers	59.5	68	75	26.05	73	78.5	85	16.44	106	108	108	1.89
Male Process	N/A	N/A			N/A	N/A			97	99.5	100	3.09
Labourers	55.5	58	58	4.50	65	67.5	78	20.0	91	93.5	95.5	4.95
Female Process	48	51	55	14.58	61	66	76	24.59	95	97.5	104	9.47

	Female Process	Labourers	Male Process	Store-Keepers	Inspectors	Fitters	Electricians	Toolmakers
May 1969					NOT AVAILABLE			
Sept. 1970	48.5	51.5	61	58.5	69	74	71.5	71.5
	50	57	61.5	61.5	70.5	74.5	74.5	74
	55	59	70	66	73.5	75	76.5	76.5
	13.40	14.56	14.75	12.82	6.52	1.35	6.99	6.99
Oct. 1971	59	57	69	63	75	80	80	80
	60	57.5	69.5	64	76	80.5	80.5	81
	62	58	73	66	77	82	83	83
	5.08	1.75	5.80	4.76	2.66	2.50	3.75	3.75
Jan. 1973	69	62	74	70	70	88.5	88.5	88.5
	69	62	74	70	70	88.5	88.5	88.5
	69	62	74	70	70	88.5	88.5	88.5
	0	0	0	0	0	0	0	0
Aug. 1974	88.5	73	74	85	106	N/A	107	107
	88.5	81.5	N/A	85.5	106.5		107	107
	88.5	82		86	107		107	107
	0	2.33		1.18	0.94		0	0
April 1975					NOT AVAILABLE			

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Labour Turnover 1970 - 74 for 6 Firms

Comparing Male & Female Process Workers

1970

	Males			Females		
Firm	No. Emp.	Leavers	%LTO	No. Emp.	Leavers	%LTO
A	208	131	62.98	570	364	63.86
B	571	222	38.88	72	16	22.22
G	155	79	50.97	413	258	62.47
H	18	*16	88.88	12	*0	0
L	N/A	N/A	N/A	110	*30	27.27
Q	999	218	21.82	258	60	23.26
Total	1951	666	34.13	1435	728	50.73

1971

A	191	103	53.93	586	321	54.78
B	482	60	12.45	126	44	34.92
G	144	98	68.06	388	176	45.36
H	18	20	111.11	12	0	0
L	N/A	N/A	N/A	110	37	33.63
Q	954	138	14.47	238	21	8.82
Total	1789	419	23.42	1460	599	41.03

1972

A	161	103	63.98	652	359	55.06
B	431	72	16.70	131	40	30.53
G	128	79	61.72	339	146	43.07
H	18	8	44.44	12	9	75.0
L	N/A	N/A	N/A	102	48	47.06
Q	1154	225	19.50	269	38	14.13
Total	1892	487	25.74	1505	640	42.52

1973

A	222	126	56.76	666	437	65.62
B	460	112	24.35	125	22	17.60
G	104	63	60.58	307	120	39.09
H	18	22	122.22	12	3	25.0
L	N/A	N/A	N/A	106	54	50.94
Q	1265	530	41.90	296	39	13.18
Total	2069	853	41.23	1512	675	44.64

__1974__

Firm	No. Emp.	Leavers	%LTO	No. Emp.	Leavers	%LTO
A	164	109	66.46	598	340	56.86
B	466	204	43.78	125	28	22.40
G	105	48	45.71	309	125	40.45
H	18	15	83.33	12	4	33.33
L	N/A	N/A	N/A	154	65	42.21
Q	1261	639	50.67	316	84	26.58
Total	2014	1015	50.40	1514	646	42.67

* Estimates from incomplete data

Completed Length of Service 1974

Analysed by Job and Firm, giving actual numbers involved

i. Toolmakers

Firm	A	B	G	H	J	Q	Total	Leavers as % of Total
No's employed	87	48	48	7	61	81	332	
No's left 0 – 6 wks	1	0	2	0	0	1	4	1.20
6wks –3 mths	0	1	0	0	0	1	2	0.60
3 –6 mths	0	0	0	0	0	0	0	0
6m – 12 m	0	1	0	3	0	2	6	1.81
1 – 2 yrs	0	0	0	0	0	1	1	0.30
2 – 5 yrs	2	2	0	0	0	2	6	1.81
5 – 10 yrs	5	2	5	0	0	1	13	3.92
10+ yrs	4	0	2	0	1	5	12	3.61

ii. Electricians

Firm	A	B	D	G	J	Q	Total	Leavers as % of Total
No's employed	6	15	44	10	16	25	116	
No's left 0 – 6 wks	0	0	1	1	0	1	3	2.59
6wks –3 mths	0	0	0	0	0	0	0	0
3mths–6 mths	0	0	0	0	1	1	2	1.72
6m – 1 yr	0	0	0	1	1	1	3	2.59
1 – 2 yrs	0	0	0	0	1	1	2	1.72
2 – 5 yrs	0	2	2	0	0	0	4	3.45
5 – 10 yrs	0	3	0	0	1	0	4	3.45
10+ yrs	2	0	1	1	1	2	7	6.19

iii. Maintenance Fitters

Firm	B	D	G	J	Total	Leavers as % of Total
No's employed	15	211	13	36	275	
No's left 0 – 6wks	2	8	2	1	13	4.73
6wks –3mths	0	7	1	0	8	2.91
3 – 6 mths	0	4	0	0	4	1.45
6m – 1 yr	0	4	1	1	6	2.18
1 – 2 yrs	0	5	0	1	6	2.18
2 – 5 yrs	1	5	0	0	6	2.18
5 – 10 yrs	2	6	0	1	9	3.27
10 yrs +	4	6	0	0	10	3.64

C.L.S. (cont'd)

iv. Inspectors

Firm		A	B	H	J	Q	Total	Leavers as % of Total
No's employed		47	28	2	35	34	146	
No's left	0 - 6 wks	2	2	1	0	0	5	3.42
	6wks - 3mths	1	1	0	0	1	3	2.05
	3 - 6 mths	0	0	0	0	0	0	0
	6m - 1 yr	1	0	0	0	1	2	1.37
	1 - 2 yrs	0	0	0	1	0	1	0.68
	2 - 5 yrs	3	0	0	1	1	5	3.42
	5 - 10 yrs	1	2	0	0	0	3	2.05
	10 yrs +	0	3	0	3	1	7	4.79

v. Storekeepers

Firm		A	B	D	G	H	J	K	Q	Total	Leavers as % of Total
No's employed		48	125	340	5	9	125	18	47	717	
No's left	0 - 6 wks	5	30	17	5	4	8	7	1	77	10.74
	6wks - 3mths	2	3	17	0	3	8	5	3	41	5.72
	3 - 6 mths	3	9	10	0	2	7	0	1	32	4.46
	6m - 1 yr	0	4	10	1	3	0	0	4	22	3.07
	1 - 2 yrs	0	13	25	0	2	1	0	4	45	6.28
	2 - 5 yrs	4	7	28	2	0	0	1	1	43	6.0
	5 - 10 yrs	1	2	4	0	0	5	0	0	12	1.67
	10 yrs +	0	1	3	2	0	2	0	3	11	1.53

vi. Male Process Workers

Firm		A	B	*D_1	*D_2	G	H	J	K	Q	Total	Leavers as % of Total
No's employed		164	466	490	540	105	18	466	91	1261	3601	
No's left	0 - 6 wks	47	104	66	73	8	7	39	15	90	449	12.47
	6wks - 3mths	22	20	65	72	10	4	38	1	87	319	8.86
	3 - 6 mths	17	11	23	24	7	2	15	2	97	198	5.50
	6m - 1 yr	5	9	22	24	9	0	13	3	100	185	5.14
	1 - 2 yrs	13	9	10	20	4	1	16	1	103	177	4.92
	2 - 5 yrs	10	16	8	21	7	1	15	1	85	164	4.55
	5 - 10 yrs	4	13	4	4	2	0	10	5	36	78	2.17
	10 yrs+	11	6	12	11	2	0	18	4	37	101	2.80

*D_1 represents Day workers, D_2 represents Night workers

C.L.S. (cont'd.)

vii Labourers

Firm		A	B	G	H	J	Q	Total	Leavers as % of Total
No's employed		21	15	26	2	50	60	174	
No's left	0 – 6 wks	5	12	3	0	13	0	33	18.97
	6 wks – 3 mths	0	2	0	0	12	3	17	9.77
	3 – 6 mths	0	1	1	0	5	1	8	4.60
	6 m – 12 m	1	1	2	0	0	3	7	4.02
	1 – 2 yrs	0	0	0	0	4	5	9	5.17
	2 – 5 yrs	0	0	1	0	4	1	6	3.45
	5 – 10 yrs	4	0	1	0	1	3	9	5.17
	10+ yrs	1	0	2	0	2	1	6	3.45

viii Female Process Workers

Firm		A	B	D	G	H	K	Q	Total	Leavers as % of Total
No's employed		598	125	370	309	12	45	316	1775	
No's left	0 – 6 wks	53	8	30	30	1	6	13	141	7.94
	6 wks – 3 mths	32	3	30	8	1	1	9	84	4.73
	3 – 6 mths	58	3	32	20	0	2	9	124	6.99
	6 – 12 m	49	1	31	12	1	2	11	107	6.03
	1 – 2 yrs	54	2	18	11	1	1	12	99	5.58
	2 – 5 yrs	43	9	20	14	1	2	14	103	5.80
	5 – 10 yrs	14	2	5	14	0	1	7	43	2.42
	10+ yrs	17	0	10	14	0	0	6	47	2.65

COMPLETED LENGTH of SERVICE, FIRM A, '74

COMPLETED LENGTH OF SERVICE, FIRM B, 1974

INTERVALS OF 0-6 WKS /-3 MTHS. /-6 MTHS. /-1 YR /-2 YRS. /-5 YRS /-10YRS /+
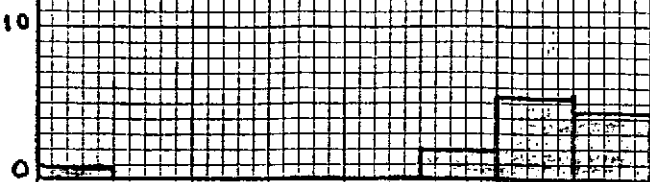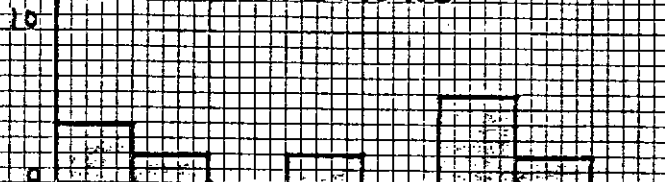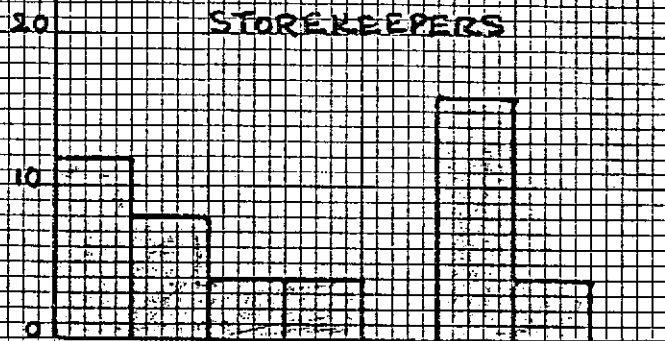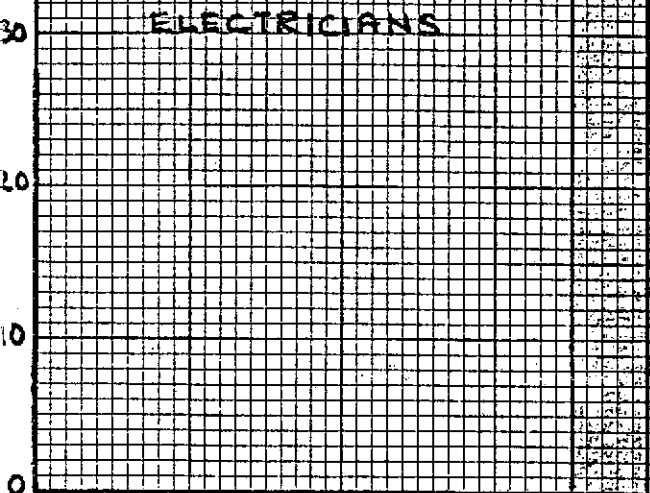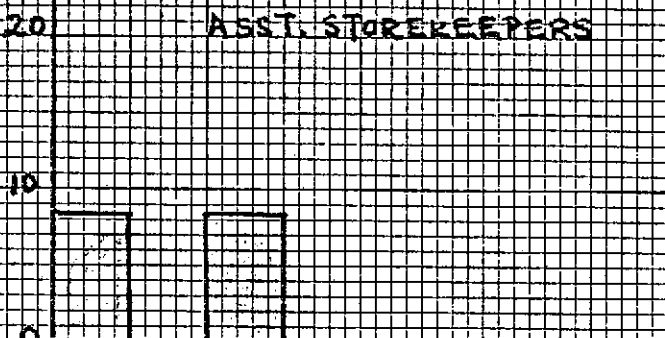
Charts: TOOLMAKERS, ELECTRICIANS, FITTERS, INSPECTORS, ASST STOREKEEPERS, PACKERS, PROCESS WORKERS MALE, LABOURERS, PROCESS WORKERS FEMALE
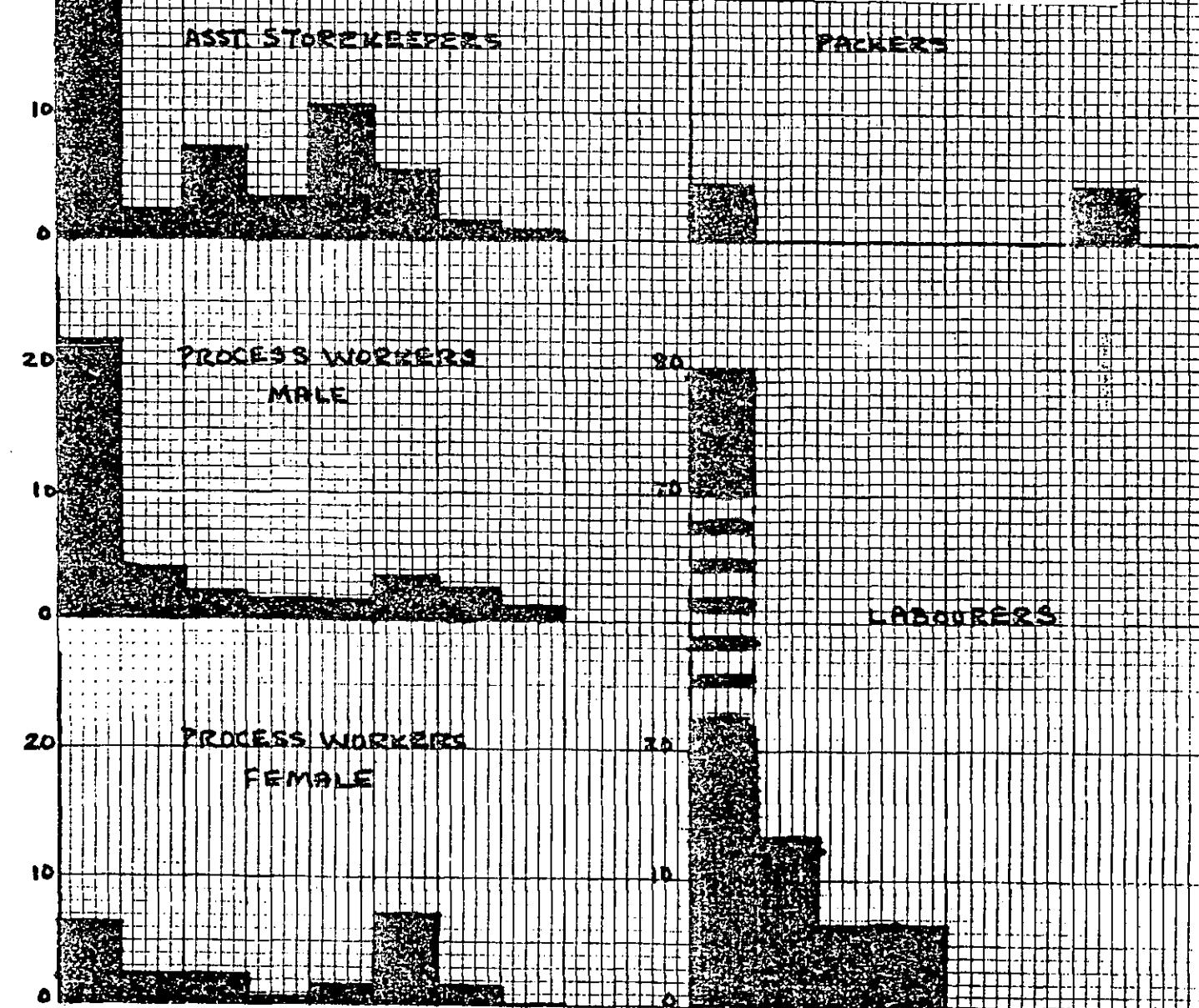
COMPLETED LENGTH OF SERVICE, FIRM D, 1974
INTERVALS OF -3 MTHS/3-12 MTHS/1-2 YEARS/2-5 YRS/5-10 YRS/10 YRS+
(N.B. BARS 1 AND 2 REPRESENT SAME INTERVALS AS BARS 1-4, OTHER FIRMS)

ELECTRICIANS

MTCE. FITTERS

STOREKEEPERS*

MALE PROCESS
WORKERS-DAYS

MALE PROCESS
WORKERS-NIGHTS

FEMALE PROCESS WORKERS

* INCLUDING WAREHOUSE

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M/C SHOP SETTERS

ASSISTANT STOREKEEPERS

PACKERS

PROCESS WORKERS MALE

PROCESS WORKERS FEMALE
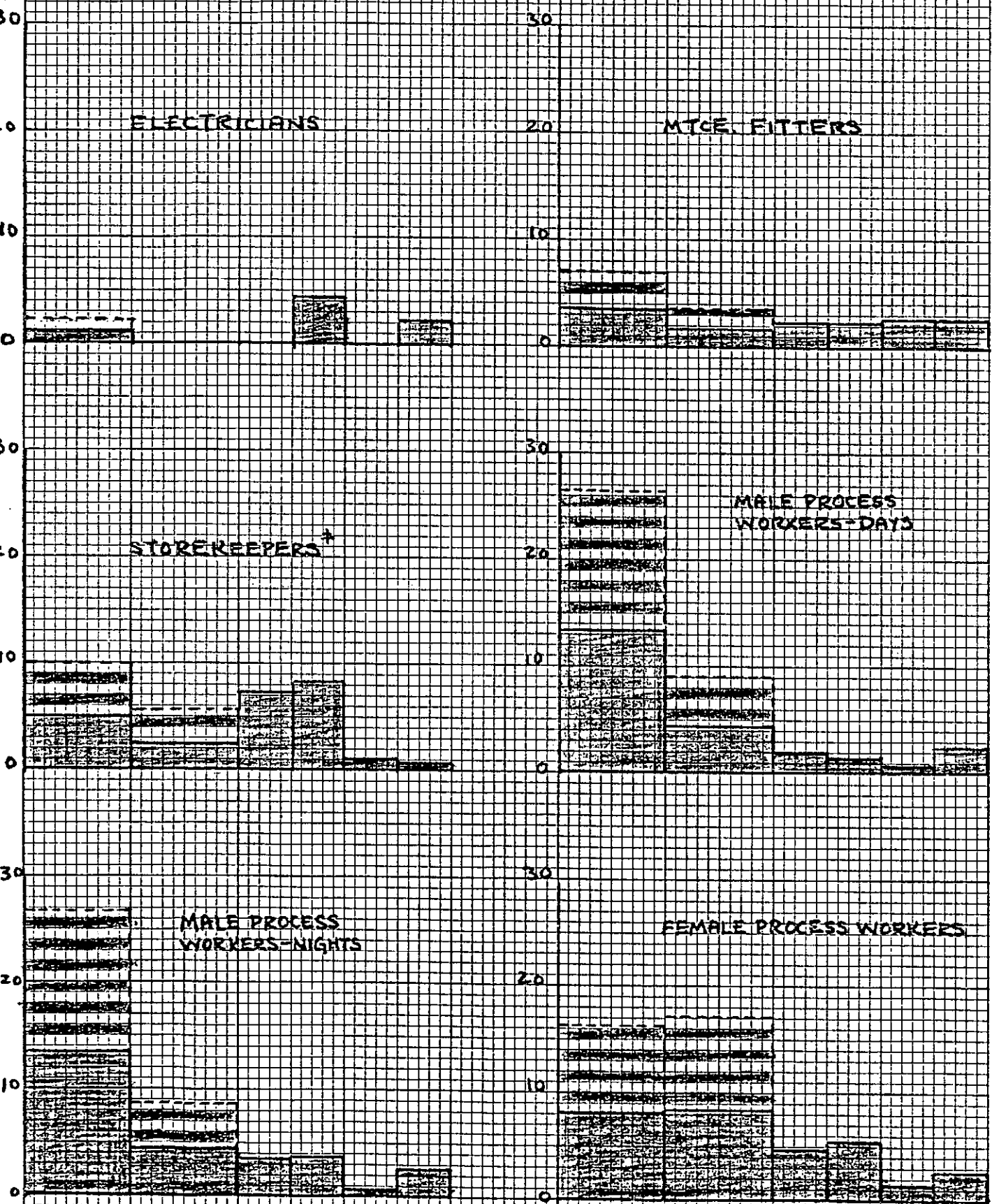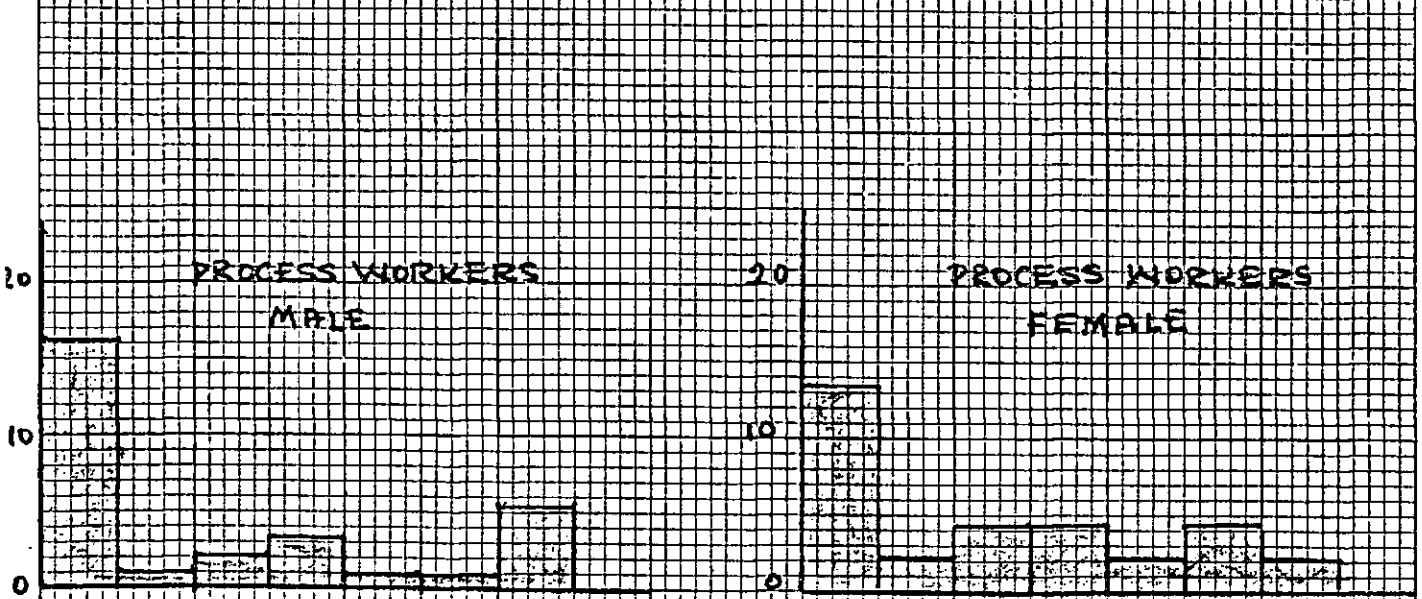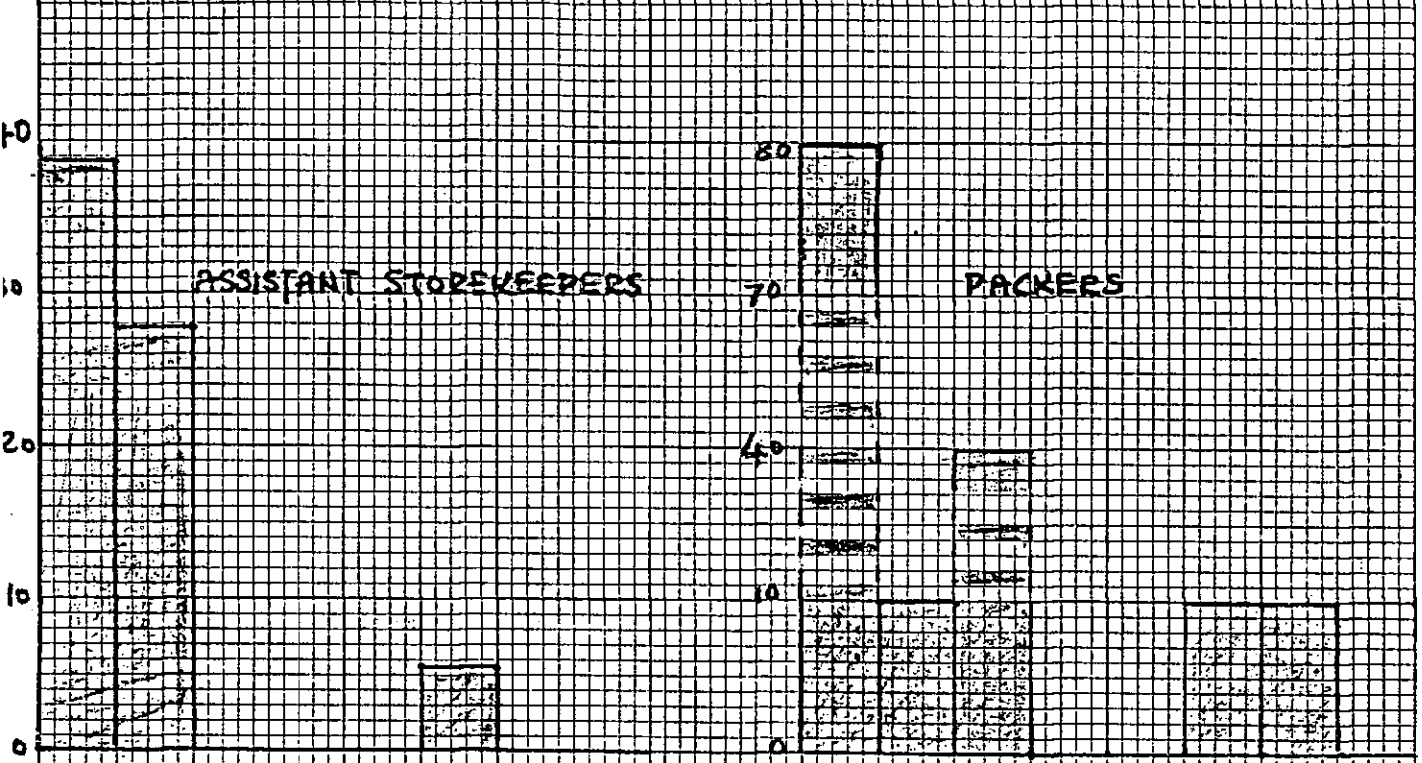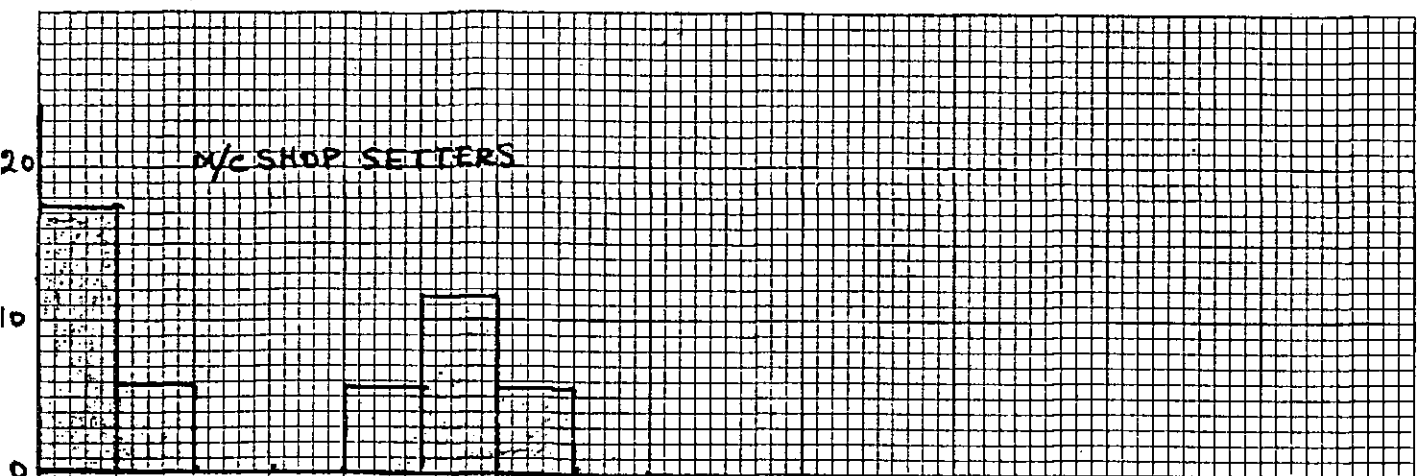
COMPLETED LENGTH OF SERVICE, FIRM R 1974

COMPLETED LENGTH OF SERVICE FIRM J, 1974

INTERVALS OF — 3 MTHS/3-6 MTHS/6-12 MTHS/1-5 YRS/5-10 YRS/10 YRS+
(N.B. SHADED BARS INDICATE INTERVALS SHOWN AS 2 SEPARATE INTERVALS FOR OTHER FIRMS)

TOOLMAKERS

ELECTRICIANS

MTCE. FITTERS

INSPECTORS
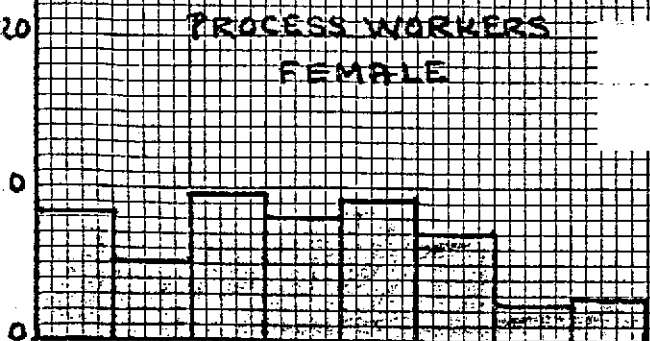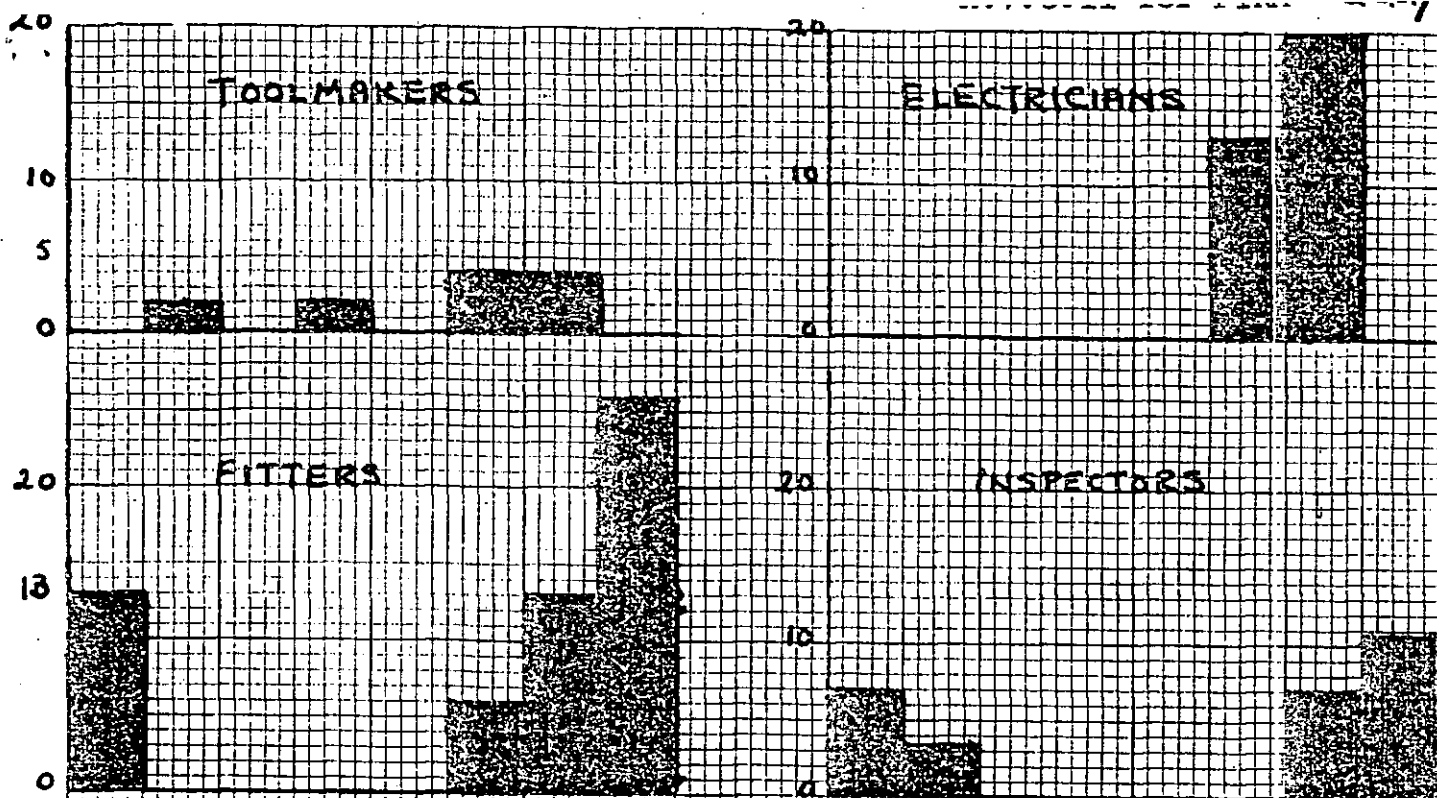
STOREKEEPERS

LABOURERS

PROCESS WORKERS MALE

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TABLE A.8.2.i CORRELATION BETWEEN PAY AND SEPARATION RATE -

I - TOOLMAKERS

Each cell shows S.R. (Separation Rate) over P (Pay), given as "S.R. / P".

Firm	1970 Q1	Q2	Q3	Q4	1971 Q5	Q6	Q7	Q8	1972 Q9	Q10	Q11	Q12	1973 Q13	Q14	Q15	Q16	1974 Q17	Q18	Q19	Q20
A	4.04 / 64.5	3.03 / 64.5	0 / 74	1.01 / 74	0 / 74	1.94 / 74	1.94 / 74	2.91 / 79	1.03 / 79	5.15 / 79	0 / 79	3.09 / 79	0 / 94.5	1.04 / 94.5	2.08 / 94.5	2.08 / 94.5	1.15 / 94.5	4.60 / 94.5	5.75 / 102.5	2.30 / 102.5
B	0 / 63	6.24 / 63	2.08 / 73*	0 / 73*	0 / 73*	0 / 73*	0 / 73*	0 / 77*	0 / 77*	0 / 77*	2.08 / 77*	0 / 77*	2.08 / 96.5	0 / 96.5	4.16 / 96.5	6.25 / 96.5	8.34 / 96.5	2.08 / 96.5	0 / 108*	2.08 / 108*
G	1.64 / 61	4.92 / 61	3.28 / 69.5	1.64 / 69.5	3.50 / 69.5	0 / 69.5	1.75 / 69.5	7.02 / 76.5	1.82 / 76.5	2.27 / 76.5	0 / 76.5	1.08 / 76.5	1.92 / 86	3.84 / 86	7.69 / 86	1.92 / 86	8.33 / 86	8.34 / 86	2.08 / 93.5*	2.08 / 93.5*
L	N/A	N/A	N/A	8.0 / 70	8.34 / 70	4.17 / 70	12.50 / 70	4.17 / 76*	4.17 / 76*	4.17 / 76*	8.33 / 76*	8.34 / 76	8.34 / 88.5	29.17 / 88.5	25.0 / 88.5	16.66 / 88.5	0 / 88.5	N/A	N/A	N/A
Q	1.11 / 64	1.11 / 64	3.33 / 74	0 / 74	1.14 / 74	4.55 / 74	1.14 / 74	3.41 / 81	2.20 / 81	4.40 / 81	4.40 / 81	1.10 / 81	5.43 / 88.5	2.17 / 88.5	1.09 / 88.5	3.26 / 88.5	2.46 / 88.5	4.94 / 88.5	1.23 / 107	7.41 / 107
Correlation Coefficient	.38	-.59	-.49	-.66	-.79	.18	-.46	-.2	-.2	0	-.14	-.43	-.5	-.4	-.38	-.11	0	-.9	-.32	.43
Coefficient of Determination	.14	.34	.23	.42	.63	.03	.31	.04	.04	0	.02	.18	.24	.15	.13	.01	0	.79	.10	.18

Avg. -.28

*Estimated Median Rate of Pay

TABLE A.8.2.ii   CORRELATION BETWEEN PAY AND SEPARATION RATE –
II – ELECTRICIANS, III – FITTERS and IV – INSPECTORS

Each cell below shows S.R. (upper) and P (lower).

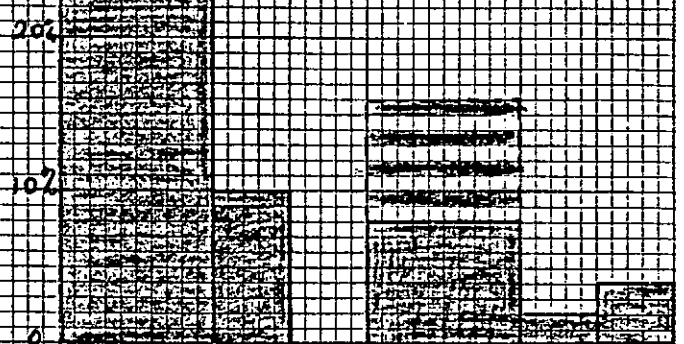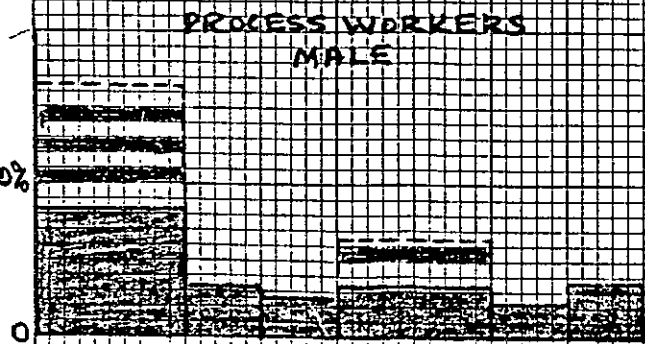| Quarter (Year)	1 (1970)	2	3	4	5 (1971)	6	7	8	9 (1972)	10	11	12	13 (1973)	14	15	16	17 (1974)	18	19	20
B (S.R. / P)	13.32 / 60	0 / 60	6.66 / 72.5	0 / 72.5	0 / 72.5	6.66 / 72.5	0 / 72.5	0 / 83*	0 / 83*	6.66 / 83*	6.66 / 83*	6.66 / 83	6.66 / 96.5	0 / 96.5	0 / 96.5	0 / 96.5	13.32 / 96.5	13.32 / 96.5	6.66 / 107*	0 / 107*
G (S.R. / P)	0 / 54.5*	0 / 54.5*	0 / .67	0 / 67	0 / 67	0 / 67	0 / 67	0 / 70.5	0 / 70.5	23.08 / 70.5	30.77 / 70.5	0 / 70.5	0 / 77.5	9.09 / 77.5	0 / 77.5	9.09 / 77.5	20.0 / 77.5	0 / 77.5	10.0 / 90*	10.0 / 90*
Q (S.R. / P)	0 / 60*	0 / 60*	0 / 74.5	0 / 74.5	5.55 / 74.5	0 / 74.5	0 / 74.5	0 / 80.5	0 / 80.5	9.52 / 80.5	0 / 80.5	0 / 80.5	4.55 / 88.5	9.10 / 88.5	4.55 / 88.5	4.55 / 88.5	12.0 / 88.5	4.0 / 88.5	4.0 / 107	4.0 / 107
B (S.R. / P)	10.0 / 59	15.0 / 59	0.0 / 73*	0.0 / 73*	6.66 / 73*	6.66 / 73*	6.66 / 73*	20.0 / 80*	0 / 80*	6.66 / 80*	13.32 / 80*	6.66 / 80*	0 / 94.5	0 / 94.5	6.66 / 94.5	6.66 / 94.5	6.66 / 94.5	6.66 / 94.5	20.0 / 101*	20.0 / 101*
G (S.R. / P)	8.70 / 52*	13.04 / 52*	13.04 / 65	26.08 / 65	5.26 / 65	5.26 / 65	5.26 / 65	10.52 / 68.5	6.25 / 68.5	0 / 68.5	12.50 / 68.5	12.50 / 68.5	14.29 / 77	21.43 / 77	7.14 / 77	21.43 / 77	0 / 77	7.69 / 77	15.38 / 86*	7.69 / 86*
A (S.R. / P)	1.51 / 52.5	1.51 / 52.5	0 / 59.5	1.51 / 59.5	1.92 / 59.5	3.84 / 59.5	1.92 / 59.5	1.92 / 64.5	1.79 / 64.5	1.79 / 64.5	3.58 / 64.5	1.79 / 64.5	0 / 73	2.08 / 73	2.08 / 73	2.08 / 73	2.13 / 73	4.26 / 73	4.26 / 87.5	6.39 / 87.5
B (S.R. / P)	8.57 / 54	5.71 / 54	5.71 / 72*	5.71 / 72*	0 / 72*	9.68 / 72*	3.23 / 72*	0 / 79*	0 / 79*	0 / 79*	3.45 / 79*	3.45 / 79*	3.45 / 96.5	0 / 96.5	0 / 96.5	3.45 / 96.5	7.14 / 96.5	7.14 / 96.5	3.57 / 110*	0 / 110*
Q (S.R. / P)	0 / 54*	0 / 54*	0 / 70.5	0 / 70.5	0 / 70.5	8.70 / 70.5	0 / 70.5	0 / 76	0 / 76	0 / 76	4.17 / 76	0 / 76	3.13 / 89	12.50 / 89	3.13 / 89	3.13 / 89	2.94 / 89	0 / 89	2.94 / 106.5	5.88 / 106.5
Correlation Coefficient	.28	-.11	-.23	-.28	.12	.18	0	0	-.61	0	-.31	0	0	-.53	-.14	-.48	.17	.45	-.41	-.38
Coefficient of Determination	.08	.01	.05	.08	.01	.03	0	0	.36	0	.09	0	0	.27	.02	.22	.03	.2	.16	.14

Ave. -.11

P = Estimated Median Rate of Pay
* = Estimated Median Rate of Pay

TABLE A.8.2.iii   CORRELATION BETWEEN PAY AND SEPARATION RATE -

V - STOREKEEPERS

	1970				1971				1972				1973				1974			
Quarter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Wastage & Pay / Firm	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P
A	0 / 44.5	4.17 / 44.5	2.08 / 50.5	2.08 / 50.5	5.88 / 50.5	3.92 / 50.5	11.76 / 50.5	0 / 55.5	9.52 / 55.5	9.52 / 55.5	7.14 / 55.5	9.52 / 55.5	10.26 / 60	12.82 / 60	12.82 / 60	2.56 / 60	8.34 / 60	12.50 / 60	6.25 / 74	6.25 / 74
B	5.55 / 50	11.0 / 50	3.33 / 60*	3.33 / 60*	3.33 / 60*	2.22 / 60*	4.44 / 60*	0* / 65*	4.44 / 65*	4.44 / 65*	3.33 / 65*	3.33 / 65*	4.8 / 75	4.8 / 75	0.8 / 75	0 / 75	13.6 / 75	12.8 / 75	20.0 / 85*	7.2 / 85*
Q	0* / 49*	0* / 49*	5.0 / 61.5	5.0 / 61.5	7.5 / 61.5	5.0 / 61.5	2.5 / 61.5	0 / 64	2.33 / 64	4.66 / 64	0 / 64	0 / 64	14.0 / 70	12.0 / 70	10.0 / 70	6.0 / 70	12.67 / 70	6.39 / 70	8.52 / 85.5	12.76 / 85.5
Correlation Coefficient	.64	.3	.88	.88	0	0	-1	N/A	-.93	-1	-.84	-.91	-.43	-.82	-.89	-.25	.98	-.15	.59	.64
Coefficient of Determination	.41	.09	.78	.78	0	0	.99	N/A	.85	.99	.69	.81	.18	.66	.78	.06	.97	.02	.35	.41

Ave. -.12

* Estimated Median Rate of Pay

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TABLE A.8.2.iv   CORRELATION BETWEEN PAY AND SEPARATION RATE - VI - MALE PROCESS WORKERS

| | 1970 | | | | 1971 | | | | 1972 | | | | 1973 | | | | 1974 | | | |
| Quarter | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
Wastage & Pay / Firm	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P	S.R. P
A	16.35 / 47.5	12.01 / 47.5	17.79 / 57	16.83 / 57	15.71 / 57	12.04 / 57	18.85 / 57	7.33 / 62.5	18.01 / 62.5	18.01 / 62.5	13.67 / 62.5	14.29 / 62.5	17.55 / 69	10.35 / 69	17.10 / 69	11.71 / 69	7.92 / 69	17.69 / 69	25.01 / 76.5	15.86 / 76.5
B	12.08 / 49	10.51 / 49	11.38 / 61*	4.90 / 61*	5.18 / 61*	3.11 / 61*	2.08 / 61*	2.06 / 69.5*	3.02 / 69.5*	3.01 / 69.5*	4.41 / 69.5*	6.26 / 69.5*	5.43 / 74*	6.52 / 74*	5.87 / 74*	6.52 / 74*	6.01 / 74*	11.80 / 74*	14.60 / 86.5*	11.37 / 86.5*
G	15.49 / 47*	17.42 / 47*	10.32 / 51.5	7.75 / 51.5	11.11 / 51.5	24.30 / 51.5	14.58 / 51.5	18.05 / 58	9.37 / 58	23.43 / 58	17.20 / 58	11.72 / 58	12.50 / 59	16.35 / 59	17.31 / 59	14.43 / 59	15.22 / 59	9.53 / 59	11.42 / 70	9.52 / 70
H	N/A	N/A	22.22 / 52.5	22.22 / 52.5	38.88 / 52.5	38.88 / 52.5	16.65 / 52.5	16.66 / 54.5	0 / 54.5	22.22 / 54.5	0 / 54.5	22.21 / 54.5	33.32 / 70.5	49.99 / 70.5	22.22 / 70.5	16.66 / 70.5	5.55 / 70.5	33.32 / 70.5	22.21 / 79	22.22 / 79
Q	4.10 / 49*	6.30 / 49*	6.60 / 61.5	3.80 / 61.5	3.76 / 61.5	3.56 / 61.5	4.19 / 61.5	2.93 / 69.5	3.46 / 69.5	3.10 / 69.5	7.62 / 69.5	5.28 / 69.5	9.08 / 74	10.20 / 74	11.47 / 74	11.23 / 74	8.64 / 74	11.66 / 74	11.82 / 86.5*	18.56 / 86.5*
Correlation Coefficient	-.79	-.88	-.53	-.6	-.67	-.91	-.79	-.96	N/A	-.96	N/A	-.91	-.1	N/A	-.49	-.52	-.88	.19	-.16	.3
Coefficient of Determination	.61	.76	.27	.35	.44	.81	.61	.9		.91		.82	0		.23	.26	.77	.04	.03	.09

Ave. -.51

*Estimated Median Rate of Pay

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TABLE A.8.2.v   CORRELATION BETWEEN PAY AND SEPARATION RATE –
VII – LABOURERS

Quarter → Wastate & Pay ↓ Firm	1970 1 S.R.	1 P	2 S.R.	2 P	3 S.R.	3 P	4 S.R.	4 P	1971 5 S.R.	5 P	6 S.R.	6 P	7 S.R.	7 P	8 S.R.	8 P	1972 9 S.R.	9 P	10 S.R.	10 P	11 S.R.	11 P	12 S.R.	12 P	1973 13 S.R.	13 P	14 S.R.	14 P	15 S.R.	15 P	16 S.R.	16 P	1974 17 S.R.	17 P	18 S.R.	18 P	19 S.R.	19 P	20 S.R.	20 P
A	9.1	38	13.65	38	22.73	44	13.65	44	9.52	44	9.52	44	9.52	44	9.52	49.5	10	49.5	0	49.5	5	49.5	5	49.5	5.88	55	11.76	55	5.88	55	5.88	55	9.52	55	23.81	55	19.05	68	4.76	68
B	56	40.5	28	40.5	48	53*	8	53*	13.33	53*	13.33	53*	0	53*	6.66	56*	6.66	56*	6.66	56*	6.66	56*	33.33	56*	46.65	71	33.33	71	13.33	71	20	71	13.33	71	13.33	71	46.66	75*	33.33	75*
G	15.22	38.5*	19.56	38.5*	6.52	50	10.87	50	12.82	50	10.24	50	5.12	50	5.12	53.5	19.43	53.5	24.99	53.5	11.1	53.5	2.77	53.5	15.62	51.5	18.75	51.5	21.86	51.5	12.49	51.5	11.54	51.5	15.39	51.5	23.07	60	3.85	60
L	N/A		N/A		N/A		20	48.5*	20	48.5*	20	48.5*	40	48.5*	10	52.5	20	52.5	10	52.5	50	52.5	10	52.5	15.38	58	7.69	58	0	58	30.75	58	66.66	58	N/A		N/A		N/A	
Q	0	40*	5.0	40*	7.5	57	2.5	57	8.32	57	0	57	8.32	57	5.55	57.5	2.38	57.5	2.38	57.5	9.52	57.5	2.38	57.5	10.86	62	19.56	62	13.05	62	4.34	62	5.0	62	3.33	62	8.33	81.5	11.66	81.5
Correlation Coefficient	.53		.2		0		-.78		-.24		-.53		-.3		-.73		-.53		0		-.17		.29		.8		.74		0		.2		-.1		-.42		-.11		.5	
Coefficient of Determination	.28		.04		0		.59		.06		.27		.09		.51		.27		0		.03		.08		.65		.55		0		.04		0		.17		0		.25	

*Estimates Median Rate of Pay

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TABLE A.8.1.vi   CORRELATION BETWEEN PAY AND SEPARATION RATE -

VIII - FEMALE PROCESS WORKERS

Quarter	1970 1	2	3	4	1971 5	6	7	8	1972 9	10	11	12	1973 13	14	15	16	1974 17	18	19	20
Firm — Wastage & pay	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P	S.R. / P
A	16.31 / 36.5	14.90 / 36.5	17.72 / 45	14.91 / 45	12.28 / 45	14.17 / 45	15.36 / 45	12.97 / 49.5	11.19 / 49.5	13.49 / 49.5	18.25 / 49.5	12.12 / 49.5	16.51 / 53.5	14.25 / 53.5	19.38 / 53.5	15.47 / 53.5	14.21 / 53.5	15.56 / 53.5	15.38 / 67	11.71 / 67
B	3.33 / 38.5*	5.54 / 38.5*	2.77 / 48*	5.54 / 48*	7.15 / 48*	13.49 / 48*	8.71 / 48*	5.55 / 50.5*	9.92 / 50.5*	7.64 / 50.5*	52.35 / 50.5*	7.63 / 50.5*	7.20 / 69	1.60 / 69	3.2 / 69	5.60 / 69	1.60 / 69	4.80 / 69	2.40 / 88	4.0 / 88
G	17.91 / 32.5*	16.59 / 32.5*	14.29 / 42.5	13.56 / 42.5	13.14 / 42.5	10.05 / 42.5	13.41 / 42.5	8.76 / 46.5	11.79 / 46.5	11.49 / 46.5	8.25 / 46.5	11.50 / 46.5	9.13 / 50	11.41 / 50	10.73 / 50	7.81 / 50	13.91 / 50	7.77 / 50	11.42 / 66*	7.44 / 66*
L	N/A	N/A	N/A	5.46 / 36.5*	11.82 / 36.5*	11.82 / 36.5*	6.37 / 36.5*	3.64 / 44*	12.74 / 44*	7.84 / 44*	13.72 / 44*	12.74 / 44*	18.87 / 51	15.09 / 51	11.32 / 51	3.65 / 51	10.38 / 51	N/A	N/A	N/A
Q	8.14 / 44*	4.65 / 44*	6.59 / 50	3.87 / 50	0.84 / 50	3.78 / 50	2.10 / 50	2.10 / 60	4.83 / 60	2.60 / 60	5.58 / 60	1.11 / 60	3.36 / 69	2.67 / 69	4.04 / 69	3.04 / 69	3.80 / 69	7.91 / 69	9.17 / 88.5	5.70 / 88.5
Correlation Coefficient	-.86	-.88	-.76	-.17	-.75	-.4	-.21	-.37	-.99	-.68	-.49	-.95	-.76	-.96	-.78	-.52	-.94	-.57	-.79	-.81
Coefficient of Determination	.73	.76	.57	.03	.55	.15	.04	.13	.97	.45	.23	.9	.57	.9	.6	.26	.87	.31	.62	.64

*Estimated Median Rate of Pay

Ave. -.68

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Registered Unemployed Adults, Borough of Brent 1970-74   a) Wembley   b) Willesden

Year & Sex		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1970 - Men	a)	387	383	454	474	455	405	408	407	387	402	348	359
	b)	1238	1347	1451	1312	1235	1073	1119	1137	1084	1068	1074	1169
TOTAL		1625	1730	1805	1786	1690	1478	1527	1544	1471	1470	1422	1528
Women	a)	55	52	48	53	39	26	39	34	45	56	46	31
	b)	168	162	180	196	235	183	184	170	176	190	212	163
TOTAL		223	214	228	249	274	209	223	204	221	246	258	194
1971 - Men	a)	423	463	443	492	493	472	518	610	592	599	615	581
	b)	1369	1374	1417	1518	1475	1481	1518	1622	1618	1782	1703	1816
TOTAL		1792	1837	1860	2010	1968	1953	2036	2232	2210	2381	2318	2397
Women	a)	40	37	55	74	79	70	52	52	78	78	93	56
	b)	249	215	237	252	237	204	255	316	400	459	549	566
TOTAL		289	252	292	326	316	274	307	368	478	537	642	622
1972 - Men	a)	652	644	674	721	567	518	583	570	533	602	595	559
	b)	2025	2160	2287	2131	1592	1525	1562	1516	1342	1469	1267	1214
TOTAL		2677	2804	2961	2852	2159	2043	2145	2086	1875	2071	1862	1773
Women	a)	74	84	86	71	68	66	58	46	67	60	55	59
	b)	496	573	650	456	385	392	409	383	354	367	345	345
TOTAL		570	657	736	537	453	458	467	429	421	427	400	404
1973 - Men	a)	582	514	508	471	428	385	355	280	266	227	197	175
	b)	1220	1116	1055	989	883	833	826	718	647	559	495	417
TOTAL		1802	1630	1563	1460	1311	1218	1181	998	913	786	692	592
Women	a)	59	52	56	52	43	36	28	17	21	28	27	29
	b)	312	323	340	248	172	184	148	159	140	106	82	80
TOTAL		371	375	396	300	215	220	176	176	161	134	109	109
1974 - Men	a)	320	310	246	271	298	278	307	321	339	338	326	* 300
	b)	706	765	764	772	642	615	691	737	770	669	820	* 800
TOTAL		1026	1075	1010	1043	940	893	998	1058	1109	1007	1146	1100
Women	a)	41	33	27	53	31	39	37	56	47	58	66	* 60
	b)	117	138	142	164	137	119	114	135	139	90	121	* 120
TOTAL		158	171	169	217	168	158	151	191	186	148	187	180

* Estimated

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LOCAL PAY LEAGUE

for local industrial firms

Here are nine large local firms, placed in three groups or divisions, to form a pay league. Please help to put them in the correct order.

Place a number, between 1 and 4 against each firm in each of the groups under each heading to show what you consider is the correct order for that group. · Place number 1 against the best paying firm, 2 against the next lower, 3 against the next and 4 against the bottom. If you are not sure, make a guess. Thank you.

The form is quite anonymous.

	Skilled Craftsmen	Male Production Workers	Female Production Workers	Best Employer taking everything into account
Group A				
General Motors (Edgware Road)				
Desoutters (Hendon)				
Smiths (Cricklewood)				
Delaney Galley (Cricklewood				
Group B				
Heinz (Harlesden)				
Glacier (Alperton)				
Johnson Matthey (Wembley)				
Smiths (Cricklewood)				
Group C				
Osram (G.E.C.)				
General Motors (Edgware)				
Heinz (Harlesden)				
Hoover (Perivale)				

Please assist in this Research Project by your Local Polytechnic

WAGE RATES PAID BY LOCAL INDUSTRIES

Listed on the table below, are five well known local firms.

Which of these firms do you think pay higher than the others and which pay less well? Please put a number between 1 and 5 against each firm.

1 signifies the highest rate paid, 5 the lowest rate paid.

If you are not certain, make a guess.

Local Firms	Skilled Craftsmen	Male Production Workers	Female Production Workers
Smiths (Cricklewood)			
General Motors (Colindale)			
Desoutters (Hendon)			
Heinz (Harlesden)			
Delaney Galley (Cricklewood)			

Filling in this form will help our College research project. It is quite independent and anonymous. The form will be collected personally.

Thank you.

TO BE COLLECTED
LATER THIS
EVENING

<u>SHOP STEWARD'S REPORT FORMS</u>

AMALGAMATED ENGINEERING UNION CONVENER'S

QUARTERLY REPORT
(This Report is Confidential)

IMPORTANT   For Official Use

This Report must be filled in   Please do your best to fill
and forwarded, not later than   in your report <u>correctly,</u>
....   as the information so ob-
To............................   tained is necessary to local
....   and national A.E.U. officers
....   if they are to serve the
(If in doubt or difficulty con-   members efficiently
sult the District Secretary)

Your name (BLOCK CAPITALS)..
Name of firm (BLOCK CAPITALS)..............Address of firm.............
What does the firm manufacture?...........Is the firm federated?......
Is the firm wholly, mainly or partially on export trade?..............
Is there a manpower shortage?...........If so, what class of labour is
needed?...
No. of A.E.U. shop stewards.............Stewards of other unions.......
Which unions? (use initials)..........No. of engineering workers in
                                           the firm.......
No. of non-unionists..............Total No. of A.E.U. members:
     MEN.....................WOMEN...............APPRENTICES.................
     JUNIOR WORKERS (other than apprentices): MALE.......FEMALE........
No. of workers discharged or left during quarter:
     MEN.....................WOMEN................APPRENTICES.............
     JUNIOR WORKERS (other than apprentices): MALE........FEMALE.......
No. of workers discharged or left during quarter:MEN.....WOMEN........
Main reason for discharge or leaving..................................
No. of workers started during quarter:MEN.............WOMEN...........
No. of members of other unions.............Which unions?(use initials).
........Are conditions satisfactory?...........If not, state questions
causing concern...
Does a WORKS COMMITTEE exist?.......If so does it function?...........
Does a JOINT PRODUCTION COMMITTEE exist?......If so does it function?..

FURTHER INFORMATION MAY BE GIVEN HERE

STATE BELOW THE WEEKLY WAGES PAID TO THE VARIOUS CLASSES OF ENGINEERING
WORKERS IN YOUR FIRM

NORMAL WORKING WEEK ... HOURS	TIMEWORKERS		PAYMENT-BY-RESULTS WORKERS			
OCCUPATION	Standard rate (per week)	Average weekly earnings*	P.B.R. basic rate (per week)	Total rate per week)	Average P.B.R. percentage	Average weekly earnings*
	p.	p.	p.	p.	%	£.
Toolmakers						
Maintenance men						
Inspectors						
Fitters and turners	304					
Skilled machinists						

AMALGAMATED ENGINEERING UNION SHOP STEWARD'S
QUARTERLY REPORT

For Official Use

This Report must be filled in
and forwarded, not later than

....

To............................

....

....

(If in doubt or difficulty
consult your Convener)

IMPORTANT
Please do your best to fill
in your report correctly,
as the information so ob-
tained is necessary to local
and National A.E.U. Officers
if they are to serve the
members efficiently.

Your name (BLOCK CAPITALS)..

Name of firm (BLOCK CAPITALS)...

Address of firm..

Department in which employed..

What does the Dept. manufacture?..

Total No. of workers in your Dept..............No. of Non-unionists.........

No. of members of other unions...........Which unions?(use initials.)......

No. of A.E.U. members: MEN..............WOMEN..........APPRENTICES........

JUNIOR WORKERS (other than apprentices):MALE.........FEMALE...........

No. of Non-unionists eligible for A.E.U. membership:

MEN.....................WOMEN...................APPRENTICES...................

JUNIOR WORKERS (other than apprentices):MALE.........FEMALE...........

No. of dayshifts.........and/or nightshifts........in the normal working
week

Length of mid-shift break......Other breaks: Number........Length........

Average amount of weekly overtime per worker now being worked.............

Approxiate No. of workers on Payment-by-Results.........................

Date you last inspected contribution cards of A.E.U. members.............

No. of members 8 weeks or more in arrears................................

STATE BELOW THE WEEKLY WAGES PAID TO THE VARIOUS CLASSES OF WORKERS IN
YOUR DEPARTMENT

NORMAL WORKING WEEK.HOURS	TIMEWORKERS		PAYMENT-BY-RESULTS WORKERS			
Occupation (to be filled in by the shop steward)	Standard rate (per week)	Average weekly earnings*	P.B.R. basic rate (per week)	Total rate (per week)	Average P.B.R. percent-age	Average weekly earnings*
	p:	p.	p.	p.	%	p.

*Exclusive of overtime and before deductions for national insurance,
income tax, etc.

No. of workers discharged or left during quarter:MEN.......WOMEN..........

Main reason for discharge or leaving................................

No. of workers started during quarter: MEN...........WOMEN.............

No. of non-unionists (approximately)................................

No. of members of other unions............Which unions?(use initials).....

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