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UNEMPLOYMENT IN SUNDERLAND

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DEGREE OF MASTER OF ARTS IN SOCIAL SCIENCES

UNIVERSITY OF DURHAM

1984

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It is the authors belief that no part of the material contained in the thesis has been submitted for a degree in this or any other university.



ABSTRACTUNEMPLOYMENT IN SUNDERLAND

The close relationship between the percentage unemployment in Sunderland and in Great Britain is demonstrated and some explanations offered. The specific performance of the main heavy industries in Sunderland, shipbuilding and heavy engineering, is unlikely to be the main cause of the problem. The explanations offered are contrary to the views of the International Labour Office (1962) and A.J. Brown (1972) Eight identifiable reasons are offered, with a possible ninth. Following Cameron (1971) one reason is the relative technical inefficiency of manufacturing plants, a cause which cannot be removed without more specific regional policy than exists at present. The very limited effect of past policy on Sunderland is demonstrated. The strong link between low educational achievement and high unemployment is shown and the need for a different approach to education in Sunderland is emphasised.

INTRODUCTION

Methodology

There are relatively few empirical studies of unemployment in purely localised and self contained labour markets, such as Sunderland, in Great Britain. Studies have been carried out by Campbell (1975) and Hepple (1975). Frost and Spence (1978) also carried out a study but, in addition, they analysed male and female trends separately. I intend to do this where possible but for part of the time period covered by the study Sunderland's unemployment data are only for a male and female aggregate. As far as possible I will present my hypothesis reinforced by related graphs, data and equations. It is through the use of numerous graphs and scatter diagrams that a clear pattern link between Sunderland and the rest of Great Britain shows itself. I have made use of other authorities research and data, more particularly Education and the Unemployed (1977), Survey in Unemployment (1976) and the National Dwelling and Housing Survey (1978). In some cases the conclusions were those of the original researchers but there are many instances where data are presented without conclusions. In these instances I have put forward my own interpretation and conclusions.

Validity of unemployment data as means of defining the extent of unemployment

Much of the unemployment data that are used has been extracted from various editions of the Department of Employment Gazette. This periodical publishes unemployment data from selected towns and areas but as Allen and Yuill (1975) have already pointed out there are certain limitations inherent in the use of such data.¹ Between 1948 and 1970 the Department of Employment data was based on the counting of National Insurance cards. This system was at best very erratic and was never really planned as an aid to the forecasting of unemployment trends. In 1971 the card counts and the estimates based upon them were replaced by the census of employment.² The effect of this has been to build a discontinuity into the period of study from 1960 to 1981. It is difficult, however, to estimate the exact effect. A trial census carried out in June 1970 by the Department of Employment revealed a small discrepancy in the order of about 2%. The card system was found to be 2% below the census of employment numbers but as the whole of Great Britain switched to the new system there is no reason to believe that Sunderland should be any different to the rest of the country. It is probable that any discrepancies are evenly distributed and as the only purpose of this study is to establish a link between Great Britain and Sunderland's unemployed it should not constitute a major source of error.

More recently Randall (1979) has said that while the traditional, and still most commonly used, indicator of the regional unemployment problem is the regional unemployment rate compared with the Great Britain average, it is not always satisfactory.

1. The Allen and Yuill (1975) paper referred, more accurately, to the problems associated with the use of employment statistics.
2. Likewise the Census of Employment deals with numbers in employment. Employment is the denominator of the unemployment rate.

Unemployment rate relatives of this kind can be distorted because of cyclical factors while for some purposes it is much more appropriate to consider the absolute difference in unemployment percentage points rather than the percentage. While the raw published data from the Department of Employment Gazette form the basis for much of the analysis in this study, it can be seen that it is not totally ideal and must be treated with a certain degree of caution. Other sources of error can also creep in which are more difficult to allow for. The available unemployment data may give the percentage of labour that is unemployed but cannot give figures for such items as people who are unemployed but who choose not to register for work, people who are on short time or who are receiving the minimum wage for the job whilst workers in other parts of the country are receiving the minimum plus additional payments, such as bonus or overtime. In the opposite direction there may be instances where firms are hoarding labour, even although this labour has no work to do.

One must also consider whether or not unemployment data are somewhat distorted by peoples' attitude towards employment and unemployment. Do the figures for unemployment, in other words, both on a purely local and also a national basis, show the actual as opposed to the statistical numbers of people who are out of work and actively seeking employment? One may have 5000 registered as being out of work but if a proportion of these people are content to remain unemployed then most certainly 5000 should not be regarded as being the true figure. Of course, it must be conceded that this situation will be present in all regions, but possibly more so in some regions than in others. In an area such as Sunderland which saw heavy unemployment between the wars, and which once again is

experiencing heavy unemployment, there is perhaps not the social stigma attached to being unemployed as there is likely to be in the traditionally high employment areas of South East England. The view is widely held that many people can 'get by' on Social Security benefits and therefore they make little effort to find employment. In some cases the unemployed may obtain as much as 91% of the wages earned in full time employment. Atkinson and Flemming (1978) point out that this is true of only a minority of cases and that the real income of the unemployed is usually substantially less.

This problem of the unregistered unemployed has been investigated by Cheshire (1972) in an investigation of regional unemployment differences. He has found that in areas of low unemployment such as the south east, the unregistered unemployed tended to be more numerous than the registered. In areas of high unemployment such as Sunderland, the unregistered were less numerous. Very broadly, over the period 1960-81 the picture shown by the wide variations in Sunderland's rate of unemployment seem to fit in with Cheshire's ideas. Where there is a high pressure of demand for labour there is never much registered unemployed because those actively offering themselves for work are snapped up. In relatively slack times workers already in employment tend to be hoarded. The firm holds on to its labour force in case, when the upturn in trade arrives, it is unable to assemble labour of the quality and quantity that had previously been successful. This upturn in trade, a push for the services of labour, tends to draw largely on those who are only marginal members of the labour force and who tend to drop out of it spontaneously in a recession so their numbers in employment decline without adding much to registered unemployed. In areas such as Sunderland, of lower demand for labour,

these conditions do not appear to apply. Redundant labour is laid off more freely because labour is not expected to be in short supply and therefore there is little reason to incur the costs of hoarding it. The workers laid off will then normally increase the numbers of the registered unemployed.

What may well be true however is that some industries do experience a shortage of their particular and specialised type of labour and because of this they may tend to retain some labour which would otherwise be redundant. This study does show that there is some evidence of labour hoarding in certain sectors of industry in Sunderland despite its high unemployment rate. This is in broad agreement with the argument put forward by Wilson (1979) who states that regions with relatively high levels of unemployment have been described as labour surplus regions. While he accepts that this is natural enough he then points out that there are however areas where labour seems to be in plentiful supply and yet it is very often difficult to obtain. Labour surpluses and shortages may therefore appear to exist side by side.

Boundary changes during the research period

A potential source of difficulty existed because of the changes in Sunderland's defined boundaries during the period under study. In 1960 Sunderland covered an area of 8,575 acres (3,430 hectares) and had a population of 186,600. In 1968 an extension of the boundaries increased the area of Sunderland to 13,391 acres (5,356.6 hectares) and the population, which in 1967 had been 187,650 now increased to 219,270. In 1975 there was another revision of boundaries which increased the size of Sunderland to 34,530 acres (13,812 hectares) while the population which in the previous year had been 214,820 now increased to 295,200. The area covered by Sunderland in 1975 was therefore approximately 300% larger than in 1960, while the population increased approximately 58%. It is estimated that during this period the population drift was about 0.5% per annum (Abstracts of Sunderland Borough Treasurers Annual Reports).

In a similar way there were changes in the composition of unemployment data presented as representing Sunderland. In 1960 Sunderland consisted of Pallion, Southwick and Sunderland Central Labour Exchanges as well as Washington Station. Washington Station however was a small Exchange and in 1960 had approximately 150 people registering as being unemployed, compared with approximately and on average 3,500 total unemployed for the three Sunderland Labour Exchanges. In July 1967 Seaham was included in the Sunderland unemployment numbers. This was of a similar size to Washington Station. It seems unlikely that the relatively small size of both Seaham and Washington Station have distorted the

unemployment data to any great extent but nevertheless one must always bear this in mind. Actual numbers of unemployed persons in Sunderland do however only refer to the Sunderland unemployed and neither Seaham nor Washington Station are included.

The study therefore refers to Sunderland from data supplied by its three labour exchanges of Pallion, Southwick and Sunderland Central for the period 1960-81. Because of the method of aggregation of statistics by the Department of Employment and as I have indicated, there are the small additional labour exchanges of Seaham and Washington Station included where indicated in the relevant tables.

CHAPTER IAn analysis of the unemployment trend during the period 1960-81

The problem for Sunderland is one of a persistently high level of unemployment of about twice the magnitude for that of Great Britain in the period 1960-81. The only time when this relationship was significantly disturbed was in 1970 when the Sunderland - Great Britain unemployment ratio climbed steeply to 3.5 from 2.6 in 1969, before returning to 2.2 in 1971. This peculiarity can be explained by the fact that there were a series of strikes in Sunderland affecting the shipyards and some of the larger local factories. Given the importance of shipbuilding as an employer and the relatively large size of the factories that were involved in strike action and the fact that these strikes were not duplicated to any great extent in other parts of the country then the jump in the unemployment ratio for 1970 is fairly easily explained.

In 1975/76 there was the beginning of a convergence between the unemployment trends of Sunderland and Great Britain, but even so the ratio had only fallen to 1.8 in 1981, not significantly different from the average magnitude of approximately 2.0 for the 1960-81 period. This finding tends to be in agreement with Gillespie and Owen (1981), who found that from early 1974 to late 1975, as the national economy entered a severe recession associated with the energy crisis, a marked convergence in local and national rates took place. A more detailed scrutiny of the Sunderland and Great Britain ratio's shows that this divergence in 1975/76 continued until 1979, before 1980 and 1981 saw once again a converging gap (Graph 1)

Although the ratio of unemployment between Sunderland and Great Britain has remained at approximately 2.0 for most of the period, it must be emphasised that this is not a stable relationship as Graph 2, showing the relationship between annual rates of unemployment for Sunderland and Great Britain 1960-81 shows. Graph 3 for quarterly data tends to show this in even greater detail. The relationship has been more stable in the period 1974-81 than previously in 1960-74, a feature which means that long term changes may be difficult to detect. Generally, however, when the unemployment rate for the rest of Great Britain has gone up, so too has that for Sunderland, but by about twice the amount. This finding is totally at variance with those of Brechling F (1967) who found that regional unemployment responded proportionately less to changes in total unemployment in depressed regions, than in the more prosperous regions.

Although boom-time conditions may result in the rate of unemployment falling by twice the rate for Great Britain as a whole, it is important to realise that at no time does unemployment in Sunderland reach the same percentage rate as that of Great Britain. In fact, since 1975 Sunderland in percentage points difference has declined in its relative position with a difference of 7.8 in 1981 compared with a 4.1 in 1975 (Graph 4). The question to be answered is 'Why is there this particular trend and relationship?' What factors does Sunderland have, or not have, as the case may be, that causes it to react in this way? It seems highly unlikely that there is but one single factor at work and it is probable that there are a number of factors involved, often interacting with one another.

There is also the possibility that there may be insufficient data available in the areas that really matter. By 'areas' I mean not only geographical areas, but the areas of industry and occupations. It can only be through a systematic and rigorous analysis of the factors that affect the demand for and supply of labour that a reasonable solution can be provided. The supply of labour may be in excess of the demand for it, but this may not be true for all sectors of employment--(Wilson 1979). From the argument put forward by Wilson it may be that there are occupations where the problem is one of under supply relative to demand. This may even add to the unemployment because of the complementary nature of certain jobs with one another.

Consider the requirements for the construction of a typical heavy marine engine. It involves the engineering skills of the fitter, turner, borer, grinder and so forth. . . Now if there is a shortage of turners then even if supply of the other types of engineers is equal to demand there will be unemployment because no other engineer is capable of doing the work of the turner. The engine cannot be completed beyond a certain stage so that some workers that are employed beyond that stage are likely to become unemployed. Clearly some industries will be affected in this respect more than others, but the difficulty comes in trying to determine whether or not all industries are equally affected or whether one industry, such as ship-building is responsible for this type of unemployment.

Now not only is the unemployment rate of Sunderland higher than that for the rest of Great Britain, but it is much higher than that of the Northern Region, as table I shows. It also indicates that no matter the change in the level of unemployment, the rate of unemployment in Sunderland remains about twice that of Great Britain and worse than that of the Northern Region.

TABLE I

Relationship of Unemployment between Great Britain, Sunderland and the Northern Region for the period 1960-81.

Year	Percentage rate of Unemployment			Ratio of Unemployment	
	Gt/Britain	S/Land	N/Region	SU/GBU [*]	NRU/GBU [*]
1960	1.9	5.5	2.6	2.9	1.4
61	1.5	4.4	2.6	2.9	1.7
62	2.0	4.5	3.8	2.3	1.9
63	2.7	7.4	5.0	2.7	1.9
64	1.9	5.7	3.4	3.0	1.8
65	1.6	4.2	2.6	2.6	1.6
66	1.4	2.9	2.7	2.0	1.9
67	2.5	5.0	3.9	2.0	1.6
68	2.4	6.7	4.6	2.8	1.9
69	2.4	6.2	4.9	2.6	2.0
1970	2.6	9.1	4.8	3.5	1.8
71	3.2	7.1	5.8	2.2	1.8
72	4.1	8.7	6.6	2.1	1.6
73	2.9	7.3	4.5	2.5	1.6
74	2.6	6.7	4.5	2.6	1.7
75	3.6	8.7	5.8	2.5	1.6
76	5.4	10.2	7.1	1.9	1.3
77	5.8	11.2	7.8	1.9	1.3
78	6.1	12.4	8.2	2.0	1.3
79	5.3	11.9	8.6	2.2	1.6
1980	6.7	13.9	10.7	2.1	1.6
81	10.4	18.2	15.0	1.8	1.4

*NRU = North Region Unemployment rate

* SU = Sunderland Unemployment rate

*GBU = Great Britain Unemployment rate

This provides a good fit to the annual unemployment data represented in the scatter diagram Graph 5. The steeper slope of the angle of regression for Sunderland indicates a greater cyclical sensitivity by Sunderland than that of the Northern Region to movements in the economy of Great Britain. The conclusion to be reached is that when there is zero unemployment in Great Britain, there will still be a pool of unemployment of approximately 2.0% in Sunderland and only 0.7% in the Northern Region.

Logically, however, the rate of unemployment in Sunderland must be zero if the rate of unemployment in Great Britain is zero, since Sunderland is a part of Great Britain. The working population of Sunderland is approximately 90,000 compared with about 24 million for Great Britain, a ratio that is so small that it may be reasonable to treat Great Britain as if it were Great Britain minus Sunderland.

Unemployment data for numbers of male and female unemployed in Sunderland for the period 1965-73 also tends to provide evidence as to which industries have been primarily affected. Graph 6 shows the steady upwards movement of the total unemployed males in the period. Although there are distinct troughs, particularly for 1973/74, the overall trend since 1965 has been an increase in the numbers of males unemployed in Sunderland. Graph 6 also shows that the female numbers unemployed rose gently until 1970 and then sharply until 1972. There was then a decline until 1974, when, in common with the numbers of males unemployed there was a steep rise. In absolute terms, the increase in female unemployment was 2838, a rise of 4.5%. For males the rise was in the order of 6,024, an increase of 6.5%

There has also been a rise in the numbers of female unemployed in Great Britain as a whole in order of similar magnitude to that of Sunderland. Manley and Sawbridge (1980) have shown the explanation for this probably lies in the large increase in the supply of female labour as economic activity rates for women have risen throughout Great Britain.

The ratio of male to female unemployed¹ for Sunderland and Great Britain in Table 2 and Graph 8 demonstrates how these ratios have moved in the period 1965-78. In 1965 when the average rate of unemployment was 4.2% in Sunderland and 1.6% for Great Britain the ratio was 3.0 for Sunderland and 3.2 for Great Britain. The ratio in Sunderland gradually rose until it reached a peak of 11.4 in 1970, but this ratio was distorted by shipyard closures due to strike action and also lengthy industrial action at another major factory. The ratio for Great Britain also rose but at a much gentler rate, also peaking in 1970 at 5.8. The ratio for Sunderland fell in 1971 and 1972, increased in 1973 and 1974 and then fell until 1978 when it went up slightly reaching 2.5. The ratios for Great Britain declined after 1970 down to 5.1 in 1972, before rising to 5.3 in 1974, and then gradually falling to 2.4 in 1978.

Some conclusions about the nature of unemployment in Sunderland can be deduced from this. During the 1960's the male rate of unemployment grew at a faster rate than that of the females, while the growth in the percentage rate of unemployment in Sunderland and also in Great Britain since 1974 has been associated with a fall in the male - female unemployment ratio. Some of the growth in unemployment has therefore been due to the increased numbers of females who are unemployed. The closeness of the male - female unemployment ratios for both Sunderland and Great Britain also serves to indicate that similar factors may have caused unemployment rates to rise in both cases, rather than Sunderland having a different reason for rising unemployment. This conclusion seems inescapable.

Regression analysis for male and female unemployment in Sunderland and Great Britain yields the following equations.

1. For male unemployment using numbers of unemployed:

$$\begin{aligned} \text{SDU} &= 17.44 + 0.07 \text{ GBU} && \text{Where SDU} = \text{Sunderlands} \\ & \quad (3.168) \quad (8.413) && \text{unemployed} \\ & && \text{GBU} = \text{Great Britain's} \\ & && \text{unemployed} \\ R^2 &= 0.855 \\ \text{DW} &= 1.123 \end{aligned}$$

2. For female unemployed as above:-

$$\begin{aligned} \text{SDU} &= -0.0848 + 0.0866 \text{ GBU} \\ & \quad (-0.0829) \quad (16.9877) \\ R^2 &= 0.96 \\ \text{DW} &= 1.3616 \end{aligned}$$

These regression lines as plotted on Graphs 17 & 18 prove to be a good fit to male and female unemployment data. There would appear therefore to be a common element of explanation for both male and female unemployment, not only in Sunderland but in the rest of Great Britain also. Time series data showing percentage changes in male and female rates for Sunderland and Great Britain also tend to point to a common cause for male unemployment, whether national or local and a common cause for female unemployment, again whether national or local (See Graph 19 & 20)

In this chapter it has been demonstrated that the trend in unemployment in Sunderland therefore has the following characteristics:-

1. There is a higher rate of unemployment in Sunderland than in either the Northern Region or the rest of Great Britain. On average Sunderland has twice the unemployment rate of Great Britain.

2. The differential has increased from 4.9 in 1975 to 7.8 in 1981 while the ratio of unemployment for Sunderland/Great Britain has moved from 2.5 in 1975 to 1.8 in 1981.

3. There has been a widening in the percentage points difference between Sunderland and Great Britain's rate of unemployment since 1974.

4. Female unemployment in Sunderland has shown a greater deterioration than has male unemployment in the period 1970-78, but has demonstrated a similar pattern to that of Great Britain as a whole during the present recession.

1. There are inherent limitations in the use of the ratio of the male unemployment rate to the female rate. We start at a low level for females and if both rates rise by a percentage point then the ratio will fall.

CHAPTER 2

The Cyclical Sensitivity of the Demand for Labour

The nature of the Trade Cycle

Business conditions never stand still. At one particular moment in time there may be a recession when production and aggregate demand are at a low level and when unemployment is at a high level. This situation will eventually be followed by an upturn in the economy when business increases, production and aggregate demand increase and the level of unemployment falls. This is the pattern of the trade cycle. It must be recognised that no two business cycles are alike in all respects because for example, some may be characterised by a plateau at the peak of the boom while other cycles have a prolonged flat base during the recession. The amplitude of the waves may vary with some booms hardly registering at all. It is also the case that the depth of the depression will vary.

In the last twenty years there has been a general tendency for both Great Britain and Sunderland to have business cycles commencing at a higher base level of unemployment than the previous cycle, to have a higher level of unemployment than the previous cycle and also to have a higher level of unemployment at the peak of the boom than at the peak of the previous trade cycle. Metcalf (1982) believes that the reason for this is that what is often called the equilibrium rate of unemployment, the notional rate which abstracts from cyclical changes in demand as far as possible, rose in the 1970's from around 4% of the labour force in Great Britain in 1969 to approximately 6% in 1979. This increase was associated with factors like the adjustment problems caused by the rundown of manufacturing industry, a profits squeeze and some relaxation in the pressure put on the unemployed to obtain work.

But each or any of these features will rarely be spread in an even manner over the whole of the country. Some regions, probably very few, will have the same characteristics as the national cycle, others will react much more rapidly while others will show evidence of a time lag. There are also instances when the reaction will be of a highly sensitive nature, while to complicate things even further, there may be small areas within a region that go against the whole trend for that particular region. Townsend (1977) for example, has found that areas with widely varying labour market conditions exist within the Northern Region, a region of high unemployment, just as they do in low unemployment regions such as the South East.

Sunderland shows evidence of a hypersensitive reaction to the national cycle reacting much more strongly than the rest of the Northern Region to changes in economic activity in Great Britain. In general the national cycle tends to be amplified at all points in its path by about two percentage points in Sunderland but perhaps what is even more striking is that generally Sunderland reacts immediately to changes in Great Britain's economic activity without evidence of lead or lag.

Sunderland's cyclical sensitivity as measured by Sunderland percentage unemployed/Great Britain unemployed. 1960-1981

An examination of Graph 1 and Graph 4 for the period 1960-81 makes it possible to detect some explainable reasons for Sunderland's overall reaction to the Great Britain trade cycle. In 1960 and 1961 while the unemployment rate for Great Britain fell from 1.9% to 1.5%, Sunderland's fell from 5.5% to 4.4%. This represents a ratio in both years of 2.9 which gives some indication of Sunderland's highly sensitive reaction to general changes in the level of economic activity in Great Britain. The Northern Regions position shifted from a ratio of 1.4 to 1.7 showing some evidence of slightly increased sensitivity. Unemployment for Great Britain, Sunderland and the Northern Region began to rise from about April, 1961, as the country went into a recession. Industrial production began to recover early in 1962 but with the level of unemployment remaining relatively high.

In June 1962 hire purchase restrictions were lifted to stimulate consumer demand and then in October earlier requests to the banks to exercise credit restraint were withdrawn. This met with only limited success in reducing unemployment so that in the April 1963 Budget expansionary measures were taken, but even so unemployment continued to rise reaching 2.7% for Great Britain in mid 1963. Sunderland's rate was 7.4%, representing a ratio of 2.7, while the Northern Region's ratio touched 1.9, slightly up on 1962. In the recessionary period 1960-63, therefore, Sunderland had become slightly less sensitive to changes in economic activity in Great Britain, while the Northern Region had become slightly more sensitive.

In 1964 the rate of unemployment fell to an average of 1.9% for Great Britain although it had been falling steadily since the middle of 1963. Sunderland's rate at this time was 5.7%, which gave a ratio of 3.0, compared with the 2.7 at the bottom of the previous recession. The rate of unemployment for Great Britain continued to fall reaching a rate of 2.4% in 1968/69. Sunderland's rate also fell but reached its lowest point in 1966, with a rate of 2.9%, and a ratio of 2.0, indicating that as the condition of the economy had improved that of Sunderland had improved relatively more. The Northern Region's sensitivity remained unchanged at a ratio of 1.9.

From 1966 Sunderland's unemployment rate moved upwards to 9.1% in 1970, following a rate of only 6.2% in 1969. In 1971 the rate fell to 7.1%. The 1970 figure for Sunderland was however grossly distorted by many purely local features, such as a prolonged shipyard strike, which closed down all of Sunderland's shipyards. There were also a further two other local strikes in the factories of major employers of labour. Largely because of this it is possible that Sunderland started a recession in 1966 which reached its peak in 1972 when 8.7% were unemployed. Great Britain also peaked in 1972 but at a level of 4.1% giving a sensitivity ratio of 2.1 compared with 2.0 in 1966 and 2.8 in 1968. This recession brought about a major shift in Sunderland's relationship with Great Britain in that while Great Britain's recovery resulted in unemployment falling by 1.5 percentage points from 4.1% in 1972 to 2.6% in 1974, Sunderland's rate fell by exactly 2.0 points from 8.7% in 1972 to 6.7% in 1974. The sensitivity ratio moved upwards from 2.1 in 1972 to 2.6 in 1974, indicating that Sunderland had come out of the recession rather weakly compared with the rest of Great Britain, while the Northern Region recovered at about the same rate.

^x Care needs to be taken over the interpretation of the Sunderland/Great Britain unemployment ratios as in the normal course of events they will change over the cycle, falling as unemployment rises and rising as unemployment falls.

From 1974 and apart from a small fall in 1979, Great Britain's unemployment level rose as the recession deepened. Sunderland entered the recession at about the same time with the Northern Region. Initially the sensitivity ratio fell from 2.6 in 1974 to 1.9 in 1977, showing that Sunderland had reacted more sluggishly to the recession than did Great Britain, but then the ratio began to increase reaching 2.2 in 1979 before falling to 2.1 in 1980 and 1.8 in 1981. Since 1974 the unemployment gap between Sunderland and the rest of Great Britain has in fact widened from 4.1 in 1974 to 7.8 percentage points in 1981. As Graph 5 and the lines of regression demonstrate for each 1% rise in unemployment in Great Britain there was an associated rise of 1.7% in Sunderland. An examination of the sensitivity ratios for the period of 1960-81 shows that Sunderland has a greater cyclical sensitivity to movements in the economy of Great Britain than has the Northern Region.

Relationships between male and female unemployment in
Sunderland and their independent reactions to the trade
cycle. 1960-81

From the data that are available for the period 1965-78 for separate aggregates of male and female unemployed it is possible to arrive at further conclusions about how cyclical unemployment affects Sunderland's male and female labour in different ways. For the year 1965 and the boom year, for Sunderland's male unemployed labour numbers fell from 2691 to 2491, a fall of 200 taken as an annual average. The female registered unemployed fell from 698 to 446, a fall of 252. The male to female unemployment ratio for Great Britain increased from 3.2 to 3.8. This demonstrated that the female labour reacted much more strongly than the male labour force in Sunderland to upturn in the economy. This relationship was also stronger for Sunderland than for Great Britain as a whole. Regression analysis (see page 18 and Graphs 19 & 20) also tend to confirm this.

TABLE 2

Numbers unemployed in Sunderland 1965-78, classified by male and female annual average and male/female unemployment ratios for Sunderland and Great Britain.

Year	SUNDERLAND		SUNDERLAND	GREAT BRITAIN
	Male	Female	Male/Female Ratio	Male/Female Ratio
1965	2691	698	3.9	3.2
1966	2491	445	5.6	3.8
1967	4430	628	7.1	4.2
1968	5653	701	8.1	5.2
1969	5208	532	9.8	5.7
1970	6834	598	11.4	5.8
1971	6560	1299	5.1	5.4
1972	7171	1629	4.4	5.1
1973	5681	975	5.8	5.2
1974	5522	901	6.1	6.3
1975	7464	1801	4.1	4.0
1976	7944	2478	3.2	3.1
1977	8432	3511	2.4	2.6
1978	8715	3537	2.5	2.4

The recessionary period of 1967 and 1968 in Sunderland produced an increase in the male/female unemployment ratio to 8.1 as against the increase to 5.1 for Great Britain as a whole. 1969 produced a fall in the total unemployment in Sunderland but the ratio continued to rise reaching 9.8 in 1969 and 11.4 in 1970. By comparison the ratio for Great Britain only reached 5.8. Although 1970 was in many ways a 'freak' year for Sunderland it is highly probable that the ratio of male/female unemployed for that year would otherwise have fallen because most of the unemployment that resulted from industrial disputes affected the male labour more than the female labour force.

In the period 1965-70 there was a steady increase in the male/female unemployment ratio in Sunderland. The ratio for unemployment amongst males and females in Great Britain rose only slightly by comparison with Sunderland, a point clearly illustrated on Graph 7. For this period unemployment for females in Sunderland was relatively less of a problem than for Great Britain as a whole. If the period 1965-70 saw the male/female unemployment ratio rise the period 1971-78 saw a distinct shift in which the female unemployed increased at a much faster rate than the male, a feature true for both Sunderland and Great Britain. For the period 1975-78 their male/female unemployment ratios followed virtually identical paths.

The year 1971 was significant in that it witnessed the beginning of the major shift in the male/female unemployment ratio. While Sunderland's male unemployment fell by 274, female unemployment increased by 701 from 598 to 1299, an increase of over 100%. The male/female unemployment ratio fell sharply to 5.1, much closer to the 5.4 of Great Britain as a whole. It may well be, therefore, that the steeper rise in unemployment for Sunderland than in Great Britain is explained by female rather than male unemployment. The rise in female unemployment was mainly caused by more females becoming eligible for unemployment benefit, and therefore, registering as unemployed. The female labour force in Sunderland has not however, differed notably from that of Great Britain as witness the closeness of their male/female unemployment ratios.

The unemployment level peaked at 8.7% for Sunderland in 1972, of which 7171 were males and 1629 were females, giving a ratio of 4.4 down from 5.1 in 1971. The female unemployment position for Great Britain as a whole also declined with a slight fall from 5.4 to 5.1. The years 1973 and 1974 saw a return to the boom conditions with the 'Barber Boom' and by 1974 male unemployment in Sunderland had fallen to 5522, a drop of 1649 while female unemployment fell by 728, increasing the male/female unemployment ratio to 6.1. For the same period the Great Britain ratio increased very slightly from 5.1 to 5.3. The upturn in the economy had improved the position of female relative to male unemployment but this movement was much stronger for Sunderland than it was for Great Britain.

For the period of the 1974-8 recession male unemployed in Sunderland rose by 3193, while female unemployed rose by 2636. The male/female unemployment ratio in Sunderland fell further from 6.1 in 1974 to 2.5 in 1978 although there were signs that with the slightly increased ratio in 1978 male unemployment was beginning to rise once more at a steeper rate than the female. For Great Britain however the ratio has continued to decline over the whole period.

From this it may be deduced that employers of female labour both in Sunderland and in Great Britain have been affected by the recession more than employers employing primarily a male labour force¹. Sunderland is no worse and no better than Great Britain in this respect but caution should be exercised in

1. This does however require qualifying. Part of the increase in female unemployment is associated with the movement of females into the working population. Sensitivity of firms employing female labour may have increased (or stayed constant) but a major factor may be an increase in the number of firms who employ large numbers of females.

The ratios of female to male unemployment can fall even with employment reductions greater for males than females and with unemployment increase greater for males than females.

drawing long term trends from short term variations. For example, in 1978 there was a strong decline in the female unemployment situation in Sunderland with an average increase of 1033 against an increase of only 488 in male unemployment. Most of this female unemployment arose from the closure of Burtons clothing factory when 1020 workers, mainly female, were made redundant, and at Plessey Telecommunications which also employed a large number of women, which closed with the loss of 2990 jobs. Clearly there is a large reservoir of unemployed female labour in Sunderland and any policy measures to relieve unemployment must bear this in mind.

If the number of female unemployed has risen as a result of redundancies and the unemployment benefit system there is also one further added possibility. This rise may have come about as a result of females registering as unemployed in an attempt to find work perhaps in order to alleviate the effects of having an unemployed husband or other main wage earner in the family. If male unemployment rates fall in Sunderland less females may declare themselves available for work, and thereby also significantly reduce female unemployment rates. Whether or not Sunderland will differ from Great Britain in this respect is difficult to determine

Estimation of Sunderland's cyclical sensitivity

In order to estimate Sunderland's degree of cyclical sensitivity for the period 1960-81 use was made of the Harris and Thirlwall (1968) model because of the readily available unemployment

data for Sunderland and Great Britain. In this model the rate of unemployment in Sunderland is taken to be a linear function of the rate of unemployment in Great Britain providing the equation:-

$$SU = a + b \text{ GBU}$$

where SU = Time series of unemployment rates in Sunderland
and GBU = Time series of unemployment rates in Great Britain.
The coefficient b is a measure of cyclical sensitivity of Sunderland's economy. Using this model the following equations were obtained.

Equation 1 1960-79 (Annual data)

$$SU = 2.00 + 1.70 \text{ GBU}$$

(3.98) (11.56)

Figures in parenthesis are t-ratios

$$R^2 = 0.88$$

$$DW = 1.78$$

$$n = 20$$

Equation 2 1961.2 - 1981.1 (Quarterly data)

$$SU = 1.37 + 1.92 \text{ GBU}$$

(6.62) (32.31)

$$R^2 = 0.93$$

$$DW = 0.82$$

$$n = 76$$

Equation 3 1961.2 - 1966.2 (Quarterly data)

$$\text{SU} = -0.02 + 2.8 \text{ GBU}$$

$$(-0.05) \quad (10.8)$$

$$R^2 = 0.86$$

$$\text{DW} = 0.61$$

$$n = 21$$

Equation 4 1966.3 - 1969.2 (Quarterly data)

$$\text{SU} = -0.003 + 2.47 \text{ GBU}$$

$$(-0.002) \quad (2.94)$$

$$R^2 = 0.46$$

$$\text{DW} = 0.63$$

$$n = 12$$

Equation 5 1969.3 - 1973.4 (Quarterly data)

$$\text{SU} = 3.08 + 1.29 \text{ GBU}$$

$$(4.93) \quad (6.58)$$

$$R^2 = 0.73$$

$$\text{DW} = 1.75$$

$$n = 18$$

Equation 6 1974.1 - 1980.1 (Quarterly data)

$$\text{SU} = 1.31 + 1.95 \text{ GBU}$$

$$(2.49) \quad (18.19)$$

$$R^2 = 0.94$$

$$\text{DW} = 1.49$$

$$n = 25$$

Equation 7 1961.2 - 1969.2 (Quarterly data)

$$\text{SU} = 0.44 + 2.43 \text{ GBU}$$

$$(0.82) \quad (9.21)$$

$$R^2 = 0.73$$

$$\text{DW} = 0.45$$

$$n = 33$$

Equation 8 1966.3 - 1973.4 (Quarterly data)

$$\text{SU} = 2.3 + 1.51 \text{ GBU}$$

$$(4.06) \quad (7.58)$$

$$R^2 = 0.67$$

$$\text{DW} = 0.87$$

$$n = 30$$

Equation 9 1969.3 - 1980.1 (Quarterly data)

$$\text{SU} = 1.28 + 1.93 \text{ GBU}$$

$$(3.62) \quad (23.47)$$

$$R^2 = 0.93$$

$$\text{DW} = 1.38$$

$$n = 43$$

Equation 10 1961.2 - 1973.4 (Quarterly data)

$$\text{SU} = 1.76 + 1.74 \text{ GBU}$$

$$(4.98) \quad (12.40)$$

$$R^2 = 0.76$$

$$\text{DW} = 0.62$$

$$n = 51$$

The equations show evidence that there was a distinct shift in Sunderland's unemployment rates as compared with movements for Great Britain in the time period 1969 Quarter 3 to 1973 Quarter 4. For the time period 1961.2 to 1969.2 the equations were very similar in nature but with the Durban Watson statistic showing evidence of auto-correlation implying that the equations were in fact shifting during the 1960's. The lack of auto-correlation for equation 1 tends to suggest that some of the problem may be due to seasonal variations. For equation 5 in the time period 1969.3 to 1973.4 there is however a considerable shift with the sensitivity coefficient b falling to 1.29 from 2.47 in the earlier time period 1966.3 - 1969.2. The Durban Watson statistic also increased from 0.63 to 1.75 giving further emphasis to this fact.

Equation 6 for the period 1974.1 to 1980.1 saw the sensitivity coefficient b increase to 1.95 with an R^2 of 0.94 while the Durban Watson statistic fell slightly to 1.4. It ² seems therefore highly probable that the whole turning point in the relationship between Sunderland's rate of unemployment and the rate for the rest of Great Britain stems from a number of events which took place in 1970-72:-

1. Abnormal unemployment rates in Sunderland for 1970 and 1971 due to localised strikes and industrial action.
2. The national power crisis in February and March 1972 produced a less strong reaction by Sunderland than the rest of Great Britain. The sensitivity ratio fell from 2.0 in January to 1.5 in February, before rising to 1.9 in March. Possibly Sunderland's industries are less dependent on power than the national industrial structure or it may be that Sunderland was able to cope and modify its reaction much better than the rest of Great Britain.

3. There were steep rises in the numbers of female unemployed although after the peak year of 1970 when male/female unemployed in Sunderland was 11.4 against 5.8 for the rest of Great Britain the ratio dropped and was very similar to that of the rest of Great Britain.

Equations 7 and 9 show that in the period 1961.2 - 1969.2 Sunderland was much more sensitive to changes in the unemployment rates in Great Britain than in the period 1969.3 - 1980.1. This tends to confirm the sensitivity ratio analysis and indicates that some element or elements in Sunderland caused a different reaction to that of Great Britain as a whole to changes in economic activity in the period 1969-73. In conjunction with the quarterly sensitivity ratios the shift appears to be more strongly localised to 1970-72.

In this chapter the following conclusions have emerged:-

1. Sunderland reacts in a hypersensitive manner to cyclical movements in the economy of Great Britain with movements being amplified by $2.0 + 1.7 \times$ Great Britain unemployment rate.
2. Although there is evidence to suggest a shift in the 1960's the greatest shift in the relationship was in the period 1970-72.
3. There are strong indications that when the economy as a whole is stimulated then Sunderland benefits in a disproportionate manner casting some doubts on the effectiveness of regional policy.

To argue that regional policy impact increases when there is growth in the economy when unemployment will be low may be true but nevertheless we must still consider whether or not all areas with problems similar to those of Sunderland react in the same way. If regional policy works best during a boom then it should have least effect during a recession when need is greatest.

4. The position of female unemployment relative to male unemployment in Sunderland and in comparison to the rest of Great Britain has changed over the period 1965-78:-
- (i) Prior to 1970 the position of female unemployment improved relative to male unemployment in Sunderland.
 - (ii) Female unemployment rates in Sunderland in this respect were lower than the rest of the country.
 - (iii) Since 1970 this relationship has changed with female unemployment rates deteriorating relative to males in Sunderland but coming into line with the ratios for the rest of Great Britain after 1974.

CHAPTER 3

The role of wages in the demand for labour

Robinson (1970) defines a local labour market such as Sunderland is, as the geographic area containing those actual or potential members of the labour force that a firm may induce to enter its employ under certain conditions and other employers with which the firm is in competition for labour. If one was to assume that transport costs within a local labour market to be of only slight importance then labour of a particular type would fetch the same price throughout the market. In Sunderland the relatively low price of public transport and the activity of trade unions in the major plants combine to produce a fairly uniform level of wage for the same job.

Now marginal productivity theory states that the wage rate for any particular job cannot exceed the marginal value product of labour and that since any unit of labour may be the marginal unit, the rate of pay necessary to bring the marginal unit of labour into production marks the maximum the entrepreneur will pay to retain any other unit in employment. From this it follows that the equilibrium level of wages cannot be less than the marginal value product of labour because as long as extra labour units add more to the total revenue of the firm than to total costs then more labour will be hired up to the marginal value product of labour. Marginal analysis then points towards a close relationship between price and marginal contribution. If demand for the product falls then the real wage will adjust.

* Experience does not always support this theory however as Mackay D.I. (Allen & Unwin) has shown.

Lester (1946) in suggesting that other forms of adjustment may be more important, does not agree with this marginal revenue productivity theory.

Machlup (Sept. 1946) attacked Lester's interpretation of his findings and concluded that the wage employment relation and the substitution principle remained basically unimpaired. To accept the findings of Lester is to accept the fact that there will be at various times a certain amount of labour hoarding by firms who prefer to do this rather than to lose labour which might not be easily replaced at some future date. This must depend however on time, as will be shown later. Thomas (1981) tends to agree with Lester. He remarks that when faced with a fall in the demand for their product, firms will normally reduce their demand for labour and are likely to make some adjustments in wages or in the quantity of labour input. Thomas then reconciles his standpoint with marginal productivity theory by pointing out that the more firms adjust wages the less will be the quantity adjustments and vice versa.

In practice most of the adjustments in the labour market are of quantities rather than wages. If demand is falling and wages are still tending to rise then unemployment must be a necessary consequence therefore.

Henderson (1921) also has examined the relationship between wages levels and the level of employment. He states that the wages of labour tend to a level at which the demand for labour is equal to its supply. If supply exceeds the demand for labour and there is unemployment, wages will tend to fall in spite of trade union activity, and what is more, the higher the wages that must be paid the smaller will be the demand for labour. Henderson does not stipulate whether or not he means real wages or money wages, but if we accept the Keynesian theory of 'money' wages being sticky downwards, we are left with the more acceptable idea of real wages in Henderson's argument.

From these various notions of determination of wages the idea emerges that wage is a price, the price that must be paid in order to get labour into production initially decided by the twin forces of supply and demand. It is then possible, to go further and say that the employer will only pay a wage that is equal to the marginal product of labour. Taylor (1974) in his description of the excess demand model of wage change asserts that the rate of change of money wages is a direct function of the amount of excess labour demand. The simplest static model of the labour market argues that money wages will rise when:

$$D_L > S_L \quad \text{where } D_L = \text{Demand for Labour} \\ S_L = \text{Supply of Labour}$$

and that money wages will fall when:

$$S_L > D_L$$

This static analysis is converted into a dynamic analysis by postulating that the speed of adjustment of the prevailing wage level varies directly with excess labour demand.

$$W = k \left(\frac{D_L - S_L}{S_L} \right) \quad \text{where } W = \text{rate of change of money wage} \\ \text{over a given time period} \\ k = \text{a constant}$$

If we use the registered rate of unemployment and accept it as adequately reflecting the influence of other components the wage change/unemployment function can be stated as:-

$$W = W(U_r, U_d, U_n)$$

Where U_r = Rate of registered unemployment
 U_d = Rate of labour hoarding
 U_n = Rate of hidden unemployment

It is difficult to estimate with any degree of accuracy the level of hidden unemployment, those who have failed to register as unemployed in Sunderland but the interpretation of some data may provide evidence about the nature of labour hoarding. Taylor defines labour hoarding as being the under utilisation of labour which is 'on the books' of employers. Labour hoarding will have two effects. First the employer will be reluctant to see a rise in the wage rate unless it is through a productivity deal and increasingly reluctant to see wages rise as the amount of under utilised labour on his books increases. It follows that a situation of low labour hoarding will generate a higher rate of change in wages than a situation of high labour hoarding. Taylor argues that labour hoarding occurs over a wide spectrum of skills and occupations and will probably be more biased towards highly skilled workers than the registered unemployed component. At the other extreme the average skill level will be low for the hidden unemployed component since the hidden unemployed consist mainly of married women seeking part time work.

Just as levels of employment vary over time and between regions in Great Britain so too will wage levels so that the average wage can be extremely difficult to define. For example there are many variations in time with a welder in a shipyard earning £200 per week in a boom, but a basic of only £100 when the yard is struggling to obtain orders. Other industries, such as transport may have workers being paid slightly less than the shipyard workers basic, but having the advantage of a relatively permanent and secure job.

Important as these wage differences are one must not overlook the fact that money wages levels have risen sharply in the last ten years or so. Sunderland's industries may have had higher increases than the national average so that firms may have been unwilling to employ extra labour. Alternatively the marginal productivity of labour may have fallen so that the wage is higher than the marginal product and firms will then pay labour off. The implications of this have already been discussed and there is the added difficulty of finding out wage levels in Sunderland.

For the purposes of explaining how and why the level of employment in Sunderland has changed in the period 1961-81 it is better to look at rate of change of wages over this time period rather than absolute wages or wages differentials. Taylor (1974) has said that there are two alternative measures of wage change available for Great Britain. They do not move together and in fact the pattern of wage inflation varies according to whether wage change is measured by wage rate index using the percentage change of average hourly earnings or by the index using the percentage change of weekly wage rates. The earnings index is a more efficient proxy than the wage rate index for changes in the price of labour, because the rate index fails to take account of a number of ways in which the price of labour can change.

Whatever method is used there are difficulties and as Taylor so cryptically suggests 'One thing is clear, aggregate studies of wage inflation conceal as much as they reveal'.

What does seem a reasonable assumption is that if wage rates rise without a corresponding rise in price and/or productivity then profit will fall. Scott (1978) argues that the profit squeeze in the 1970's caused by the rise in oil and other input prices coupled with the fact that real wages did not fully adjust downwards has been associated with a reduction in investment and in particular in labour using investment and this has been associated with a substantial fall in employment in manufacturing and a rise in aggregate unemployment. Much of Scott's argument seems to be true of Sunderland as there is some evidence of under capitalisation in Sunderland and a substantial fall in manufacturing employment.

The relationship between the rate of unemployment and the movement of wage rates using the hourly wage rate index and also the movement of real wage rates where the wage rate index is deflated by the G.D.P. deflator (Total Home Costs at Factor Price standardised to 1961=100) is shown in the Table 3 and on Graph 15.

TABLE 3

Changes in hourly wage rate index (1961=100), real wage index (measured by $w/p \times 100$ where W = wage rate index and P = GDP deflator representing price deflator for Total Home Costs when 1961 = 100), and rate of unemployment in Sunderland.

Year	% Unemployed	Hourly wage rate index - all industries or services	GDP deflator	$w/p \times 100$
1961	4.4	100	100	100
62	4.5	104	103	101
63	7.4	108	106	102
64	5.7	114	109	105
65	4.2	121	113	107
66	2.9	129	118	109
67	5.0	135	121	112
68	6.7	144	125	115
69	6.2	151	129	117
1970	9.1	167	139	120
71	7.1	189	154	123
72	8.7	201	170	118
73	7.3	229	184	124
74	6.7	275	215	128
75	8.7	355	273	130
76	10.2	424	312	136
77	11.2	453	350	129
78	12.4	515	390	132
79	11.9	592	442	134
1980	13.9	695	524	133
1981	18.2	766	580	132

Reference to these data shows that the wages explosion of 1974/75 is closely related to the climb in the unemployment rate in Sunderland. The sharp increase in real wages did not occur until 1975/76 with an increase of six percentage points. The hourly rate index rose from 100 in 1961 to 189 in 1971 a rise of 89 percentage points while the rate of unemployment in Sunderland increased by 2.7 percentage points. In the next five years the wage rate index increased by 235 percentage points while the unemployment rate moved up by 3.1 percentage points. Most significant of all apparently is that for the period 1976-81 while unemployment in Sunderland moved up by 8.0 percentage points wages rates moved up by 342 percentage points, the largest increase of all.

This rise in money rates is however mainly due to inflation. This inflation causes confusion and makes firms reluctant to employ labour.

The real wage index, as measured by $w/p \times 100$ does not follow such a pattern. In fact in the period 1961-71 the index moved upwards by 23 percentage points, the largest increase of all. In the period 1971-76 real wages moved up by 13 percentage points but for the period of the current recession real wages fell by 4.0 percentage points from 136 to 132. From this it does seem that the rise in money wages was more closely tied up with the rise in unemployment than were movements in real wages. The rise in the GDP deflator over the same period tends to indicate that business men passed on wages rises to the consumers to maintain levels of profits.

To confuse the issue still further in Sunderland, for the period 1974-78 Sunderland Job Centre issued the following data.

TABLE 4
1974 - 78 - Firms in Sunderland

1.	Number of new firms - 29	
	Number of new jobs created from them - 1,200	
2.	Number of firms closing down - 20	
	Number of resultant jobs lost - 2,500	
3.	Closures in shipyards - 1	
	Number of jobs lost - 400	
4.	From 1 + 2 + 3	
	Number of jobs lost	2900
	Number of new jobs	1200
	Net loss of jobs	1700

As the level of money wages rose from 275 to 515 on the hourly wage rate index the real wage index moved upwards by 4 percentage points only. It may be that the increase in the level of both money and real wages acted as a deterrent to firms entering Sunderland. The short period for which these data are available makes it difficult to be certain on this point.

In this chapter it has been difficult to come to any hard and fast conclusions, particularly because of the absence of wages data for specific industries in Sunderland. The following possibilities do however seem to emerge.

1. During the 1960's when the rate of unemployment was relatively low both in Sunderland and in Great Britain the rate of increases in money wages was relatively low while there was a modest increase in real wages.

2. The time period since 1971 has seen a massive rise in money wages, a feature which seems closely linked with the large rise in unemployment. The rate of increase in real wages has however been relatively small showing a rise of only 9.0 percentage points in the same time period.
3. It is possible that employers in Sunderland have shed labour at a faster than national average as the money wage levels rose.

CHAPTER 4An analysis of entrepreneurial limitations in Sunderland

The entrepreneur is a person with an element of vision and possibly even daring, with to the observer, many of those instincts more akin to those of the professional gambler. The entrepreneur will however rarely regard himself in this light because he will often see erstwhile projects as safe and suitable for development. He may himself not be particularly skilful as an inventor or the innovator of a new technological process but he does have the ability to exploit and develop any new processes that hold the promise of creating profit.

It is possible to trace the development of Sunderland in the nineteenth century and to show the importance of the entrepreneur in this process. In the sixteenth century Sunderland had been a mere fishing village, one of the many that were to be found along the North-East coast. Developments in the Durham coalfield in the seventeenth and eighteenth centuries provided Sunderland with a steady if unspectacular development into a thriving port based on the export of coal. But it was the shipbuilding industry that gave Sunderland the right to claim the position of the largest shipbuilding town in the world. In 1834 Lloyds Register of Shipping regarded Sunderland as the most important shipbuilding centre in Great Britain, with an output almost equalling that of all other ports put together. Until well into the nineteenth century very little capital or equipment was needed to build a wooden ship of the size that was in popular demand and men with little money but with the true spirit of the entrepreneur would purchase timber on credit terms in order to² construct a ship. This timber was usually purchased on a basis of

nine months credit terms demonstrating the supreme confidence by the entrepreneur in his ability to assemble the necessary factors of production to construct a ship, and also to sell it before the nine months credit were up. The element of foresight was seen in the fact that these entrepreneurs built their ships in anticipation of demand and rarely to order, so that when the ship was completed it would be offered for sale to one of the many ship owners operating along the coast. Of necessity this was an extremely precarious method of conducting business and many entrepreneurs had relatively short business lives with these small shipbuilding firms springing up and closing down with great regularity. The main twentieth century Sunderland shipbuilders of Laings, Crown, Austin, Pickersgill and others sprang from this rich nineteenth century seam of entrepreneurs. These entrepreneurs handed on their own brand of expertise to their sons and grandsons, who in turn continued to build on the family traditions.

It was the development of the railways from about 1840 that drastically cut the North Sea coastal trade. The railways were able to offer favourable terms for cargo shifted from the north to the south. With this development the demand for the small wooden coastal ships declined and all but vanished to be replaced by the growth of ships made from, at first, iron, and then steel, powered by steam engines fired by coal. These ships were much more complex and expensive to build than the wooden ships, a factor which reduced the numbers of shipyards still further. The early nineteenth century entrepreneur with his limited capital and limited formal education had no role in the new, much more capital intensive industry that required an entrepreneur able to use the new technological processes that were evolving. This type of situation has tended to have been

repeated all too frequently ever since. The steam engine brought a new industry to Sunderland as marine engineering firms sprang up. In spite of this Sunderland was not to the forefront of these revolutionary changes because most of these took place on the older and established shipbuilding centres of the Thames, the Bristol Avon and Southampton.

The fact that Sunderland as a shipbuilding town developed so rapidly in spite of this demonstrates the skill of Sunderland's entrepreneurs at this time because they realised more clearly than others that it would be the large ocean-going steam ships that would be indemand in the future. The shipyards producing these ships provided well paid earnings, with marine engineers earning about £1.50 per week in the 1850's, when the average earnings for industrial workers was about £1.00. The wages paid to shipyard workers in Sunderland were higher even than those paid to comparable workers in Newcastle, only a few miles away. But as well as these shipbuilding entrepreneurs there were the coal mining entrepreneurs who were prepared to exploit Sunderland's excellent port facilities and abundant labour supply and who were able to operate the collieries, coal staithes and associated industries. The development of the Lambton Railway and later the Durham and Sunderland Railway, brought much of the output of the new Durham collieries to the port of Sunderland. The coal exports from Sunderland expanded. At the beginning of the nineteenth century coal exports had amounted to about 750,000 tons a year but by about 1850 these exports rose to 1.5 million tons reaching 4 million tons a year in the 1880's.

This development had its opportunity cost. With all of the profits to be had at little apparent risk from industries tied to coal and shipbuilding, entrepreneurs showed a marked reluctance to develop cheap pottery goods but these had a relatively short unprofitable existence. This concentration on a small number of industries had other costs which began to be felt as early as the beginning of the twentieth century. By this time the steel ships had grown much larger and much more complex and the relatively long period of construction for these ships caused increasing doubts as to their level of profitability in the minds of entrepreneurs involved in shipbuilding and in ship owning. Market conditions could change during the construction of the ship so that when a ship was completed it was possible that there was no work for it. Another important factor was that the inland transport system had developed along a north-south axis from London to Edinburgh on the east coast. The railway ran through Durham and on to Newcastle as did the Great North Road. Sunderland therefore was relatively far from the main markets of London and the South East. This created further doubts in the minds of entrepreneurs about Sunderland's viability as an industrial centre.

The interwar period saw Sunderland particularly badly hit by the recession with the shipyards being closed or working at greatly reduced capacity. With the large numbers of unemployed workers from this one source the level of effective demand in Sunderland fell and with the reduced demand for the products of many of the small local domestic industries the local entrepreneurs were not prepared to risk investment. In 1938 the Sunderland Pallion Industrial Estate was set up but this produced little in the way of new up and coming

entrepreneurs of the type seen a century earlier. Many of the new industries tended to employ women rather than the unemployed men and also many of the new industries were usually branches or subsidiaries rather than parent firms and as Corfe (1973) has noted they seemed to have a record in Sunderland of tending to close down early in a recession.

As has been demonstrated the early nineteenth century entrepreneurs in Sunderland needed little capital and tended to come from a wide range of social and economic backgrounds often with little or no formal education. In a more modern form it is perhaps better to broaden the earlier description of entrepreneurs to include the middle classes of professional and executive workers as suggested by McClelland (1961) as it is then possible to come to some conclusions about the strengths and weaknesses of entrepreneurs in Sunderland in the last twenty or so years. In their survey amongst managers in Sunderland, House, Thubron et al (1968) found a general reluctance of firms to move to the area and an overall lack of entrepreneurs willing and able to 'set up shop'. They showed that in contrast to the heavy predominance of private companies in most areas of the North Region only 11% of firms in the Sunderland sample belonged to this category. Amongst managers who arrived in Sunderland from outside of the North Region, House, Thubron et al demonstrated that North Tyneside was believed to be a more congenial place to live because of easy accessibility by road, rail or air, a comparative lack of congestion, clean air and easy access to the attractive countryside of Northumberland (55.1%^x) than Sunderland (44.5%^x). Statistics also provide good evidence for the theory that before coming to live in the north, managers were wrongly informed about the area's amenities. Wives of managers in Sunderland complained of poor shopping facilities (12.5%) and of an unattractive urban and industrial landscape (16.7%) both of which they had feared before they moved north. Migrants in Sunderland (21.4%) stated quite

^x The percentage figures Northumberland (55.1%) and Sunderland (44.5%) relate to the fact that 55.1% of managers arriving in the region believed that North Tyneside was a better place to live in. Only 44.5% thought that Sunderland was.

clearly that having lived in the area for some time they found an even higher degree of insularity and parochialism and a greater lack of stimuli than when they first arrived. Sunderland appears to be 'dead ground' for managerial talent and aspiring would-be entrepreneurs from outside the area with its limited attraction and small number of private companies. At the same time prospects for promotion to managerial positions for natives of Sunderland working in Sunderland are clearly limited thus creating a situation whereby the available supply of entrepreneurs will tend to diminish further.

The findings of House, Thubron et al are closely related to the earlier work of McClelland (1961) who found that the best place from which to recruit business managers was the middle class, because they are more likely to have a high 'N-achievement' (a psychological motivation term) from this type of background than if they came from a lower or even an upper class background.

TABLE 5

Class (a)	Class No. (b)	Description (c)
Lower	1	Unskilled
Lower	2	Semi-skilled
Lower	3	Skilled labourers, formen Public service workers Tenant farmers
Lower Middle	4	Clerical or sales occupation Small farm owners Small business
Middle	5	Minor professional Executive and owners
Upper Middle and upper	6	Major professional Executives and owners

McClelland's findings meant that it could be anticipated that as a rule children from classes 4, 5 and 6 would have higher levels of N-achievement than those from classes 1, 2 and 3. The 1971 Programme Planning Department figures provide the only readily available data for Sunderland. Only 25.9% of the employed and unemployed male workers come into McClelland's category of being likely to have children with high 'N' achievements. Unfortunately it is not possible to relate this to figures for either the North Region or Great Britain at the same time and use of the 1971 census figures may produce misleading results. From other studies it does seem likely that Sunderland tends to have a smaller percentage of people likely to produce children with a high N achievement level and hence potential entrepreneurs.

If we attempt to track comparable data on occupational status the 1971 Census data showed that there were 7.7% in the managerial class as against 12.5% for Great Britain, a difference of 4.8%. The 1961 Census had shown that this difference was in the order of 3.8% producing the possibility that the stream of entrepreneurial talent is becoming less. One cannot assess the quality of these entrepreneurs or potential entrepreneurs but their low numbers may limit the number of applicants from inside the area of managerial and executive positions. From this situation either of two things may follow. The lack of suitable candidates from inside Sunderland may mean that in some cases totally unsuitable candidates are appointed to positions that are beyond their capability. This in turn would tend to result in firms being less efficient and less profitable than they should be and consequently they may employ less labour.

As an alternative possibility the firm may decide to recruit applicants from outside Sunderland. Such a policy has many attractions not least the view that this more efficient, imported entrepreneurial quality labour may effectively improve the firm's efficiency, possibly expanding the size of the firm and in doing so taking on more labour from inside Sunderland. This second possibility of recruiting managers from outside Sunderland makes the assumption that the firm is willing to go to certain expense in order to obtain the necessary expertise. They may need to provide a higher salary than that normally paid in Sunderland and also to provide accommodation. This latter may create some difficulties because there is a general lack of high quality housing in the Northern Region in general and Sunderland in particular. The National Dwelling and Housing Survey (1978) pinpoints Sunderland's inadequacies in this respect in the following table.

TABLE 6

TYPE OF ACCOMMODATION (PERCENTAGE FIGURES - 1977)

	Detached	Semi-D/chd.	Tce.	Purpose Built flats	Other flats rooms	Others	Total
S*	3.0	44.0	34	13.3	4.2	1.3	100
N*	3.7	30.5	27.5	31.2	6.2	0.9	100
E*	17.7	32.3	28.8	11.9	7.9	1.4	100

S* = Sunderland N* = Newcastle E* = England

Sunderland has approx. 1/6 the average for the rest of England for detached dwelling houses but more semi-detached and terrace accommodation. If one accepts that in general detached houses are more attractive to top managerial and executive talent than other types of houses, then it seems clear that Sunderland has little pull in this direction. Much of the terrace housing is pre World War II and often much older, while a large proportion of the semi-detached and purpose built flats were built by Sunderland Borough Council and also rented by them. This feature also provides spin-off effects. There are likely to be less houses in Sunderland where the owners need to spend money on improving their houses thereby providing a necessary stimulus for local services specialising in this aspect of housing. The National Dwelling and Housing Survey (1978) provides further support to this argument.

TABLE 7
PERCENTAGE TENURE

	Owned o/right	Owned with mort- gage loan	Rented from Council	Rented from H/Ass*	Rented U/F*	Privately F*	Total
S*	15.2	21.4	54.8	1.7	5.4	1.5	100
N*	14.3	22.2	43.6	1.9	12.9	5.1	100
E*	23.4	31.0	29.8	1.3	10.9	3.1	100

S* = Sunderland N* = Newcastle E* = England

U/F* Unfurnished F* Furnished

H/ASS* Housing Association

Sunderland has 63.6% of its houses and flats rented as against 63.5% for Newcastle and only 45.6% for England as a whole. At a level of 54.8% of all property rented from the council, Sunderland is higher than either Newcastle with 43.6% or England with 29.8%. These estimates may possibly indicate that the population of Sunderland have a tendency not to buy their own homes or that there are only a limited number available. This factor must of necessity restrict the opportunities for small building firms in Sunderland.

In this chapter it has been shown that the early nineteenth century entrepreneurs in Sunderland developed it to its pre-eminent state in the shipbuilding industry. As capital costs for this industry and the coal mining industry grew and the required level of formal education and training also grew, the entrepreneurial group shrank. In the period since 1960 the amount of entrepreneurial talent has dwindled even further while the numbers of opportunities for entrepreneurs have also fallen. This lack of entrepreneurs could be a major factor helping to explain the level of unemployment in Sunderland.

CHAPTER 5The nature of Sunderland's industrial structure

Sunderland as we have seen has a long history of being closely tied to the shipbuilding, heavy engineering and coal-mining industries. Other industries and services were often largely dependent upon these primary industries and therefore if there was a recession that hit the primary industries then the secondary industries were also affected. In this way a recession in shipbuilding could have a much more widespread effect than the actual numbers laid off in the shipyards. This would of course be true only if these secondary firms had no alternative sources of orders and much would depend on how dependent secondary industries were for orders solely on the main industries in Sunderland. In this chapter it will be shown that it is likely that there has been unemployment in a wide range of industries, many of them totally unconnected with Sunderland's primary industries, rather than extremely heavy unemployment in a narrow band of industries.

The International Labour Office (1962) has pointed out however, that the contraction of a firm located in a town, particularly in a small town, will give rise to greater labour adjustment difficulties than that which results from the decline of an industry in a wider region because the smaller the unit, such as a town or a city, then the greater its dependency on any single firm or industry tends to be. Likewise Brown (1972) in an investigation of regional unemployment differences found a considerable tendency for the good or bad average records of unemployment in particular regions or industries to be due to a few industries in the region, or a few regional sections of the industry, as the case may be, rather than to generally good or bad performance. Cheshire (1972) tends to disagree, pointing out that

structural differences are responsible for very little of the differences between regional unemployment rates. Regions do not have high unemployment rates because they specialise in high unemployment industries but probably because they have high unemployment in most industries.

However, even if we discover that unemployment rates in a region are higher in each industry, there is still the possibility that this may be explained by structural decline in one or a few industries. Cheshire (1972) has already commented that labour is not industry specific. Job losses in any one industry are quickly diffused to other local industries, a feature made possible because there is a great deal of movement between industries. (For a fuller discussion see pp91-92)

Making use of Cheshire's analysis, it is possible to postulate the following. Let us assume that there is a high level of decline in employment in shipbuilding in Sunderland, but that this is the only important distinction between Sunderland and the rest of the economy. Is it then logical to expect unemployment in shipbuilding in Sunderland to rise relative to other industries? The answer could be negative because of related movements in the local economy. The multiplier effect would mean that the shipbuilding decline would lead to a decline in related trades.

Possibly more important is the fact that if the labour market works even in rudimentary fashion it will tend to shift unemployment into a number of other industries in Sunderland. This will affect the expanding as well as the declining industries. Men released from shipbuilding will add to the pool of labour available to a range of industries. The chances of finding employment once one leaves an industry are reduced by the general addition to the labour pool. With the continued decline in shipbuilding, school leavers will divert their search for employment to other industries adding to unemployment in these.

An examination of the table 'Industry in Sunderland February 1978' shows that Sunderland still tends to concentrate on industries that are much more sensitive to income fluctuations than industry in either the North Region or the rest of Great Britain. While there is a strong presence of heavy engineering and shipbuilding export industries, there is a low level of the chemical industries, such as those possessed by Teesside. The products of these industries have varying income elasticities of demand - heavy engineering for example, tending to be much more sensitive to income fluctuations than say food processing industries. As has already been pointed out 25% of the employed male work force in Sunderland in 1971 were employed in engineering and allied trades, as compared with 16% for Great Britain. The 1971 census also showed that Sunderland at 2% for employed workers in the food, tobacco and drink trade, had a higher percentage level than Great Britain as a whole, with 1.6%. This needs qualifying however, because Sunderland's figures include the numbers employed at a local brewery which is a major employer of labour and it is likely that the brewery trade is highly income sensitive. (See Table 8 over)

TABLE 8

Industry in Sunderland February 1978

Order		No. of Plants
II	Mining and quarrying	2 (mines)
III	Food, drink, tobacco	17
IV V	Coal, petroleum Chemicals	4
VI	Metal manufacture	6
VII IX X	Mechanical, electrical, shipbuilding and marine engineering	50
XI	Motor vehicles	3
XII	Metal goods N.E.S.	9
XIII XV	Textiles, clothing, footwear	11
XVI XVII	Bricks, pottery, glass, timber, furniture	22
XVIII	Paper, printing, publishing	10
XIX	Other manufacturing industries	4
XX	Construction	31
	Miscellaneous	3
		<hr/>
		172
		<hr/>

Many of Sunderland's industries belong to part of those supplying the capital goods sector and these are subject to large fluctuations because the demand for capital goods such as engineering plant is highly sensitive to fluctuations in aggregate demand. The introduction of the three trading estates of Pallion (23 hectares), Pennywell (17 hectares), and Southwick (16 hectares) does not seem to have improved Sunderland's industrial mix. There is still the concentration on engineering industries with little emphasis on industries producing goods with a high income - elasticity of demand.

TABLE 9

Sunderland Trade Index for Trading Estates 1975

<u>Industry</u>	<u>Pallion</u>	<u>Pennywell</u>	<u>Southwick</u>	<u>Totals</u>
Building Materials			1	1
Cardboard, paper, printing	2	1	1	4
Chemicals, medical	1			1
Clothing (heavy)	1			1
Clothing (light)	1	1		2
Electrical industries	2		2	4
Engineering industries	4	4	2	10
Food, drink, confectionery			1	1
Furniture & bedding			1	1
Glass & china	1			1
Disposable surgical goods		1		1
Service industries, professions			1	1
Storage & distribution			1	1
	—	—	—	—
	12	7	10	29
	—	—	—	—

Out of 29 plants on the Trading Estates 14 belong to the engineering and electrical industries. Many of the other industries make use of female rather than male labour and as such they have done little to alleviate the problem of the male unemployment rate.

Possibly however, another and potentially more serious criticism can be made. These trading estates are situated on the periphery of the town and have potential problems associated with this. For example, Pennywell trading estate is on a reasonable bus route from Durham to Sunderland, but it can be extremely difficult to get to either Pallion or Southwick because both sites are situated off the main through routes for both bus and rail. Their access roads are mainly congested B class roads and potential entrepreneurs could easily pass through Sunderland without ever coming into contact with these estates. The close proximity of expanding housing estates makes it unlikely that the trading estates can expand, but the real irony of it is that these trading estates could have been provided near to the Wear Bridge and adjacent to the town centre. There was plenty of flat land with access to port facilities, the main road and rail routes and within easy commuting distance. Instead of this, housing projects took place so that good industrial land was incorrectly used, to the detriment of Sunderland's employment prospects.

The structure of Sunderland's industrial mix may also provide evidence of a link with the particular pattern of unemployment in the last twenty years. Theoretically a region's industrial mix should provide a guide to its cyclical sensitivity, because if it is possible to estimate how sensitive individual industries are to changes in income, then it should be possible to predict the overall sensitivity

of any particular area such as Sunderland to national fluctuations in business activity. Thirlwell (1969) however has already shown that a region's sensitivity to fluctuations in business activity can only be partly explained by its industrial structure because the cyclical sensitivity of the same industry tends to vary between regions. An industry may be more cyclically sensitive in Sunderland than in the Northern Region or Great Britain but the difficulty lies in identifying which industry is involved. One reason why Sunderland may have different cyclical responses is to be found in the relationship between its export sector and its service sector. By 'export' is meant those industries who tend largely to supply consumers outside of Sunderland, either inside or outside of Britain. The service sector is defined to consist of those industries that supply goods and services to households in Sunderland. Table 8 'Industry in Sunderland' showed the tendency for Sunderland to have a high proportion of export industries which would involve Sunderland not only with the economic climate of Great Britain, but also with the rest of the world. Sunderland may therefore, demonstrate a hypersensitive reaction to shifts in the economic situation not only in Great Britain, but also in the rest of the world. Now many of Sunderland's households rely for their income upon the region's export sector and therefore the demand for Sunderland's service sector goods will largely depend upon income earned in the export sector. If we apply a multiplier effect to this then depending on the size of the multiplier a recession or boom in the export industries can magnify the employment and unemployment rates by a considerable degree.

If this is one reason for Sunderland's fluctuating rate of unemployment there is another that is also linked up with Sunderland's industrial structure. As has already been noted by Thirlwell (1969) the cyclical sensitivity of the same industry varies between regions.

It is also true however, to say that the efficiency of the same industry will vary between regions. Some regions may have a compact and efficient industry utilising modern techniques with adequate finance. The same industry in another region may be badly run using dated techniques and with inadequate finance and investment. The response by the same industry in different regions will inevitably vary. The engineering industry in Sunderland for example, produces goods such as cranes, building and constructional machines for the export sector in a market which tends to be cyclically unstable. This sector of industry may be less efficient than the same industry in the Midlands for example. Since the less efficient sectors of an industry are likely to be hit more severely during a cyclical downturn, then Sunderland's industry will react strongly during the downturn possibly accounting for the hypersensitive nature of the reaction. Conversely during the period of upturn in the business cycle demand for engineering goods will increase and consequently prices will tend also to increase, producing higher profits for firms. With the increasing level of profits even most inefficient firms can usually show a profit, so that more labour can then be engaged to exploit the favourable conditions in the market for the firm. This will once again produce a hypersensitive reaction.

To some extent Bowden and Gibb (1976) in their research into the economic development of County Durham suggest this. They have found that while the main contribution to the country's unemployment problem has come from the decline of certain basic industries, this is by no means the whole picture. The cyclical component in the unemployment rate is also a strong factor contributing to a faster rate of growth of unemployment in periods of

national downswing. Moreover those sectors of the country's basic industries which have shown rapid growth in output have in fact a high rate of replacement of capital for labour, and employment in these industries has been either stagnating or falling. Unfortunately, there is no readily available data to show whether or not this is true of Sunderland, the only data that is available being 'Industry of employed persons for the years 1971 and 1976 for Sunderland.' This table shows that there has been a fall in the numbers employed in all industries listed, apart from National and Local Government and Defence.

TABLE 10

Industry of Employed Persons 1971 and 1976 Sunderland
 Percentage employed. (Source: Sunderland Department of
 Programme Planning)

Industry	1971	1976	% difference	Absolute Difference
Agriculture	0.3	0.2	-33%	-0.1
Mining	8.9	7.7	-14%	-1.2
Manufacture	37.7	37.1	- 2%	-0.6
Construction	7.4	7.4	0	0
Utilities/ Transport	6.2	5.7	- 8%	-0.5
Distribution/ Services	35.1	35.0	- 0.3%	-0.1
National & Local Govt./ Defence	4.4	7.1	+60%	+2.7
	<hr/> 100 <hr/>	<hr/> 100 <hr/>	<hr/>	<hr/>

The table shows that apart from mining no single industry has shown a departure from the trend of a general job loss in all industries. If, however, the base or export industries, such as mining are declining then it may not be unusual that the employment and income record of service industries is below average. An impact which originates in one industry will not necessarily confine itself to that industry.

Earlier in this chapter mention was made of the various firms that make up an industry in a region. Old firms are less active than young firms and are less likely to absorb or shed labour quickly. It is these old firms that seem to adhere to the description by Taylor (1974) of the lack of reaction by some firms to changes in economic circumstances. He argues that observations

of the real world reveal a lack of sensitivity of employment to changes in output with the result that labour productivity is pro-cyclical. It tends to fall on the downturn and rises on the upturn of the business cycle, a feature that implies the existence of labour hoarding. It seems unlikely that this observation is true of young firms who, with more of an eye to costs and profitability are more likely to hire and fire labour at a relatively quick rate. These younger firms have tended to be the first to expand or contract with changes in demand.

Against this one may put forward the argument that labour hoarding may not be a sign of inefficiency, but an indication of the value that firms and employees place on the continuity of employment. This continuity may contribute to productivity because of an incentive created by company loyalty and it will also be a major factor in contributing to good industrial relations.

Shipbuilding and heavy engineering industries belong to the former category. They have been in existence for over 150 years and are less likely to hire and fire labour with the rapidity necessary to explain Sunderland's unemployment relationship with the rest of Great Britain. This is in broad agreement with Birch (1979) who found that such firms are in fact most likely to inject an element of stability into the area. Birch found that on balance these older firms are two or three times more likely than younger firms to be major job generators. On a limited scale this seems to be the experience of Sunderland's shipbuilding and engineering industries. Although at various times it has been badly affected by recession it has clung on to existence still providing 25% of the male workers with employment in Sunderland.

It must be added, however, that it is possible that the nature of the production process and the degree of specialisation in skill is more important than the age of firms or plant. New firms may be forced to establish their reliability as employers by emphasising continuity of employment as well as by offering attractive wage terms. It seems likely that continuity of employment within firms can add to labour productivity.

In this chapter the following points have emerged:

1. It is likely that there has been a high rate of unemployment in most industries in Sunderland rather than in a very few industries.
2. The high proportion of 'export' industries may explain, in part, Sunderland's hypersensitive reaction to cyclical changes in the economy not only of Great Britain but also of the rest of the world.
3. Part of Sunderland's hypersensitivity may also be explained by a lack of investment in industry in the area.

CHAPTER 6The role of the shipbuilding industry in the demand for labour

The economic history of Sunderland since the early nineteenth century has been examined and the dominance of the shipbuilding industry has been shown to be the major cause of Sunderland's rise to prominence. The peak of Sunderland's shipbuilding industry was reached in the early twentieth century with 254,000 gross tons being launched in 1918. Then came the slump. Wear Shipbuilders Association (1953) gave the information that before 1920 was half-way through there were signs that depression was approaching. The price of steel rose to £24 per ton, wages were rising to new heights and it was said that on the basis of labour and materials plus an agreed percentage of profit, ships were costing 50% more than was anticipated when the orders were placed. The result was that demand for new tonnage practically ceased. In 1921 the slump continued with the government selling ex enemy ships for less than half the cost of building. By 1939 there were only 9 contracts in hand and only 4 yards open. The Second World War boosted output and the post-war and post-Suez booms ensured a good demand for Sunderland's ships.

It is argued that while there has been some unemployment in Sunderland's shipbuilding industry it cannot account for the particular relationship with the rest of Great Britain in the last twenty years. A start can be made by examining the relationship between the gross tonnage of merchant ships launched in the U.K. and in Sunderland. Gross tonnage is based on the calculated cubic capacity of the hull and superstructures as is net tonnage but their relationship to each other can vary considerably depending on the type of ship concerned. Another measure frequently used is

deadweight tonnage, a measure of the ships actual weight carrying capacity and includes cargo, bunkers, fresh water, stores and crew. Even these statistics do not give a full estimate of work content because the actual work content of different types of ships can vary greatly. A passenger liner, for example, has a much higher work content than say a bulk carrier without cargo handling equipment. The passenger liner will provide a considerable amount of work outside the shipyard. There will be work for the finishing trades such as furnishings, carpets, electrical goods and kitchen equipment. Most of the construction of a modern bulk carrier is confined to the shipyard and therefore, there may be only a limited amount of spin-off for firms outside the shipyard. The development of the modern steel construction ship has usually meant that there is a smaller demand for services provided outside the shipyard because of economies of scale. Ships are much larger than they were during the nineteenth and early twentieth centuries. The average weight of the 254,345 gross tons launched in Sunderland in 1918 amounted to 4,037 gross tons per ship. This can be compared with 1977 when 262,171 gross tons at an average of 17,478 gross tons were launched. 63 ships were launched in 1918, as against only 15 in 1977. In this instance although the tonnage launched in 1977 was slightly up on 1918 the smaller number of ships launched reduced the amount of work generated outside of the yard. To attempt to compare like with like, only the gross tonnage for completed merchant ships in Sunderland and the U.K. are used so that any bias is reduced and is constant.

TABLE 11

U.K. and Sunderland - Merchant Shipbuilding Completed

Figures in '000 tons

YEAR	UK	Sunderland	Sunderland:UK	%Exported: Sunderland	%Exported UK
1960	1303	209	0.16	0.71	
61	1390	241	0.17	1.74	
62	1022	238	0.23	1.15	
63	1127	210	0.19	2.04	
64	848	234	0.28	1.00	
65	1204	255	0.21	0.79	
66	1131	253	0.22	2.60	
67	1192	283	0.24	1.37	
68	1046	229	0.22	1.18	
69	813	291	0.37	1.28	
*1970	1297	165	0.13	0.84	
71	1259	263	0.21	2.34	
72	1208	271	0.22	1.30	
73	1069	161	0.15	2.50	
74	1189	242	0.20	2.32	
75	1203	328	0.27	1.87	
76	1460	283	0.19	1.17	
77	1007	262	0.26	0.59	
78	1135	205	0.18	1.52	
79	707	164	0.23		

* shipbuilding strike in Sunderland

These data show that on average Sunderland's construction of merchant shipping has been approximately 22% of the total output for the U.K. in the period 1960-81 but this has tended to fluctuate violently. Table 11 also shows that generally Sunderland tends to export a much higher proportion of its output than does the rest of the U.K., on average 150% higher. In the period 1960-69 the output of merchant shipping in Sunderland was fairly consistently in the region of 225,000 tons gross completed per year. The figures for the numbers employed in the shipyards are not available for this period apart from 1968 and 1969 so one should not read too much into the apparent close relationship between the increase in gross tonnage completed and a fall in the total percentage unemployed. The results of the prolonged shipyards strike in 1970 are clearly seen in the fall of gross tonnage completed and percentage unemployed in Sunderland. But if it is borne in mind the relative importance of shipbuilding as an industry in Sunderland then the figure of 9.1% unemployed would seem even to be low. For the period 1968-82 actual numbers employed by Sunderland Shipbuilders, one of the two plants engaged in shipbuilding, are available. These numbers are useful because this is the major shipbuilding company in Sunderland and therefore provide much more evidence about the influence of shipbuilding as a factor in the unemployment rate in Sunderland.

TABLE 12

Sunderland Shipbuilding Ltd.

Numbers employed 1968-82, numbers of ships, gross tonnage completed and tons gross/man 1968-78

Year	Numbers Employed	Numbers Ships Completed	Gross Tonnage Completed	Productivity Ton Gross/Man
1968	4300	7	125,841	29.3
1969	4422	9	177,460	40.1
1970	4182	4	57,138	13.7
1971	4295	8	127,520	29.7
1972	4047	7	145,446	35.9
1973	4082	4	128,750	31.5
1974	3929	3	133,112	33.9
1975	4258	3	152,273	35.8
1976	4606	6	174,660	37.9
1977	4611	7	189,351	41.1
1978	4470	6	131,366	29.4
1979	4495			
1980	3907			
1981	3627			
1982	3294			

(Source: Sunderland Shipbuilding Ltd.)

The output for all ships completed in Sunderland was above 200,000 tons gross for both 1971 and 1972. In 1972 although the amount of tonnage completed rose to 271,000 the overall unemployment rate for Sunderland climbed from 7.1% in 1971 to 8.7%

in 1972, and although 250 less men were employed by Sunderland Shipbuilders over this period, there were an extra 511 males, on average, unemployed. 1973 saw a slump in shipbuilding output to 161,000 tons gross and yet the level of unemployment^{*} in Sunderland fell and the amount of labour employed by British Shipbuilders increased by 35. The peak for the shipbuilding industry in Sunderland was reached in 1975 when 16 ships with a total gross tonnage of 328,000 tons were completed.

The data in Table 12 refer to Sunderland Shipbuilders, a group made up of the North Sands Yard, Deptford Yard and the modern Pallion Yard. The fourth shipyard in Sunderland has consistently declined to supply any data. Table 12 does tend to demonstrate that employment in three out of four shipyards has remained stable between 1969-79. From this it seems reasonable to believe that unemployment in shipbuilding shows little similarity to the general movement of unemployment in Sunderland. It is also a possibility that for the period 1969-79 shipbuilding was not a major cause of Sunderland's particular pattern of unemployment, because 73 extra persons were employed in the 3 shipyards in 1979 as compared with 1969, whereas there was approximately an extra 3,500 unemployed males in Sunderland in 1979 compared with 1969.

It is only in 1980 that the numbers employed by Sunderland Shipbuilders started to fall. Unfortunately data about productivity and gross tonnage completed is not available from Sunderland Shipbuilders after 1979. For 1969-79 the data shows a remarkable consistency of numbers employed with productivity and gross tonnage varying considerably. But, taken by itself, this can be misleading. 1970 was a year when the shipyards were hit by a prolonged strike so drastic that productivity fell to 13.7 tons gross/man. For the years 1968 and 1972 the low productivity was possibly a function of the fact that relatively small highly specialised vessels were built. Unlike the other Sunderland shipyard, Austin & Pickersgill, which specialises in the SD14 type of vessel, Sunderland Shipbuilders make a wide range of vessels. A vessel of 20,000 gross tons built

* Of course, as has been pointed out elsewhere, employment is not unemployment. Even if shipbuilding employment remains stable, shipbuilding unemployment is likely to rise at a time of increased unemployment in the region.

for one company, may have a considerable amount of work involved because of the complexity of design. Another one, also of 20,000 gross tons may be of relatively simple design. Because of this, productivity in gross tons/man would be much higher in the second vessel but not a reflection of the real situation. Productivity figures can indeed be misleading.

The General, Municipal, Boilermakers and Allied Trades Union have shed some light on the way the labour force adjusts to changes in requirements. They state that they have an agreement with the shipyards dating from September 1979 of a policy of no enforced redundancies. All redundancies must be voluntary. Prior to this agreement short time working and 'laying off' was used but the trade unions attitude is that this type of policy tends to demoralise workers. Overtime, when available, was rationed but no arrangements have ever existed with manual workers for free days.

While the output and employment changes do tend to point to labour hoarding, because of the wide range of vessels produced by Sunderland Shipbuilders this is difficult to prove. If we were comparing changes over time in the production of a standard design of vessel it would be easy to come to the conclusion of labour hoarding. But we are not. The range, type and tonnage of vessel and type of machinery installed in vessels changes from year to year. Vessels have varied from 5,000 tons to 80,000 tons. Some have been of the cargo liner type with a lot of work embodied. Others, of the bulk carrier group are basically floating containers with little work, per ton, in their construction.

Sunderland Shipbuilders have lost about 1000 workers in the period 1975-81 but in the same period the total level of unemployment rose by 9.5 percentage points, an aggregate job loss of about 9000 giving a clear indication that other factors are at work. Employment data supplied by a major local trade union engaged primarily in shipbuilding and engineering tend to corroborate the evidence and data derived from Sunderland Shipbuilders Ltd. The Boilermakers

Society provides data for 1973-81 which show that during this time their total membership fell by 656. The actual sectors affected are shown in Table 13.

TABLE 13

Analysis of trade union members engaged in shipbuilding and engineering trades (1973-81)

Year	Total Membership	Estimated No. working in Shipbuilding	In Engineering	Estimated Yearly Average Unemployed
1973	4384	2500	1810	74
1974	4477	2500	1920	57
1975	4116	2550	1552	64
1976	4352	2600	1744	108
1977	4533	2600	2003	30
1978	4495	2375	2038	82
1979	4438	2500	1800	251
1980	4228	2500	1800	260
1981	3728	2000	1600	233

(Source: Amalgamated Society of Boilermakers)

This data shows a steady rise in the numbers engaged in the shipbuilding industry for this trade union in the period 1973-1977. This was against a general unemployment situation when unemployment rose from 6.7% in 1974 to 11.2% in 1977. Total membership also rose by 149 during this period. Interestingly The numbers engaged in the engineering trades seem to fluctuate the most and yet here again the engineering trades tend to go against

Sunderland's unemployment trend. In the period 1975-78 when Sunderland's unemployment rates were rising the numbers engaged in engineering rose.

The question of productivity then arises because Sunderland's shipbuilders may have hoarded labour, becoming less efficient in terms of tons gross/man. This has been calculated by dividing gross tons completed in the year by British Shipbuilders by the average labour force for the year. It is worth noting that the figure 29.3 for 1968 when 6.9% were unemployed in Sunderland compares well with 1978 when productivity was 29.4 but when 12.4% were unemployed in Sunderland. The two years are valid for comparison purposes because the tonnage launched in each year is very similar. The full significance of this becomes more clear when we relate this to the numbers employed by Sunderland Shipbuilders Ltd. From a total of 4300 in 1968 the number had increased to 4470 in 1978. There is no evidence of shipbuilding being a major contributory factor in unemployment in Sunderland from this.

It is when we try to estimate the effect of the modernisation programme of 1973-75 that another valid question may be asked. How effective has the modernisation programme been in terms of labour retained or shed? 1976 saw the initial effects of the modernisation with an extra 350 men engaged while a few more were taken on in 1977. Productivity climbed from 35.8 in 1975 to 41.1 in 1977, before falling sharply in 1978 to 29.4. This fall in productivity was associated with a fall in the gross tonnage completed and a small fall on 141 in the labour force. This seems to indicate that some labour hoarding could have taken place but this possibility will be examined later. There would seem to be a case for saying that Sunderland's shipbuilding industry is not very efficient but in this respect it seems to be about the same as other

areas, if the productivity figures of the U.K. over the same period are examined.

The possibility exists that there may be a lack of investment in Sunderland Shipyards, although whether this is a cause or effect of the poor record of productivity, is a matter of conjecture. Political uncertainties about nationalisation and de-nationalisation will also have played a part. No private company facing the possibility of nationalisation with uncertain levels of compensation will be very anxious to go ahead with a comprehensive modernisation programme. The nationalised yard may be tied in the amount of capital that it can raise by political expediency rather than by economic need.

There is then the need to investigate the possibility of labour hoarding in the Sunderland Shipyards. It has been shown that while the shipbuilding output has tended to decline the labour force has remained at about the same level until the decline since 1979. In order to see whether or not the charge of labour hoarding has substance, it is necessary to show how the working of the shipyard takes place. The construction of a ship is divided into the construction of hull, construction of engine and fitting out. If all ships were of a uniform size and design it would be possible to programme the yard so that the throughput of ships allowed for full use of the three basic departments. With a standard type of design such as the SD14 this is possible, and is probably the reason why production of this vessel is concentrated at one shipyard. Sunderland however, receives orders for a number of designs and sizes so that in consequence there are times when the fitting out and the engineering sections are waiting for the hull to be completed so that they can commence their work. At other times there may be a back log of hulls awaiting fitting out.

There is a general 'compromise' agreement in the ship-building industry that men are not paid off in the various sections when work is slack. This tends to reduce productivity. The difficulty then arises when men often get fed up with being paid a basic wage during this time. They may then seek work in other areas of employment if they are available, and therefore, it is for this reason that shipyards technically do seem to hoard labour, simply in order to retain skills which otherwise may be lost. The importance of this procedure can be seen in the following example. At present there are no orders for the construction of wooden fishing vessels on the Tyne. In consequence the men who were employed in this industry have moved into other occupations such as household joinery or fitting out steel ships. In another ten years or so the local expertise for this task will have gone and orders for the replacement of wooden fishing vessels will go to other rivers or countries with the necessary expertise.

Under these conditions it is difficult to plan work so as to avoid labour hoarding. When a ship is ordered strict delivery dates and time penalties are often inserted into the contract. The advantages of having a reliable work force immediately available are then obvious. The shipyard does not need to seek around for labour that may or may not be suitable. In times when orders for ships are in limited supply the shipyard that can complete the order on time and at the agreed contract life, is more likely to remain viable than one which cannot. Clearly planning so as to minimise labour hoarding is desirable, but may not be possible under present economic conditions.

The normal life of a ship is about twenty years and therefore annual replacement demands will only amount to 5% of the existing fleet. If for a few years through some rapid increase in

in international trade the demand for extra, apart from replacement, tonnage expands then new shipbuilding capacity will be created to cope with it. When demand levels out much of this extra capacity will be unemployed since only the replacement 5% or less is required. An increased rate of obsolescence can also play a major role. The closing of the Suez Canal, for example, created a demand for the 'super' tanker to carry oil around the Cape of Good Hope. This rendered the small class of tanker almost obsolete and in consequence this created difficulties for ports such as Sunderland who could only build relatively shallow draught vessels.

Sunderland's geography has made it difficult for the port to build anything in the 200,000 tons gross super tanker class. The River Wear is narrow, tortuous and with relatively little flat land on either side. Lengthy vessels must be launched at a acute angle into the river thereby putting a limit on the type and size of ships that can be built, although one shipyard did unsuccessfully experiment by launching directly into the sea. By way of comparison, the Tyne is much wider, straighter and deeper and is capable of taking a much wider range of ships. Tyne shipyards also supply military vessels to many countries and therefore tend to be more cyclically stable. Sunderland has little technical know-how or history of constructing modern warships fitted with complex electronic missiles and guidance systems of the type that have recently been constructed on the Tyne.

Corfe (1973) sums this up rather neatly when he makes the observation that in 1932 only one shipyard in Sunderland launched ships. These were two small colliers. The world trade was such that nobody wanted new cargo ships or oil tankers and yet those were the only vessels that Sunderland was considered capable of building. Part of the problem would seem to lie in the fact that

Sunderland has been established as a shipbuilding town for over 150 years and therefore because this particular skill has been localised there for so long it may be difficult to shift.

Sunderland may then be type-cast as a town with predominantly ship building skills and the skills associated with the industries tied to shipbuilding. To potential employers from outside the area Sunderland may appear to be an area with labour long trained in the old and traditional merchant shipbuilding techniques, but without the ability to adapt to more modern technology based on a highly educated and qualified labour force.

In this chapter it has been shown that:-

1. Sunderland's shipbuilding industry is not a major cause of the cyclical movements in the local pattern of unemployment.
2. The loss of 1000 jobs from the shipyards in the last seven years and the fall in shipbuilding output may be associated with the general rise in unemployment in Sunderland, but it seems unlikely to have been a major contributory cause to explain the 9.5 percentage point rise.
3. There seems to be little evidence of labour hoarding to fit in with Taylor's (1974) definition.
4. For much of the time period for which data is available the shipbuilding industry does appear to have been a stabilising influence and therefore we should look elsewhere for an explanation of Sunderland's particular pattern of unemployment.

CHAPTER 7An analysis of external firms in Sunderland.

External firms in Sunderland can be defined as those firms which have their headquarters at some place outside of Sunderland. The firm in Sunderland will then be a branch plant. Casson (1979) defines a multi-national firm as an enterprise which owns and controls assets in more than one country. Sunderland has both external firms with headquarters in the U.K., such as Rolls Royce, and also multi-national firms which have their headquarters outside of the U.K., such as Corning (glass) with the parent firm in America. The purpose of this chapter is to show that it is possible that external firms in Sunderland are more likely to close down early, at the onset of recession, and expand early, at the upturn, and in doing so contribute towards the hyper-sensitivity of Sunderland's unemployment rates to changes in the economy, not only of the U.K. but of the rest of the world.

The multi-national firms have been in existence for a long time and indeed they played an important part in the world economy in the early seventeenth century. The English and the Dutch chartered companies, for example, operated plantations in India, the Far East and the West Indies. They exploited the availability of cheap local native labour to work the plantations and mineral workings. The modern style multi-national firm is a post-World War II phenomena, because of the ability by these firms to exploit modern technology in order to produce consumer goods for a world wide market. This produces many advantages but also some disadvantages to the local economy, although as Townsend, Smith and Johnson (1977) have already said the use of labour by such mobile companies is fundamental to the operation of regional policy in Development Areas.

Why then do branch plants locate themselves in areas such as Sunderland? A possible clue is provided by Holland (1976) who argues that under modern 'cut-throat' competitive conditions large corporations prefer not to produce in the less developed regions because of the low priority given to the maximisation of profit in the general growth strategy of the firm. He then suggests that because these large firms do not profit maximise they prefer to produce in the more developed regions where there is an abundance of the necessary local factors of production. It follows that such firms will only site a branch plant in a less well developed area such as Sunderland if there is little or no alternative. Because of this these plants are hit hardest in times of recession, a point already commented upon by Corfe (1973) in the specific case of Sunderland. Cameron (1971) has also developed an argument along similar lines suggesting that the poor employment of at least one region is partly to be explained by the relative technical inefficiency of manufacturing plants within that region.

It seems to be a possibility then that external firms position their least effective branch plants in areas such as Sunderland and that it is these plants that close down during the early stages of the recession, but which also tend to re-open at the onset of the recovery. Many of Sunderland's multi-national branch plants make non-marine engineering investment goods, such as aero-engine parts, cranes, electrical water and oil pumps. These plants employ approximately 60% of all non-marine engineering male workers in Sunderland and as such the early contraction and early expansion of these external firms may contribute towards the hypersensitive nature of Sunderland's reaction to changes in the national and international trade cycle.

TABLE 14Multi - National Firms in Sunderland 1977

Firm	Industry Type	Employees	Comment
Acrow	Engineers	1977-2608	1972-300 redundant 75- 38 "
Associated Engineers	Engineers	1975- 758	1971- 50 redundant 72-180 "
Bonas Machine	Engineers	1976- 240	
Bridon Fibres	Fibres	1977- 251	1976- 140 redundant
David Brown	Engineers	1975- 693	
Burton Clothing Factory	Clothing	1975-1020	1977-Closed - all employees redundant
Camrex Paints	Paints	1973- 324	
Corning	Glass	1975-2545	
Corning	Electrical	1976- 400	
Courtaulds	Clothing	1975- 110	1975 - Closed
Fitzroy Investment	Engineers	1976- 100	
Grundfos Pumps	Engineering	1977- Started Production	
London and Overseas Freight	Shipbuilding	1976-2500	
Plessey	Electrical Engineering	1975-2990	1977 - Closed - all employees redundant
Rolls Royce	Engineering	1976- 700	
Thorn Electricals	Electrical Engineering	1973-1625	Closed
Weir Group	Steel Casting	1976- 280	

(Abstracted from Sunderland Borough Council)

The table 'Multi-National Firms in Sunderland', (Table 14) shows that out of the 29 multi-national firms in Sunderland in 1977, some of them were engaged in producing investment goods of the type mentioned. If we can accept that external firms and those firms producing investment goods close early in the recession and open at the early onset of recovery, then there does seem some evidence that external firms contribute towards the peculiar nature of Sunderland's unemployment pattern. This is in accord with Holland (1976) who argues that branch plants close early in a recession. The one difficulty arises when one considers that Thorn Electricals closed in 1973 with a loss of 1625 jobs at a time of falling unemployment both in Great Britain and in Sunderland.

The reason for Thorn's closure must be elsewhere, and is possibly linked with the wages 'explosion' and reduced levels of profitability generally. Certainly the high level of engineering firms that are external firms in Sunderland effectively leaves the policy making for much of this sector of industry outside of the area, and more likely to be closely tied to both the national and international climate. Lall (1975) has already said that the major strategic decisions of finance, investment, marketing and research are concentrated at the headquarters company outside of the area while only the less important decisions are delegated to operating subsidiaries. If account is taken of other external but non-multi-national firms in Sunderland such as Wearmouth Colliery (N.C.B.) and British Shipbuilders, then it can be seen that a high proportion of the male workers engaged in the engineering and allied trades will be employed by external firms with its associated implications.

Clearly state controlled industries such as these latter two are unlikely to have precisely the same reason as private companies for expanding and contracting production. State industries are

often used as instruments of government policy with political rather than economic considerations to the forefront. During times of financial stringency and even when an area is in need of employment the government may choose to cut back in those industries upon which an area depends most. In this way unemployment in some of the state industries may be due to political rather than economic causes and as such have a pattern of unemployment totally unrelated to the pattern exhibited by profit seeking companies.

The difficulty of obtaining much precise data about external firms in Sunderland has made firm conclusions difficult to arrive at, but there is a suggestion of the following features:-

1. External firms as major employers of labour in Sunderland exert a significant influence on the rate of unemployment.
2. They have a tendency to hire early on in the recovery stage of the trade cycle, and also to fire early on as the recession sets in.
3. This is a possible explanation of Sunderland's hypersensitive reaction to changes in the economy.

CHAPTER 8Mobility of Labour in Sunderland

The purpose of this chapter is to show that Sunderland is a purely local labour market with a high proportion of the unemployed workers showing limited geographical mobility thus reducing their prospects of obtaining work both inside and outside of Sunderland.

In the period before railways there was only limited mobility of labour in the industrial occupational and geographical senses. Lack of an effective wide ranging communications system meant that knowledge of work was limited to a very small area. In the longer period of time however, information would spread and there was some movement towards work. Transport difficulties however tended to limit opportunities in this direction with people often walking several miles to work. The lack of housing meant that even if workers were prepared to move they would probably have to move to squalid and overcrowded conditions.

The advent of the railway and the dissemination of knowledge of job opportunities in other areas of work brought about an increase in labour mobility. The widespread availability of trains meant that workers could travel longer distances to work while the increasing number of newspapers provided knowledge of jobs in other areas. Probably what is even more important is that the growing educational and training system tended to produce well educated workers capable of a greater degree of occupational and industrial mobility than had hitherto been the case. In this respect there is no reason to believe that Sunderland was any different from a large number of similar towns and areas in the U.K.

As Smith (1976) has observed, the separation of residence and place of work is a characteristic which in our modern industrial society has become much more evident as technological change has reduced the price and increased the availability of private and public transport and thus made travel to work relatively easy. The vast majority of the work force are involved in some form of daily journey to work, although the actual distance travelled depends as much on social as on economic factors. In small country towns, such as Wolsingham and Stanhope in Weardale, remote from alternative sources of employment it is common to find many of the workforce often walking to work. Such towns can be thought of as well defined local labour markets.

Sunderland is also an example of a local labour market because of its geography and the social attitudes of its inhabitants. It's situation on the north-east coast means that effectively its radius of work is only a semi-circle, whereas for an inland town it would be circular. Sunderland has a long history of limited travel to work for its work force, because its houses have tended to be clustered around the major labour employing establishments in the area, namesly the two Sunderland coal mines of Wearmouth and Hylton Colliery and the numerous shipyards strung out along the River Wear. As a direct consequence of this people grew up with the habit of travelling only a short distance to work. With the closure of many of the shipyards and to a lesser extent, the coal mines, there has gradually been a tendency for the average length of journey to work to increase. This has caused difficulties.

In the South East Region of Great Britain journeys of 1-2 hours are common-place, whereas in Sunderland people have generally resisted such journeys. Tradition dies hard! Smith,(June 1976) found that in Sunderland there was a distinct preference for people to take jobs that were within walking distance of home. Morley (1976) however, does not come to the same conclusion, finding that

in areas of high unemployment, although they have a tradition of living near to work, people exhibit no preference for living within walking distance. Morley accounts for this by the ease and availability of transport, in particular the use and availability of the private car.

But in Sunderland, as distinct from the rest of England, there is a relatively low ownership of cars, a factor which may account for Smith's findings. The National Dwelling and Housing Survey (1978) has shed light on this in the following table:-

TABLE 15

Number of Cars/Vans available to % of households

No. of Cars/Vans	0	1	2+
Sunderland	58.1	36.3	5.6
England	42.2	46.1	11.7

Sunderland is below the national average for the availability of cars/vans at all levels, the discrepancy being more marked in the availability of two or more vehicles where Sunderland has under half the national average.

This seems to point to the possibility that a significant proportion of Sunderland's work force are geographically relatively immobile. This feature has been demonstrated in several studies, notably Keasey and Smith (1978) and the survey by the Programme Planning Department (1977) in Sunderland. This latter survey showed

that against normal trends in Great Britain it was more likely to be the manual unemployed who looked for work away from Sunderland and who would be prepared to move. The fact that North East people prefer to live and work in the area was reflected in the North East Study (1963) which envisaged an increasing tendency in the regions population to live and work in the area, while government policy has aimed at improving commuting by investing heavily in the regional road network.

Labour can also exhibit industrial and/or occupational mobility. It has been a long held belief that workers in Sunderland have an unwillingness to change jobs or industries, a belief largely rebutted by Johnson and Townsend (1976) who found that this was untrue for the workers that they interviewed for those in employment in new manufacturing establishments in Sunderland. They found that there was considerable industrial mobility in the workers at the firms which were involved in the study. They also found that women were more likely than men, who probably have a skill or trade, to change their industry, a reversal of the national tendency. For both Sunderland men and women Johnson and Townsend found that the degree of mobility in a period of only four years was high.

Cheshire (1979) who has also examined industrial and occupational mobility, found that although it was impossible to provide direct evidence, variations in regional industrial structures and, most significantly, different industrial rates of growth seemed to provide the most probable explanations of inter-regional unemployment differences. It seems possible that the industrial mix shown in Sunderland is a major factor in its high rate of unemployment in so far as the major industries tend to show low rates of growth. Labour working in these low growth industries will have a given specific occupation, degree of skill and also social and economic aspirations. Mobility in the labour market is occurring all of the

time, a process whereby the worker will tend to maximise his own net advantage subject to the constraints imposed by his own innate qualities, the labour market and social institutions.

A Sunderland worker for example, may be satisfied with a take home pay of £75.00 per week, whereas in an area with industry showing a higher growth rate this may be £90.00. At this relatively low level of income the Sunderland worker attains what he feels is an acceptable standard of living. If the mode of transport, number of available jobs, housing and so on are satisfactory, he will not move jobs even if there is a much better paid job available, but one that involves a move of house. Cheshire estimated that annual job changes (1979) were in the order of ten million, but of these only one third remained within the industry. For this reason it is difficult to establish a direct association between industrial rates of growth and industrial unemployment rates.

Cheshire than states that labour is not to any significant extent industry specific, so that job losses in an industry in a particular region are quickly diffused to other local industries. Other things being equal within a comparatively short space of time, possibly as short as a year, the only observable effect of the local decline of an industry is a general rise in the unemployment rate. This cannot be wholly accepted.

If labour is not to any significant extent industry specific, then as workers in one industry are made redundant, they seek employment in other industries, but only if they are qualified and eligible to enter other industries.

Using the argument of Cheshire (1979), it is possible to postulate that as one group of workers, say the rivetters or caulkers

in the shipbuilding industry become redundant they will seek employment in other industries. This will add to a pool of unemployment in other industries.* However, it must be pointed out that these workers, skilled in a specific type of work in the shipyards may find no use for their skills outside of the shipyards. A skilled shipyard worker may only find unskilled work outside of the shipyards. For these types of workers, within Cheshire's meaning, they are industry specific. A move to another involves a loss of wages because of the transference from skilled to unskilled work.

If labour is to be mobile then knowledge of the available jobs is required. Smith (1976) has said that data on information flows in labour markets is sparse, but that manual workers, especially the unskilled and the semi-skilled tend to depend on word of mouth from friends and family when seeking a job. This feature will tend to limit the size and extent of the labour market. Smith found that Sunderland men were more likely to apply at the factory gate than in any other area that they investigated, a feature that once again tends to demonstrate the low geographical mobility of the people of Sunderland.

People who tended to reply to jobs advertised in newspapers came mainly from the white collar and skilled manual workers. This group were found to have a higher probability of indulging in further training, a feature which usually increases mobility. People who used newspaper advertisements as a means of applying for jobs were much more likely to be owner occupiers, while direct applicants tended to rent their homes. From this a further deduction can be made, namely that those persons who apply for jobs through the network system or by direct application, are more likely to be the unskilled and semi-skilled workers who tend to rent local Council housing. These workers tend to exhibit a greater degree of job immobility than the other groups and as has been shown, it is this

* Cheshire, more accurately argues that in more difficult conditions or, say rivetters in shipbuilding, they will look for but not necessarily obtain, permanent employment in other trades. As a result of this, unemployment will be diffused across other industries and trades.

group that are in predominance in Sunderland. As if to emphasise this point unskilled and semi-skilled workers are less likely to own cars than other socio-economic groups.

The age of people is also another factor in job mobility. As a general rule, as a person becomes older, family and social ties become firmer and that person will tend to exhibit a lower degree of mobility as compared with a younger person. Data showing the ages of the unemployed in Sunderland are not available so that it is not possible to draw any conclusions about job mobility with respect to age in the unemployed. The 1971 Census gives a somewhat dated analysis of the age of people in Sunderland as compared with those of Great Britain. It shows that there are only slight differences in the age pattern and that they are not likely to be significant.

This chapter has shown:-

1. Situated as it is adjacent to the North Sea, Sunderland is an excellent example of a local labour market.
2. It is probable that there is a significant proportion of its unemployed who exhibit a low level of geographical mobility, and do so because of social attitudes developed over a long period of time.
3. There seems to be a high proportion of unskilled and semi-skilled manual workers who would prefer not to move house in order to find work.

CHAPTER 9The relevance of the educational process in obtaining work

The purpose of this chapter is to show that the low level of education and educational spending in Sunderland has been a major contributory factor to its high rate of unemployment.

It is well known that high per capita income countries also score high on any index of educational development and it seems probable that low level per capita income areas, such as Sunderland, score low on any index of educational development. The difficulty lies in deciding whether economic growth leads to education development or whether educational development leads to economic growth. The latter theory seems to be more relevant in the case of Sunderland and there seems to be more adequate evidence to support Easterlin (1981) who concludes that the most likely causal link is from education to economic growth. If one considers that theoretically, in a relatively small country such as Great Britain, new technology should be available and in use in all areas, the question must be asked, 'why is it not?' Easterlin believes that the reason is to be found in the extent of formal schooling. The more schooling of appropriate content that a region had, the easier it was to master new technological processes and vice versa.

That the Northern Region has a worse record of education has been demonstrated very conclusively by Harrop (1976) with the following table showing the difference between the high unemployment Northern Region and the low unemployment South East Region very clearly.

TABLE 16Percentage of all school leavers with 'O' and 'A' levels (1972-73)

	Northern Region	South East Region	England Wales
5 or more 'O' levels	36.2	36.7	37.1
3 'A' levels	8.8	11.2	10.0
Progress beyond 'A' levels	6.0	14.0	10.0

This table highlights the differences in people progressing beyond the 'A' level stage, with over twice as many school leavers in the south east progressing beyond 'A' level as the Northern Region. It means that people in the Northern Region tend to enter the labour force after education, with an average lower level of educational qualifications than England and Wales as a whole. And yet, as Easterlin has found, in the United States and Germany development of widespread formal schooling clearly preceded the onset of modern economic growth.

It seems reasonable therefore to accept that a low level of education will be a feature of unemployed persons who cannot master modern technological processes. This is the case with Sunderland as shown in the survey 'Education and the Unemployed, (1977)'

TABLE 17Education of Sunderland's Unemployed (1977)

Age left school	% of sample total (to nearest %)
Under 14 years	1
14 years	11
15 years	50
16 years	29
17 years	3
Over 17 years	8
	Total 100

From this table it can be seen that a maximum of 40% of this sample could have taken 'O' levels, while only 8% could have taken 'A' levels or progressed beyond 'A' level. 62% would have had only a basic schooling not up to 'O' level standard and with therefore limited ability to master techniques requiring high levels of education.

It is not possible to compare these data with those obtained from similar studies, but Harrop has found similar tendencies in the Northern Region where a high proportion of school children leave school as early as they legally can. This relatively low level of education has tended to produce a generation of parents whose understanding of the need for change and of the long term advantages of education is limited. The possibility also exists that they view the continued high unemployment situation as a reason why education should not be prolonged, on the basis 'Why become highly educated when there is going to be no job at the end of it?' It seems most unlikely that they can appreciate the fact that the educational needs for high technology are totally different from the needs of the traditional heavy industries. And yet the need

for a high level of education in the area was clearly set out by T. Dan Smith (1970) who viewed educational growth as an integral part of regional development.

Amongst the unemployed there is also a strong link with the type of school that they attended, with the somewhat rudimentary Elementary and Secondary Modern Schools providing only a basic standard of education with usually minimal formal educational qualifications. It was left to the Grammar and Comprehensive schools to provide education to a high level of the type needed for modern technology. Logically we should expect to find that a high proportion of the unemployed were only educated to a basic level and therefore have reduced ability to work in high technology industry. That this is so is shown in the following table from the survey 'Education and the Unemployed (1977)'.

TABLE 18

Secondary School Type Attended

Elementary (Board) Sec. Modern	61%
Comprehensive/Technical/Grammar	31%
Further Education	8%

About twice as many of the unemployed attended the lower type of school as compared with the higher Comprehensive schools. The survey also showed that 34% were without any sort of written qualification, while 31% had technical qualifications only. While these qualifications do tend to be linked to specific industries they do at least provide evidence to potential employers that the applicant has a certain ability to learn and possibly retrain if necessary. Those without educational qualifications who cannot provide evidence of the ability to learn are

in a more difficult situation. The type of job that they can obtain is more likely to be limited and therefore they are more likely to be out of work for longer periods of time. The fact that only 23% of the unemployed had academic qualifications tends to support this, as does the low level of 12% who have both academic and technical qualifications.

This latter group are those who have continued their education from school and college into the technical areas of employment. For example, one person may have 'O' levels or CSE passes from school and then have taken a City and Guilds course in bricklaying. At the other end of the spectrum there may be the person with good 'A' level passes or even a degree who has then taken an appropriate management or administration diploma. Such people are less likely to be unemployed because they have educational and training qualifications, which tend to complement one another.

The operation of the apprentice scheme in Sunderland also tends to cause difficulties with some 22% of the unemployed having undertaken apprenticeships. Apprentices serve a period of training of about 5 years duration which is often linked to an appropriate trade course at a local college, either on a day release basis or at evening school. The difficulty with apprenticeships is that they provide a specific type of labour for a specific job, a feature which tends to create occupational and industrial immobility. The time served bricklayer cannot transfer to any other skilled building job unless he has completed the appropriate union approved trade apprenticeship. Cairncross (1979) has however suggested that if it were as easy to move between regions as between occupations then there would be no specifically regional problems. This appears to be a simplification of a much more complex issue.

One way in which the local authorities in Sunderland could help in education is by having a high level of educational expenditure in order to create the necessary higher academic standards. But Sunderland is an authority where the traditional attitude towards education has even permeated into their chambers. The Educational Estimates for 1982-83 showed that as at March 1982, the average net expenditure per secondary pupil in England and Wales was £903. Sunderland spent an average £858 being ranked 70 out of 104 authorities. In the spending on books and educational equipment Sunderland fared even worse. For England and Wales the net expenditure per secondary pupil for books and educational equipment was £34, whereas in Sunderland the level was £25. Sunderland ranked 97 out of 104 in this.

This low level of spending on books and educational equipment must mean that books and other items are being used long after their original life expectancy was fulfilled. Pupils taught by obsolete books and equipment can hardly be expected to be as competent or even as interested in education as pupils from well funded schools. The low level of educational expenditure combined with the traditional social attitudes towards education in Sunderland would seem to be likely to continue to produce poorly qualified labour unsuited to the needs of modern technology.

This chapter has shown that:-

1. The general level of education in Sunderland is low in comparison to most other areas in England and Wales.
2. A significant proportion of the unemployed have a low level of educational qualifications.
3. Parental attitudes combined with the low level of educational spending in Sunderland are tending to perpetuate the system.

CHAPTER 10Socio-economic factors in the supply of labour in Sunderland

It has been shown that there are marked disparities in the incidence of unemployment by occupation. The aim of this chapter is to show that unskilled workers are much more likely to become unemployed than workers who have some type of skill or professional training. This is supported by evidence from the General Household Survey (1972) which found that for England and Wales unskilled workers had the highest level of unemployment, whereas the senior and intermediate non manual had the lowest. Likewise Brown (1972) found that the proportion of unskilled amongst the male unemployed is greater than that of unskilled manual workers in the total economically active male population. He estimated it to be about four times as great and what is more, Brown found that the unskilled tended to form a more permanent element of the unemployment statistics. These features tend to be reflected in the case of Sunderland.

One must consider whether or not the different socio-economic groups present different attitudes towards work which may modify unemployment rates. It appears probable that the higher one goes up the socio-economic groupings, the less attractive, because of the large loss in earnings, will the prospect of being unemployed appear. An examination of the socio-economic groupings from the 1961 and 1971 Censuses showed a decline in England and Wales of skilled manual workers by two percentage points, from 39.7% to 37.7%. Over the same period Sunderland increased its share by 2.4 percentage points, from 46.7% to 49.1%.

The census figures are not available but the Survey of Unemployed (1976) gives further evidence of the relatively high levels of the lower socio-economic groups in Sunderland. If the ratio of unemployed to employed is expressed as unemployed divided by the total of employed and unemployed, then a relationship is obtained which gives some indication of the chances the different socio-economic groups have of obtaining work.

TABLE 19

<u>The Socio-Economic Group of Employed and Unemployed in Sunderland</u>				
<u>(10%) sample 1976</u>				
<u>Males</u>	% Employed	% Unemployed	U/(E+U)	E + U
'White Collar' workers	27.8	8.0	0.2	35.8
'Blue Collar' workers	72.2	92.0	0.6	164.2
	100.0	100.0		
 <u>Females</u>				
'White Collar' workers	55.2	32.8	0.4	88.0
'Blue Collar' workers	44.8	67.2	0.6	112.0
	100.0	100.0		

These data indicate that the movement from the 'white collar' to the 'blue collar' workers is associated with an increase in the value of the coefficient $U/(E+U)$ indicating the potential difficulty of the lower socio-economic groups in obtaining employment. This is

It would be better if the data U/ETU referred to actual numbers employed and unemployed instead of using percentage figures. While data for numbers unemployed was available there was no readily available data for numbers employed.

particularly well marked in the males where the coefficient for 'blue collar' workers is three times that for 'white collar' workers.

The effects of a high rate of unemployment primarily upon socio-economic groups whose income is relatively low, has been to cause large reductions in demand for goods with a high income elasticity of demand affecting in particular shops dealing in furniture, domestic electrical goods and decorating products. Garages have been affected because of the reduced demand for cars and because those redundant workers who retain a car, tend to do their own servicing instead of taking it to a garage. There have been a growing number of motor discount stores operating in Sunderland to cater for this trend.

In this short chapter the following features have emerged:

1. Sunderland has a significantly higher proportion of 'blue collar' workers as compared with England and Wales as a whole. This is also supported by evidence from the National Housing and Dwelling Survey (1978).
2. Sunderland has a high proportion of the lower socio-economic groups in its population and these are more likely to become unemployed.



CHAPTER 11Age and the duration of unemployment

The purpose of this chapter is to demonstrate the close link that exists between the age of a person, his duration of unemployment and the possibility of obtaining work.

In the ten year period 1971-81 the total working population grew from 25,123,000 in 1972, to 26,089,000 in 1981, an increase of approximately 3.8%. As a percentage of the total population the respective figures for 1971 were 45.3% and for 1981, 46.8%. Even to keep unemployment figures as they were in 1971 an extra 966,000 jobs would have had to be found by 1981, an annual average of 96,600. This has not happened. The extra labour force coming on to the labour market have increased the competition for available jobs, so that for some labour groups the possibility of obtaining work was diminished. Linked with this was an increased tendency for spells of unemployment to be longer.

Conversely the longer some one is unemployed, the longer they are likely to remain so. The table 'Duration of Unemployment and age of the Unemployed', also shows that the older a person is the longer they are likely to remain unemployed. (See Table 20 over)

TABLE 20

Duration of unemployment and age of unemployed

Great Britain (12th October, 1978 - D.O.E. Gazette) (thousands)

Duration of Unemployment in weeks	MALE			FEMALE			(years)
	Less Than 25	25-44	45+	Less Than 25	25-44	45+	
Up to 8	110	94	57	87	36	14	
8 - 26	106	91	72	94	36	17	
26 +	72	146	200	55	42	38	
Totals	288	331	329	236	114	69	
As a % of totals of all	30	35	35	56	27	17	

The data show that males aged 45 years and over are more likely to be unemployed for six months and over, the long term unemployed. Further studies by Cripps and Tarling (1974) have shown the nature of the length of unemployment. They found that in 1955 when unemployment was at an all time low of 1.1% in Great Britain, the average length of each spell of unemployment was only 3.5 weeks. Since 1966 flows into unemployment have averaged approximately 4 million per annum even although the rate of unemployment is over three times higher. The higher level of unemployment therefore tends to reflect longer periods of unemployment, although clearly the rising level of unemployment means that there will be more people unemployed.

Even the average length of unemployment is not constant with some socio-economic groups having long spells of unemployment, while others have little or none. As Disney (1979) has found, in any year some 3% of the labour force accounts for 70% of the total weeks of unemployment. The survey in Sunderland (1976) tends to support this.

TABLE 21

Sunderland - Length of Unemployment by Socio-Economic Group

S.E.G.	up to			Total
	8 weeks	8-26 weeks	26 weeks and over	
White collar workers	22	7	13	42
Blue collar workers	67	31	54	152
Total	<u>89</u>	<u>38</u>	<u>67</u>	<u>194</u>

From this survey several characteristics of the unemployed in Sunderland are made clear. The 'blue collar' workers have a greater chance of being unemployed with 54 (36%) out of 152 being unemployed for six months and longer. For all groups the highest average length of unemployment occurs in the 6-12 months range, a feature that is also in accord with the findings of Cripps and Tarling. It also seems to be highly probable that a significant proportion of Sunderland's unemployment rates are due as much to longer spells of unemployment, particularly in the semi-skilled and unskilled sectors as to actual job losses.

Now although evidence does show that the semi-skilled and unskilled workers do have longer spells of unemployment this is not to say that Sunderland's high rate of unemployment is due to its high proportion of unskilled workers. As I have already pointed out, work by Reder (1980) and Bosanquet (1979) has shown that in the medium run of the economic cycle (about 5 years) troughs in demand push the unskilled into unemployment. In the longer run of a decade or more, the high proportion of Sunderland's labour force which is unskilled inhibits the profitability of firms located in Sunderland.

As a side issue, but probably also a contributory factor towards long-term unemployment, is the fact that the lower socio-economic groups tend to have the lower rates of pay and work in the riskiest occupations because for example, heavy engineering and ship-building workers have a considerable risk of industrial injury. There is also a higher risk of industrial disease such as pneumoconiosis and spinal arthirtis because of the dirty and often uncomfortable nature of the job. These individuals are less likely to want to find work.

And yet Bosanquet, N. (1979) has shown that recession tends to exaggerate the gap between the occupational groups. The skilled have a wide range of opportunities. If no work is available to equate with their particular talents they can apply for work in the semi-skilled and unskilled categories. In doing this however, they displace downwards labour in these categories. Similarly the semi-skilled workers tend to displace the unskilled who then become unemployed. If this is the case, then the gap in occupational unemployment rates tends to explain differences between areas. This is in broad agreement with Reder, M.W. (1980) who argues that in a tight labour market there is a general upgrading of labour. The unskilled and the semi-skilled move up through the labour hierarchy because of shortages of labour in the higher categories. In this way socio-economic divisions are as much a function of the economic cycle as anything else.

The prospects of obtaining work was investigated in the Department of Employment Survey (1976). Analysis showed that for six broad occupational groups, those who were in the clerical and related occupations and those who were general labourers, they rated their prospects of obtaining work lower than those groups which contained more highly skilled and professional workers. The survey also investigated how the unemployed themselves rated their chances of finding employment.

TABLE 22

Men seeking full-time long term work

Age & duration of unemployment	Prospects of obtaining work	
	Fair	Good
	Numbers (%)	Numbers (%)
Age 18-34		
Duration 0-6 months	42 (37)	73 (63)
6+ months	31 (40)	46 (60)
Age 35-54		
Duration 0-6 months	38 (35)	71 (65)
6+ months	39 (69)	18 (31)
Age 55 years and over		
Duration 0-6 months	27 (64)	15 (36)
6+ months	13 (76)	4 (24)

From the data in Table 22 the following conclusions can be drawn:-

1. Individuals tend to feel that their prospects of obtaining work decline as they get older, a characteristic more marked after the age of 54 years.
2. The longer a person is unemployed the worse do they feel their chances of finding a job are likely to be. After 6 months unemployment a significantly high percentage rate their chances of finding employment as poor.

There is however the 'chicken or the egg' aspect to this. It may be the case that lengthening spells of unemployment cause keenness and prospects of obtaining work to decline, but it may also be the case that reduced keenness to find work causes individuals to accept the situation, make little effort to find work and therefore prolong their unemployment. The unemployed worker gradually adjusts his standard of living to cope with the new circumstances and feels that as he 'can manage' it may not be worth the extra effort to seek work.

Related to this is the probability that employers tend to regard those out of work for a long period of time, with some suspicion, possibly believing them to be 'work shy' and inferior quality labour. The cycle is therefore perpetuated. This is in accord with Brown's (1972) findings.

The following features have therefore emerged:

1. There is a significantly high proportion of Sunderland's unemployed who have been out of work for 6 months and longer.
2. A high proportion of these are unskilled workers.
3. The longer a person is out of work, then the longer this situation is likely to remain.
4. Manual workers are more likely to be unemployed than non-manual workers in Sunderland.
5. From this it seems likely that a major cause of Sunderland's high rate of unemployment is the growing number of long term unemployed unskilled workers.

CHAPTER 12Conclusions

The causes of Sunderland's high rate of unemployment are many and complex. Some of these causes have their roots in the historical development of the town in the nineteenth century and because of this they may be difficult to eradicate. It has been shown that Sunderland developed largely around the shipbuilding activities on the River Wear, so that the densest build up of housing took place around these areas. Shortness of journey to work created in the workforce a reluctance to travel outside of the area to seek employment. In addition, many of the jobs required only a low level of education so that the attitudes towards education tended to be one of indifference. After all, why go to the trouble of obtaining extra or indeed any education when there are plenty of well paid jobs that require little education in order to gain acceptance?

Jobs such as working in any of the local collieries, prior to the closures of the 1960's required little education because the necessary skills could only be acquired by working. The same was true to many of the shipyard skills. Besides, the apprenticeship schemes allowed apprentices to go to the local colleges in order to acquire any necessary education. The recession of recent years has tended to compound this effect. The high level of unemployment in Sunderland has tended to create an attitude of 'Why continue on at school for higher qualification if there are no jobs at the end?' The relatively low standard of education in Sunderland in turn tended to produce a localised type of culture not easily understood or appreciated outside of the area.

This factor coupled with the poor quality housing tended to deter potential entrepreneurs, certainly after the turn of the nineteenth century, and created a reluctance to move into Sunderland. The more detailed conclusions are as follows:-

1. Sunderland has had a high level of unemployment in the period of the study. In addition regression analysis shows that a rise of a percentage point in the unemployment rate of Great Britain is associated with a rise of 1.7 percentage points for Sunderland.
2. It is argued that the main cause of unemployment in Sunderland is unlikely to be the decline of the shipbuilding industry. On balance, the available evidence tends to support this because while the shipbuilding industry has lost approximately 2,000 jobs since 1978, the total unemployed in Sunderland has gone up by about 9,000. What is more important is that shipbuilding job losses have not fitted in with Sunderland's peculiar pattern of unemployment.
3. There is a possibility that as the relatively highly paid manual workers have become unemployed, aggregate demand in Sunderland declined, causing secondary unemployment in the service sector. While this is a possibility the only evidence that tends to support it is the high level of unemployment amongst female workers working primarily in this service sector.
4. The steep wages rises and lower levels of profitability for firms may be a major, and possibly the significant factor since the early 1970's in causing rising unemployment. It has been shown that the steep rise in wages has been associated with the rise in unemployment.
5. The lack and limitations of education in Sunderland, coupled with the local social attitudes have produced a work force with only limited suitability for modern high technology jobs. Educational data show the low level of education amongst the unemployed and also the tendency to leave school as soon as is legally possible. There is also a very low level of educational expenditure in Sunderland. It does seem to indicate that the poor standard of education has limited economic performance in Sunderland.

6. The high proportion of external firms have tended to provide the fluctuations that are typical of the movement of unemployment rates in Sunderland. It is difficult however to support this hypothesis because while a number of these firms do close down their branch plants in Sunderland early in the recession, it is not really possible to demonstrate that they are a major cause of Sunderland's reaction to changes in the economy of Great Britain. While clearly external firms must of necessity reduce the level of unemployment in Sunderland the rise of unemployment during a recession would be less in the absence of these firms.
7. Sunderland shows a hypersensitive reaction to changes in the U.K. economy typical of a large number of firms hiring and firing labour in reaction to these changes. Again, evidence is difficult to provide but after having reduced the likelihood of other causes it must stand as a strong possibility.
8. The general location and unattractiveness of Sunderland to potential entrepreneurs may reduce the quantity of top line management needed to boost these firms. It has been shown that there is a general reluctance for entrepreneurs and their families to move to Sunderland and also statistical proof of the low proportion of this socio-economic group in Sunderland. This does also seem to be a contributory factor.

Some Policy Implications

The social and economic character of Sunderland has been moulded by a multitude of past decisions which have been largely responsible for its present difficult position. Prior to the First World War, the shipbuilding, coal mining and heavy engineering industries were the main employers with control over these industries usually in local hands. Increasingly however, the activities of external firms have become prominent providing jobs as a result of the siting of branch plants in Sunderland. Storey (1983) has pinpointed the vulnerability of such branch plants in a recession, pointing out that they have closed at an unprecedented rate since 1978. In spite of these closures these plants remain major employers of labour in Sunderland and therefore any policy implications must be directed at efforts to reduce job losses through such closures.

It does seem however that the relatively low level of educational attainment in Sunderland is closely related to the high level of unemployment. The way that the causal sequence runs is a matter of conjecture, but it may be as follows. Low educational expenditure in Sunderland provides a poorer type of education than in other parts of the country. In consequence school children grow up with little enthusiasm for education, leaving school with poor educational qualifications, unable to apply for jobs which require a high level of education.

Equally true however is the fact that the low availability of jobs in Sunderland has led school children to have little enthusiasm for school, when at the end of their school life there is likely to be unemployment. Faced with this situation Sunderland may have reacted by cutting back on educational expenditure. It does seem however that the first explanation is more tenable, that the low level of

educational expenditure has been a cause of unemployment rather than the other way around. As has been pointed out earlier, this is in accordance with Easterlin (1981) who comes down in favour of the view that educational development is the cause of economic growth and not vice versa.

State education is freely and theoretically equally available throughout the country and therefore if the level of educational spending and attainment in Sunderland are so low one must ask how this can be remedied. The traditional attitudes in Sunderland towards education may have been to blame in the past, but this is not a valid reason for allowing it to remain. But how does one alter attitudes? If we accept that a high level of educational attainment reduces the level of unemployment, then educational expenditure represents investment in human capital. More must be spent to improve the level of education in Sunderland in order to provide a higher quality labour force.

This increased educational expenditure could be directed towards different sectors of education and not necessarily prestige-promoting new schools. The provision and use of better educational material such as books and visual aids, may stimulate the interest in education that seems to be lacking. A publicity campaign could be mounted to stress to people that better educational qualifications improve the prospects of obtaining employment. A simple display, for example, showing the relationship between poor educational attainment and high levels of unemployment should not be too difficult to mount. If the result is that children obtain better qualifications and leave school eligible to apply for entry to jobs involving high technology, then the cost and inconvenience will have been worthwhile.

In many areas of education it may be the case that teachers have become out of date and in consequence pass on obsolete information to pupils. A programme aimed at increasing the knowledge of teachers of those subjects which have much job relevance such as languages, mathematics and business studies could assist in this. Such a programme could take the form of a number of compulsory short courses with the bulk of instruction coming from experts in the field of business and industry.

A start to break tradition could also be made by introducing a new scheme of careers guidance for school children. Many of the teachers involved in careers guidance have a 'limited' outside work experience, many of them progressing from school to college and back to school as a teacher. Hebden (1966) has found, for example, that Sunderland College of Education (now merged with Sunderland Polytechnic) tended to be a regional college with a flow pattern from local school to Sunderland College of Education and then back to local school. This must reduce the knowledge of job opportunities outside of the area by many teachers. It is only the expert, the person already employed in a particular field of industry who can give the detailed and up-to-date knowledge about specific industries. If the careers guidance system were to be based upon this professional and expert, rather than the well-intentioned amateur approach, more pupils should leave school having been guided along much better lines than at present.

Education does not stop at the careers advisory sector however. Taylor and Ayres (1969) for example, have summarised the Northern Region as having a majority of children who leave school as early as the law allows, being taught in an environment of major cultural and educational deficiencies. These children grow up to produce a generation of parents whose level of education is low. If

If children could be persuaded to stay on longer at school and to try to achieve higher educational standards they should grow up to create a cultural environment, more attractive to potential entrepreneurs from outside of the area. Educational courses could also be arranged to produce a knowledge and awareness of business opportunities in Sunderland.

The value and the relevance of a good supply of well qualified labour can be shown in the following examples. Sunderland has an abundant unemployed supply of labour, albeit of a poor quality, meeting at present a reduced demand. Much of this labour possess skills that were appropriate to a basically nineteenth century economy and as such need to be considerably modified to meet the needs of a late twentieth century economy based on high technology and a demand for Sunderland's traditionally constructed merchant ships. Such high technology does however require a highly educated and skilled labour force. An improvement in the quality of the existing labour force should result in an increase in the range of ships that it builds.

The geography of the river may exclude the construction of large super-tankers but it would be no hindrance to the construction of modern small warships of the minesweeper and frigate types. With the provision of appropriate training courses and additional investment in high technological content marine weapons industries, Sunderland could turn its back on its merchant shipbuilding history. Possibly a better bet, in terms of employment within Sunderland would be the further development of facilities to build sophisticated civilian ships. The recent award of the £100 million ship construction order from Sweden (9th November, 1983) for three such ships, for example, will provide work for 1,000 shipyard workers for nearly three years.

As a bonus, much of the necessary technology for these three ships is available in Sunderland creating further employment whereas, at present, most of the weapons and communications systems for warships would have to be manufactured outside of the area. To ensure that Sunderland has a competitive edge in this particular market, current working agreements in the industry need re-examining. Advanced technology gives little competitive edge when wages make up 20% of a ships cost (The Economist 5-11 November, 1983, pp 79-80). Increased wages in the shipbuilding industry must be linked with increased flexibility of working practices and greater job mobility.

This was the basis of the agreement between the Confederation of Shipbuilding and Engineering Unions and British Shipbuilders on 3rd November, 1983. Such action could make Sunderland more competitive against European yards. It may be a paradox that in spite of the fact that shipbuilding job losses have not been a major factor in the high unemployment in Sunderland, it is the one industry capable of generating enough jobs to reduce it. Consider how many small firms would need to be created to provide the 1,000 jobs thrown up by the recent Swedish shipbuilding order. Small firms may come to fruition in 25 years or so but in the short term they can do little to reduce the level of unemployment in Sunderland.

The shipbuilding industry in Sunderland is in need of aid from the government because, as McCrone (1971) has argued, it is the role of the public sector to provide an environment in which economic growth may prosper. Storey (1983), arguing along similar lines, advocates a public sector investment programme to mitigate the effects of the recession in Northern England. In Sunderland this could take the form of new investment in the shipyards. While there has been some modernisation in the wake of the Geddes Report (1966) there remains a lot to be done. Pryke (1981) for example has been highly critical about the financial condition of many of the nationalised industries.

The rate of closure of branch plants could be reduced using a system of buy-outs as advocated by Jarret and Wright (1982). The scheme relies on the existing local management of the branch plant forming a local company with which to purchase their own local business premises from the parent company. It also assumes that there is a supply of suitably educated and qualified labour to run the business. Buy-outs have the merit that they remove remote managerial control from outside of Sunderland to a system of local control with all of its attendant advantages. Regional policy in Sunderland could then be aimed at providing finance for these local ventures provided that a number of criteria could be satisfied.

A branch plant manufacturing engineering goods, employing say 100 workers and in danger of closure would be such a candidate for aid if, for example, it had a good record of employment. A branch plant involved in capital intensive production and employing a small quantity of labour would not.

The setting up of new small businesses has been seen by Storey (1983) as part of the modern trend to create employment. While this may be the theoretical long term ideal it does seem a somewhat dubious proposition in the case of Sunderland. New small businesses tend to be created and to grow more rapidly in prosperous areas where access to capital is easiest and where relevant educational and managerial skills are at hand. While it is not easy to come to any firm conclusion about access to capital, evidence about the lack of educational and managerial skills in Sunderland has already been provided.

All too clearly then, the root cause of Sunderland's particularly high level of unemployment lies in its poor educational record. The remedy therefore also lies in the education sector.

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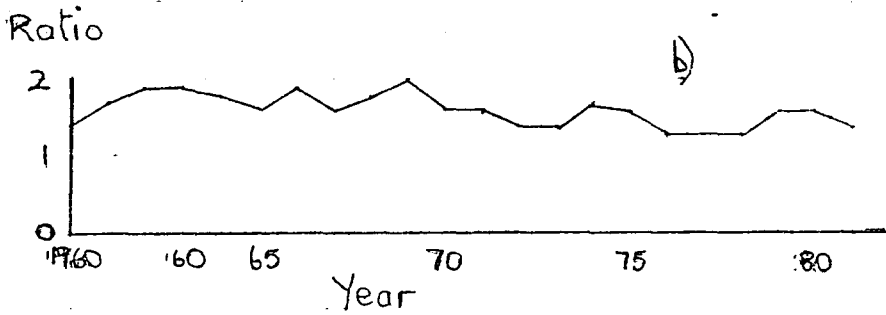
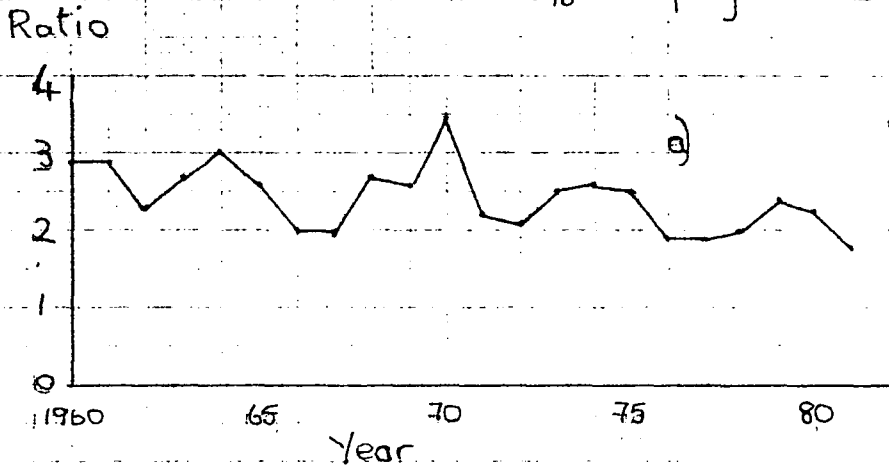


GRAPH I

Graph:- Showing ratios of unemployment rates 1960-8

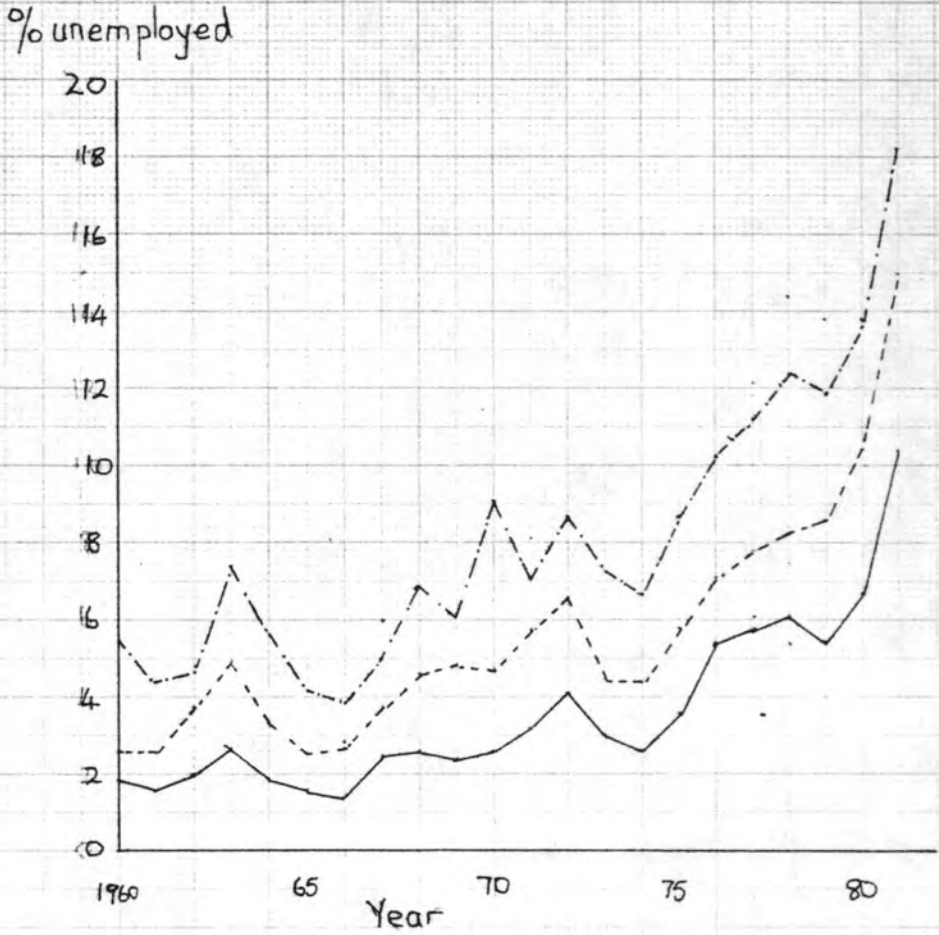
a) Sunderland % unemployed / Gt. Britain % unemployed.

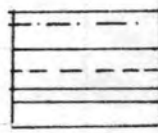
b) Northern Region % unemployed / Gt. Britain % unemployed.



GRAPH 2

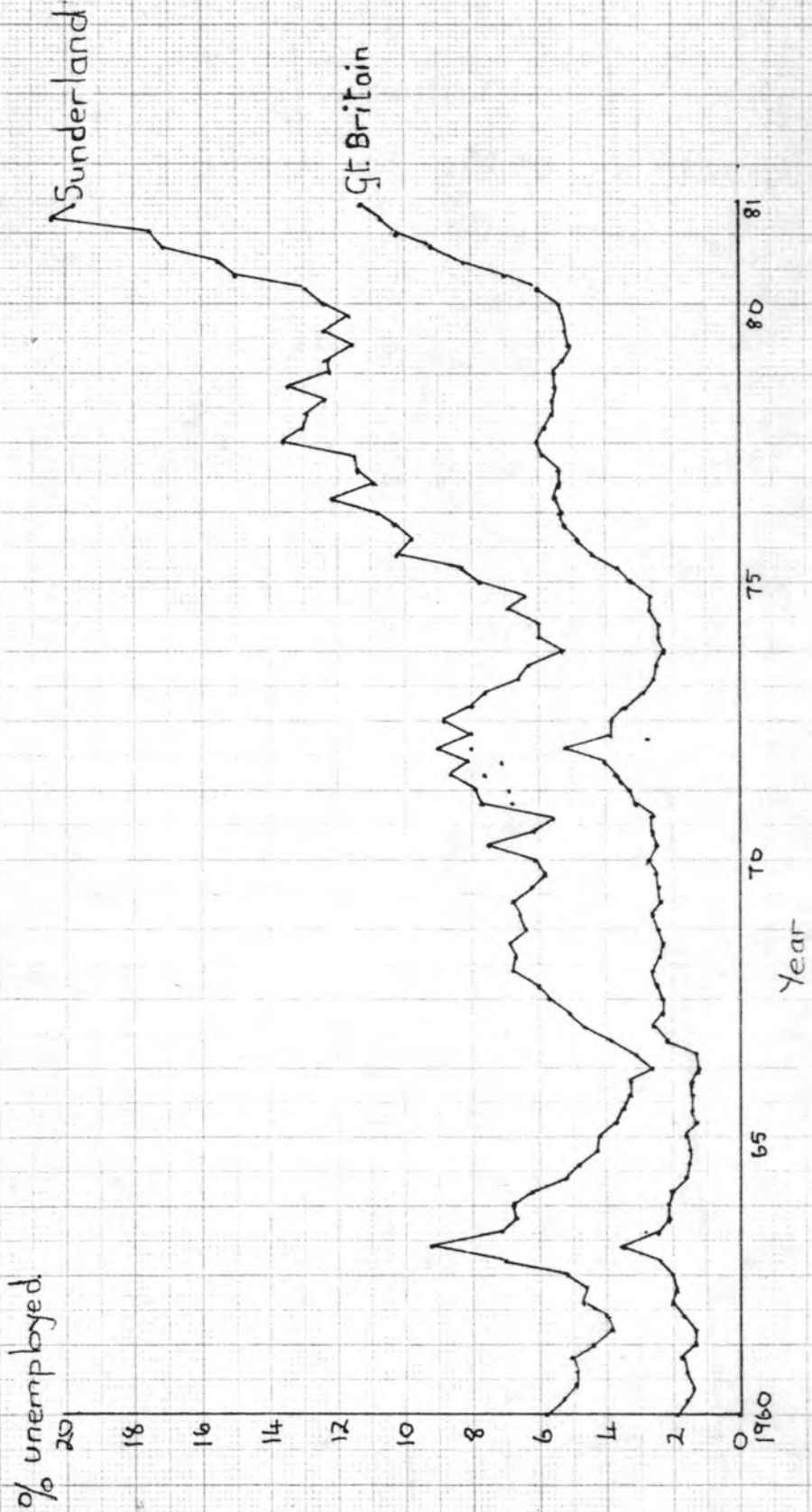
Graph:- Showing annual unemployment rates (%) 1960-81



 = Sunderland
= Northern Region
= Great Britain.

GRAPH 3

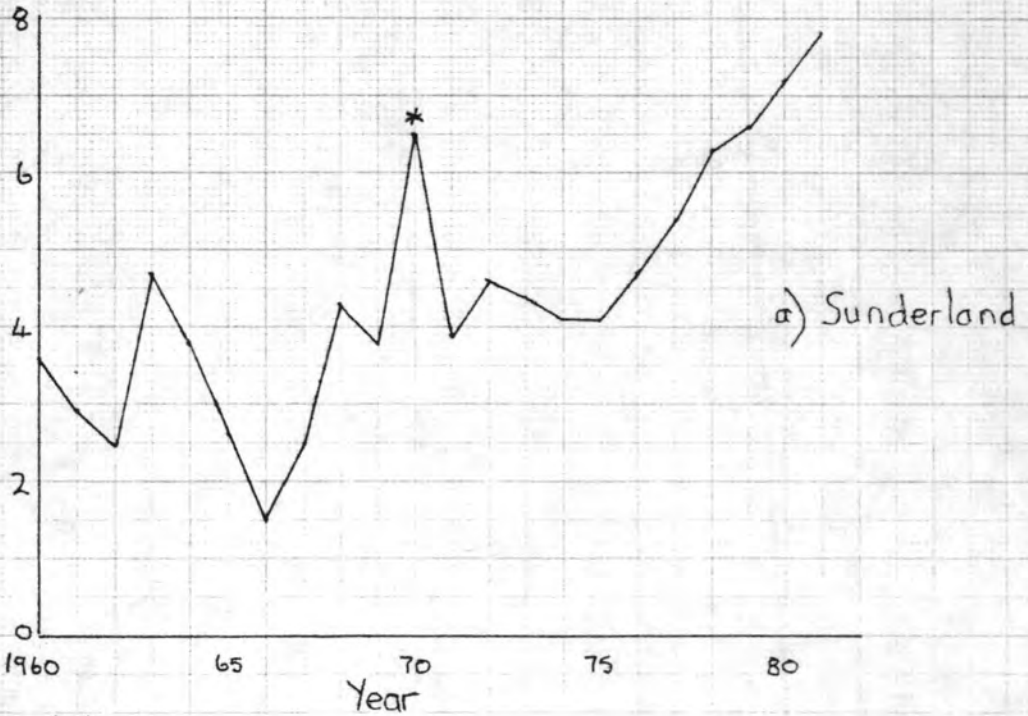
Graph:- Quarterly unemployment % rates 1960-81.



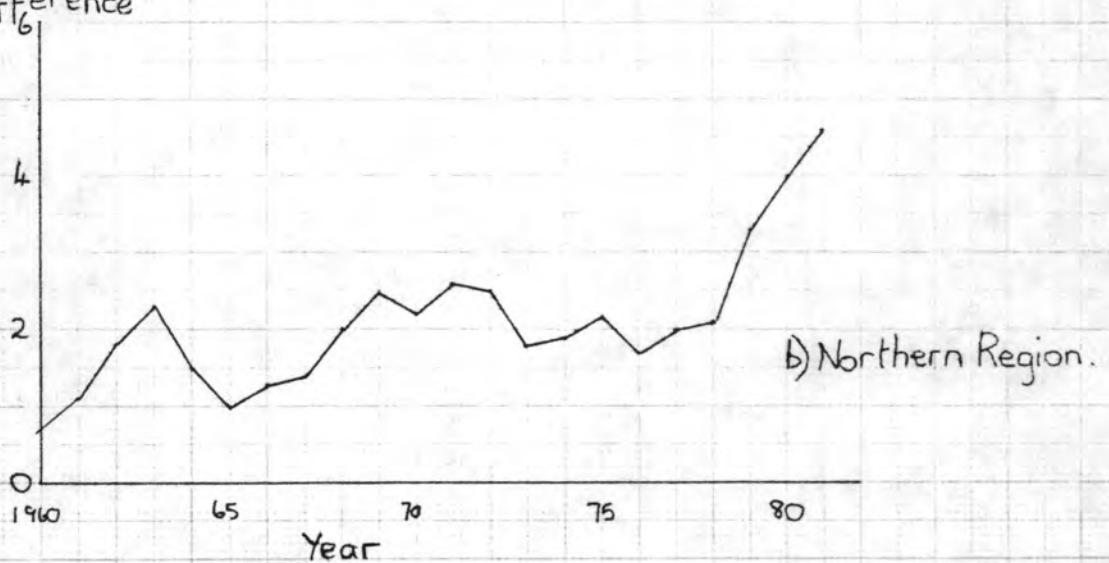
GRAPH 4

Graph:- Showing graph of % point differences between a) Sunderland b) Northern Region and Gt. Britain unemployment rates 1960-81.

% point difference.

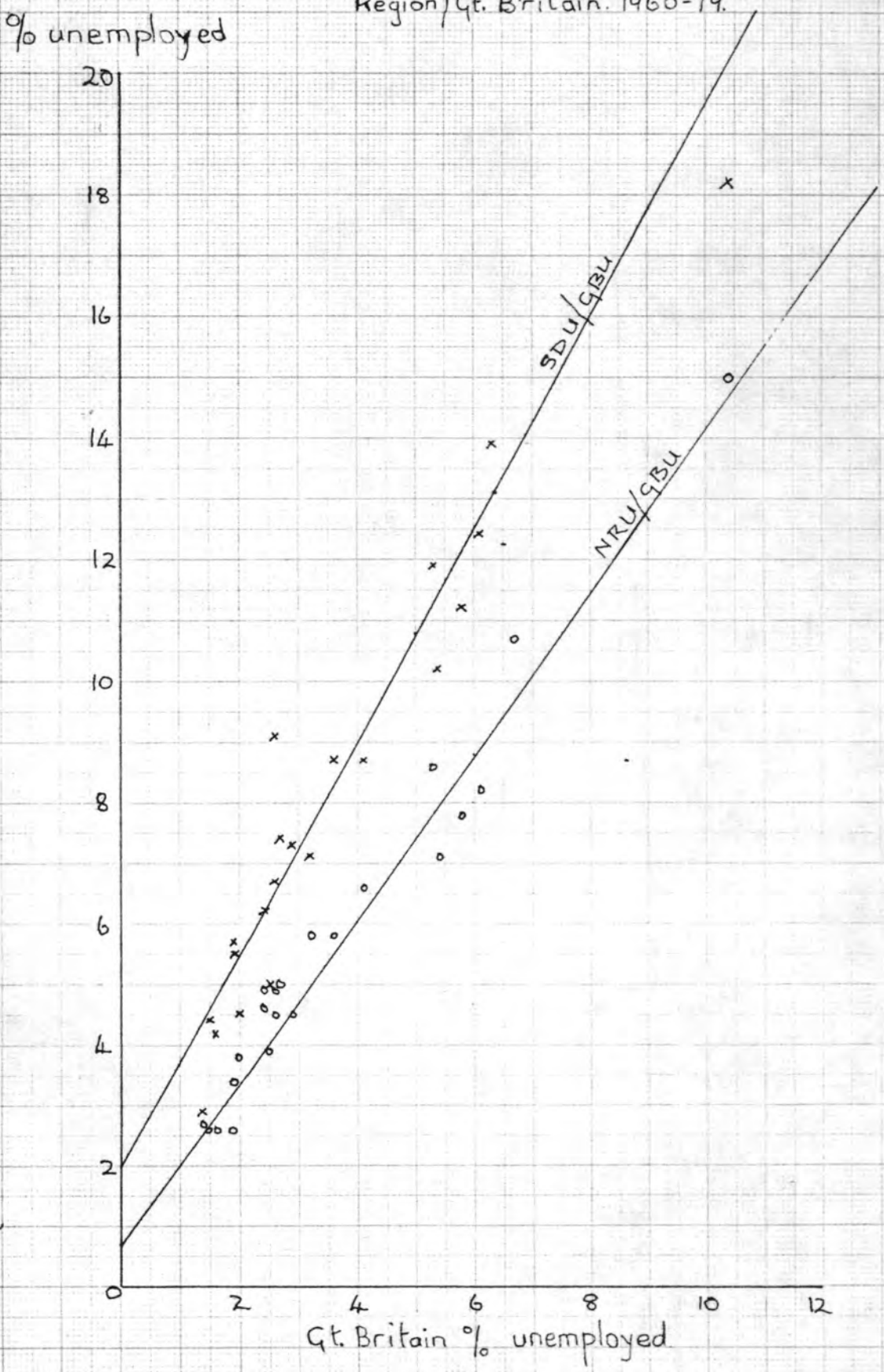


% point difference



* Shipbuilding strike.

GRAPH 5 Graph of regression analysis for Sunderland/Gt. Britain and Northern Region/Gt. Britain. 1960-79.

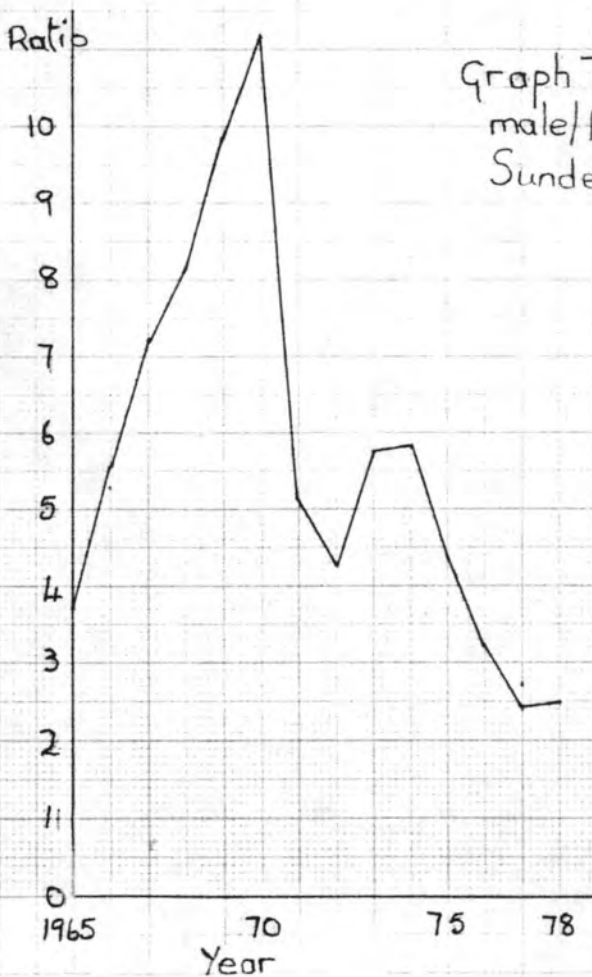
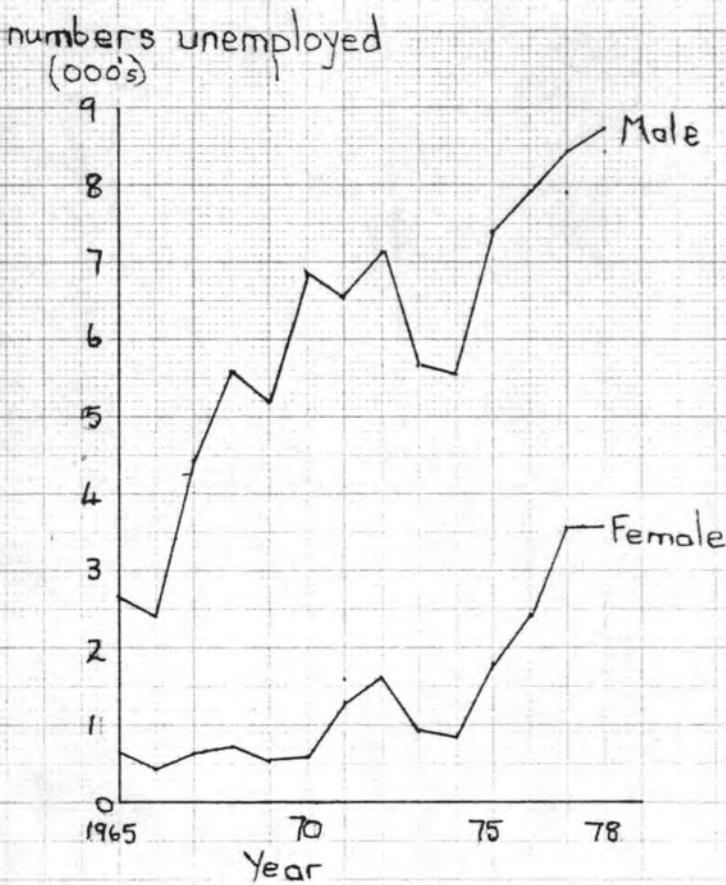


X = SDU/Gt. Britain
 O = NRU/Gt. Britain

where SDU = Sunderland % unemployed
 NRU = Northern Region % unemployed.
 Gt. Britain = Gt. Britain % unemployed.

GRAPH 6

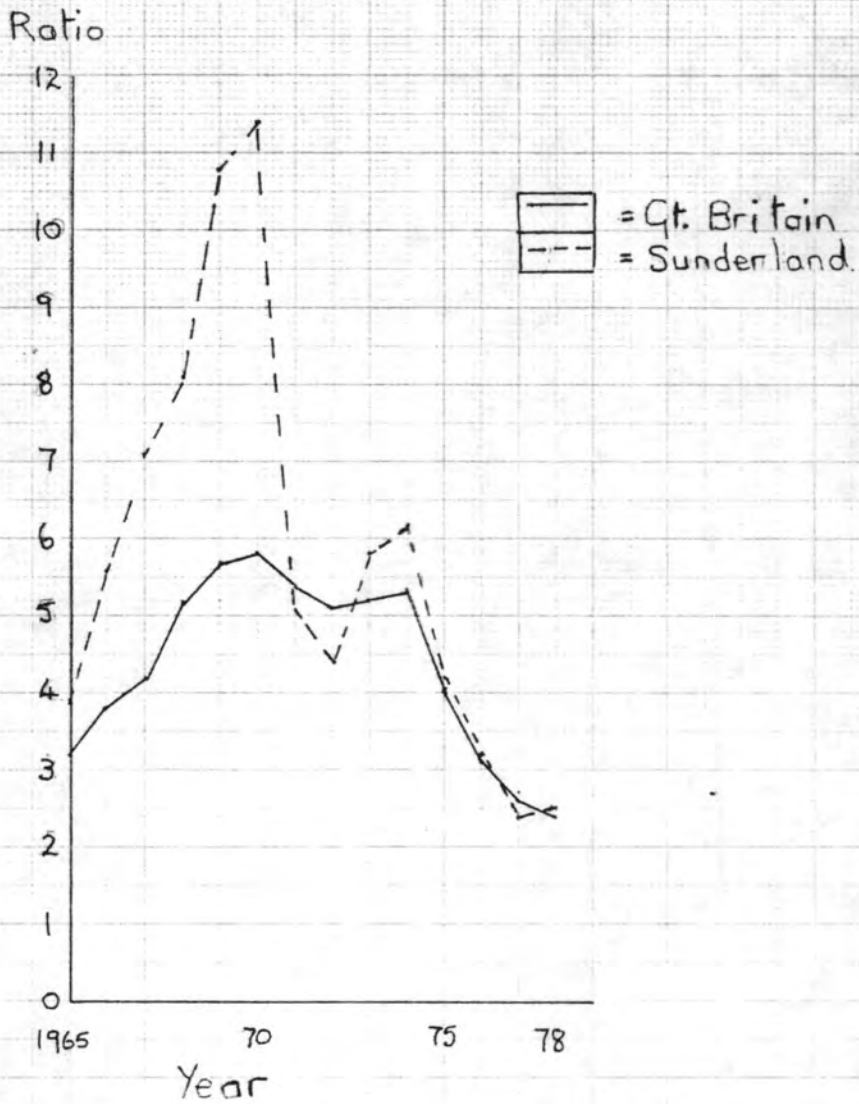
Graph:- Shows average numbers unemployed in Sunderland 1965-78



Graph 7:- Showing the ratio of male/female unemployed in Sunderland 1965-78

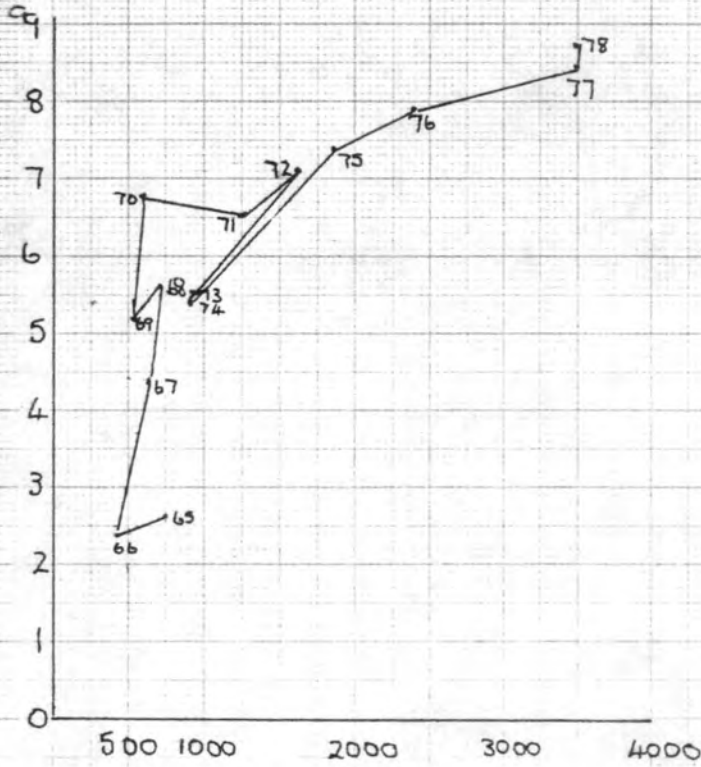
GRAPH 8

Male/female unemployment ratio
1965-78 for Sunderland and
Gt. Britain.



GRAPH 9 Showing relationship between annual rates of unemployment for males and females in Sunderland.

Male unemployed
(000's)

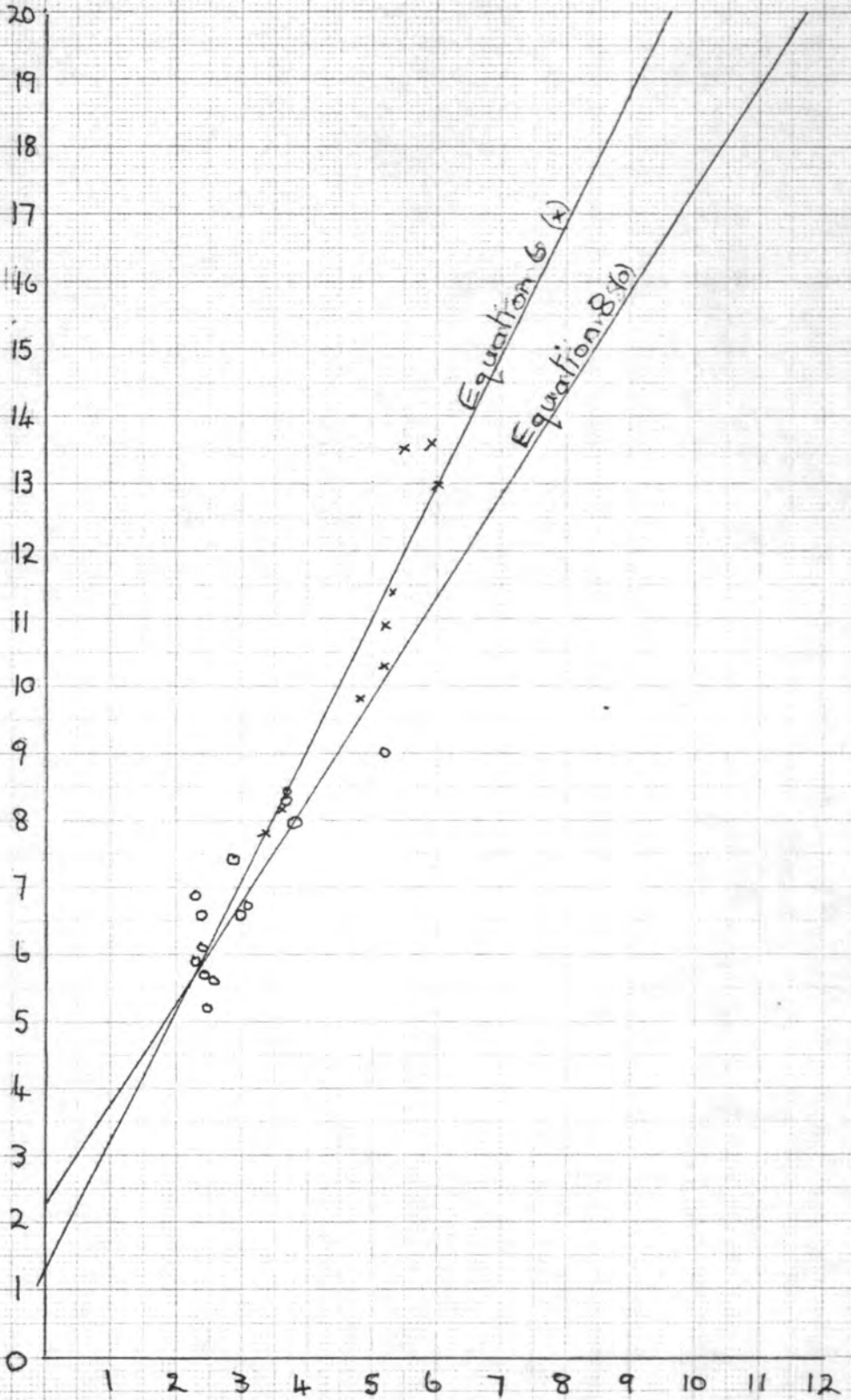


Female unemployed

GRAPH 10

Graph of regression equations 6 & 8

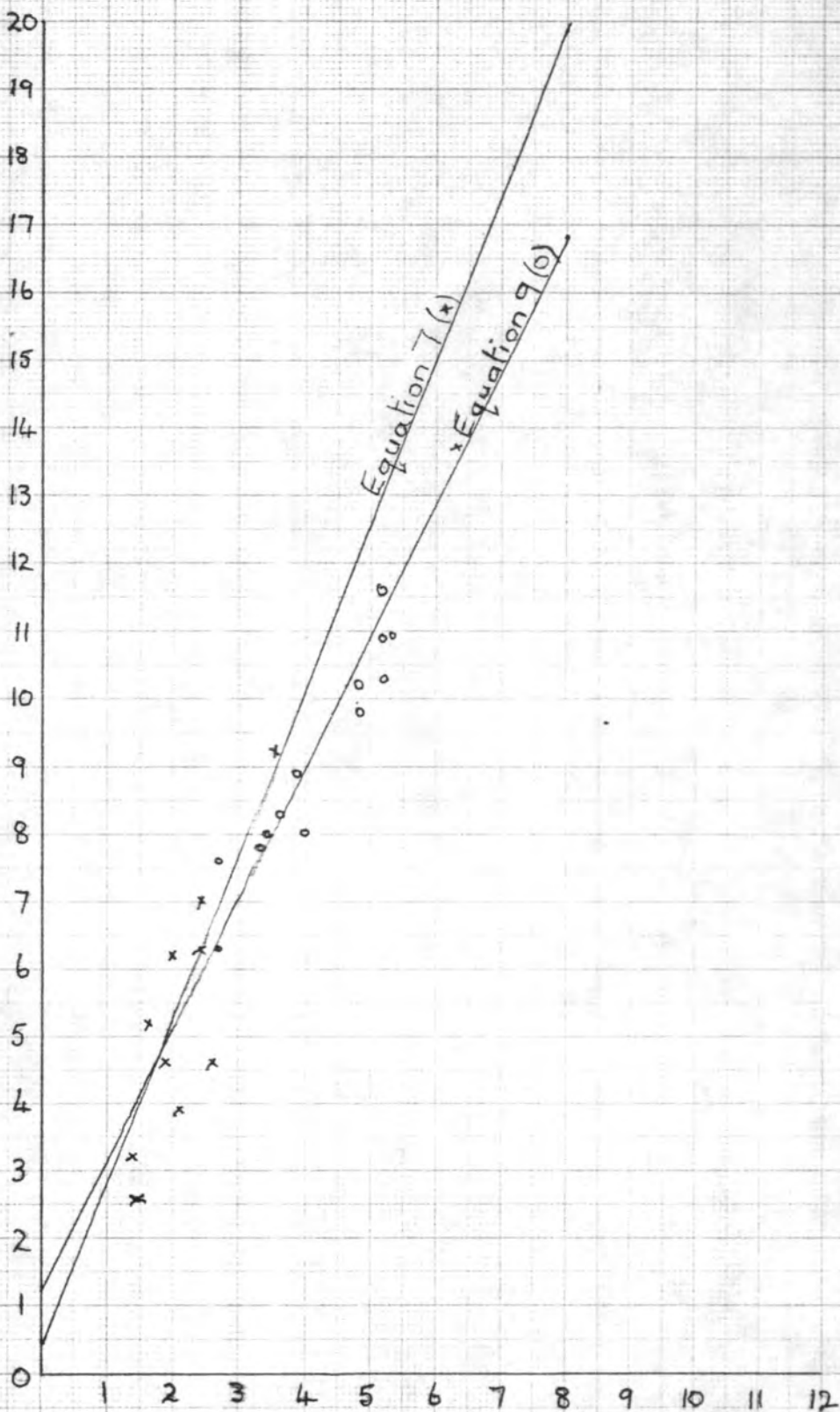
Sunderland
% unemployed



Gt. Britain % unemployed

GRAPH II Graph of Equations 7 & 9

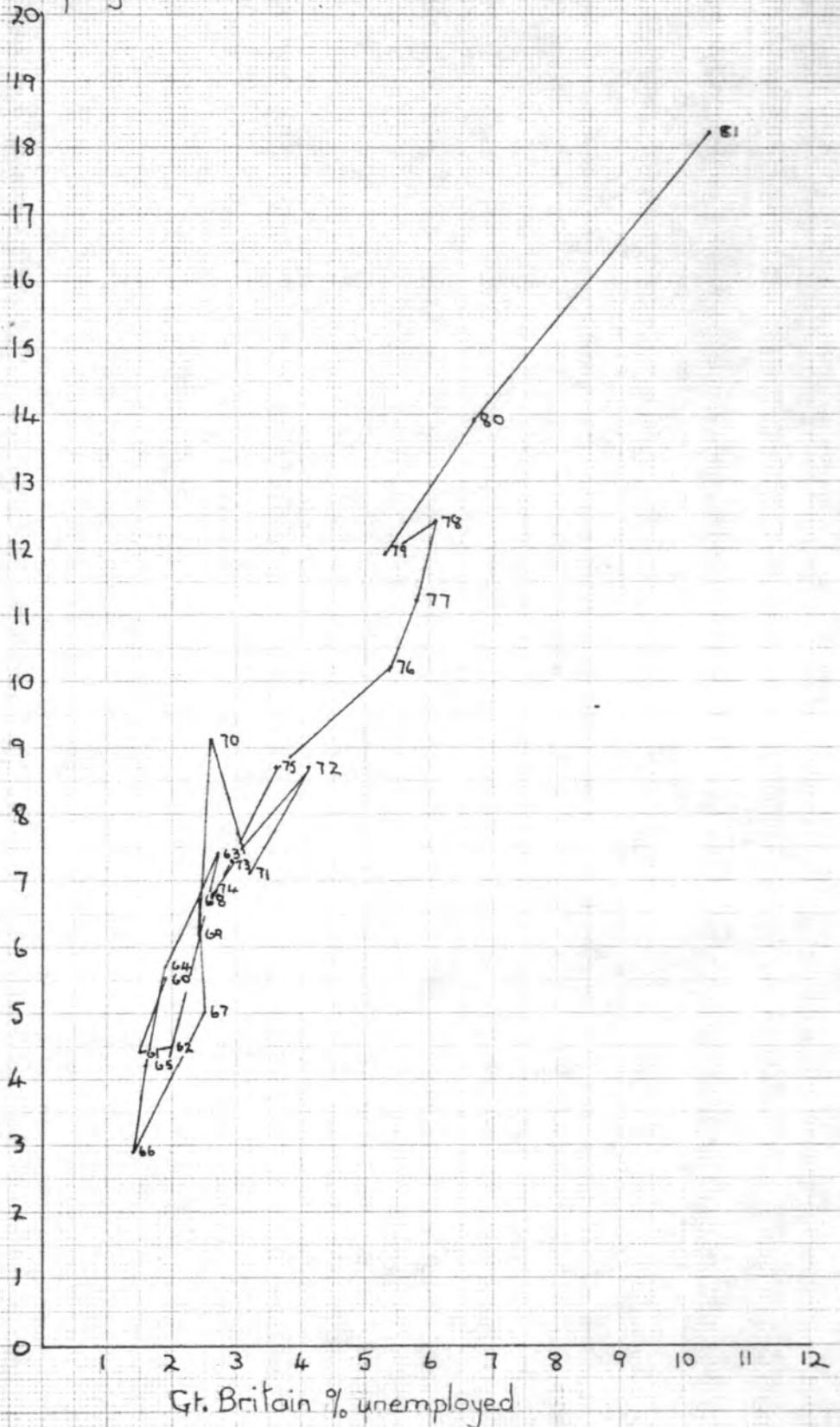
Sunderland
% unemployed



Gr. Britain % unemployed

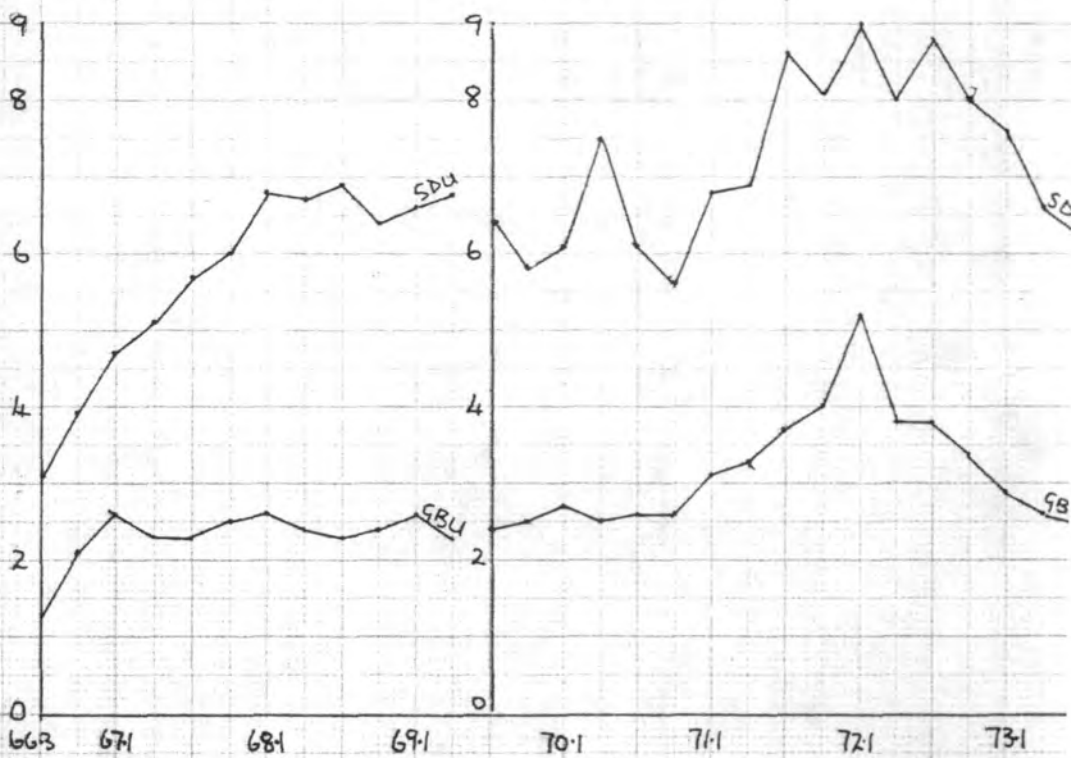
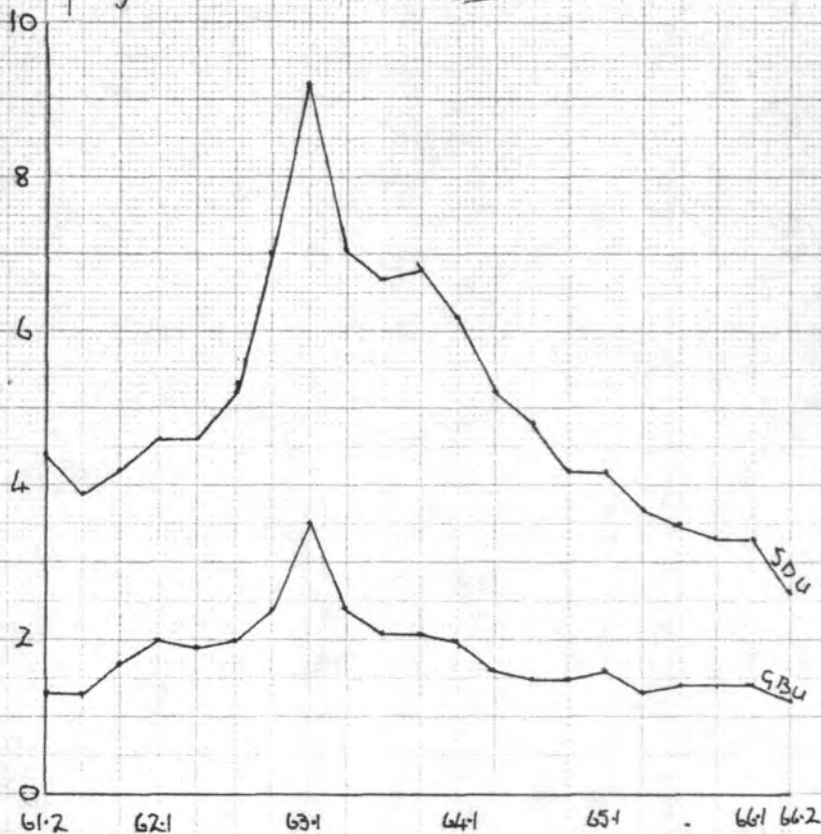
GRAPH 12 :- Showing relationship between annual rates of unemployment for Sunderland and Gt. Britain.

Sunderland
% unemployed



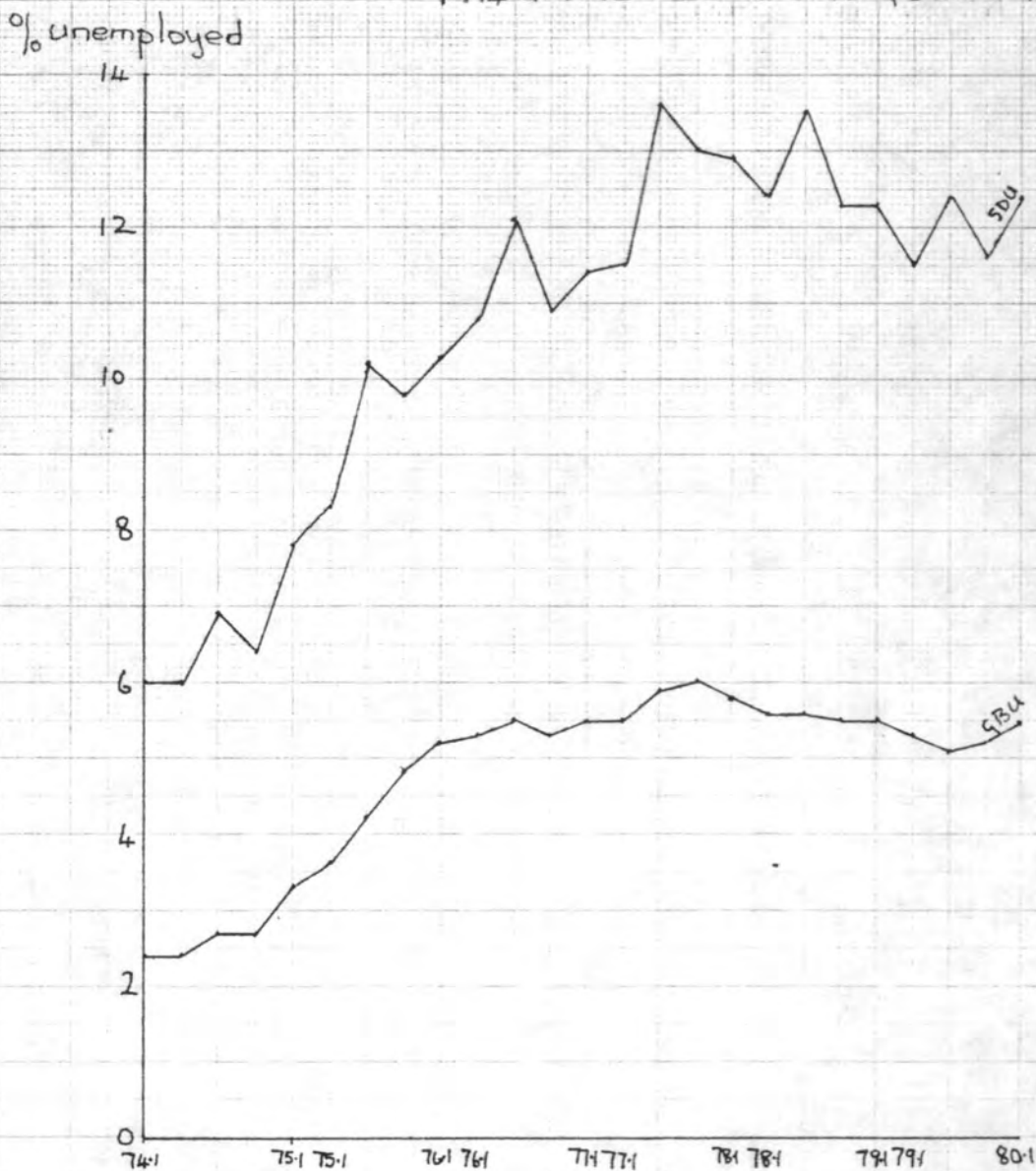
GRAPH 13 :- Graphs of quarterly data for Sunderland (SDU) and Great Britain (GBU) % unemployed showing effects of trade cycles from 1961-Quarter 2 until 1973 Quarter 3.

% unemployed

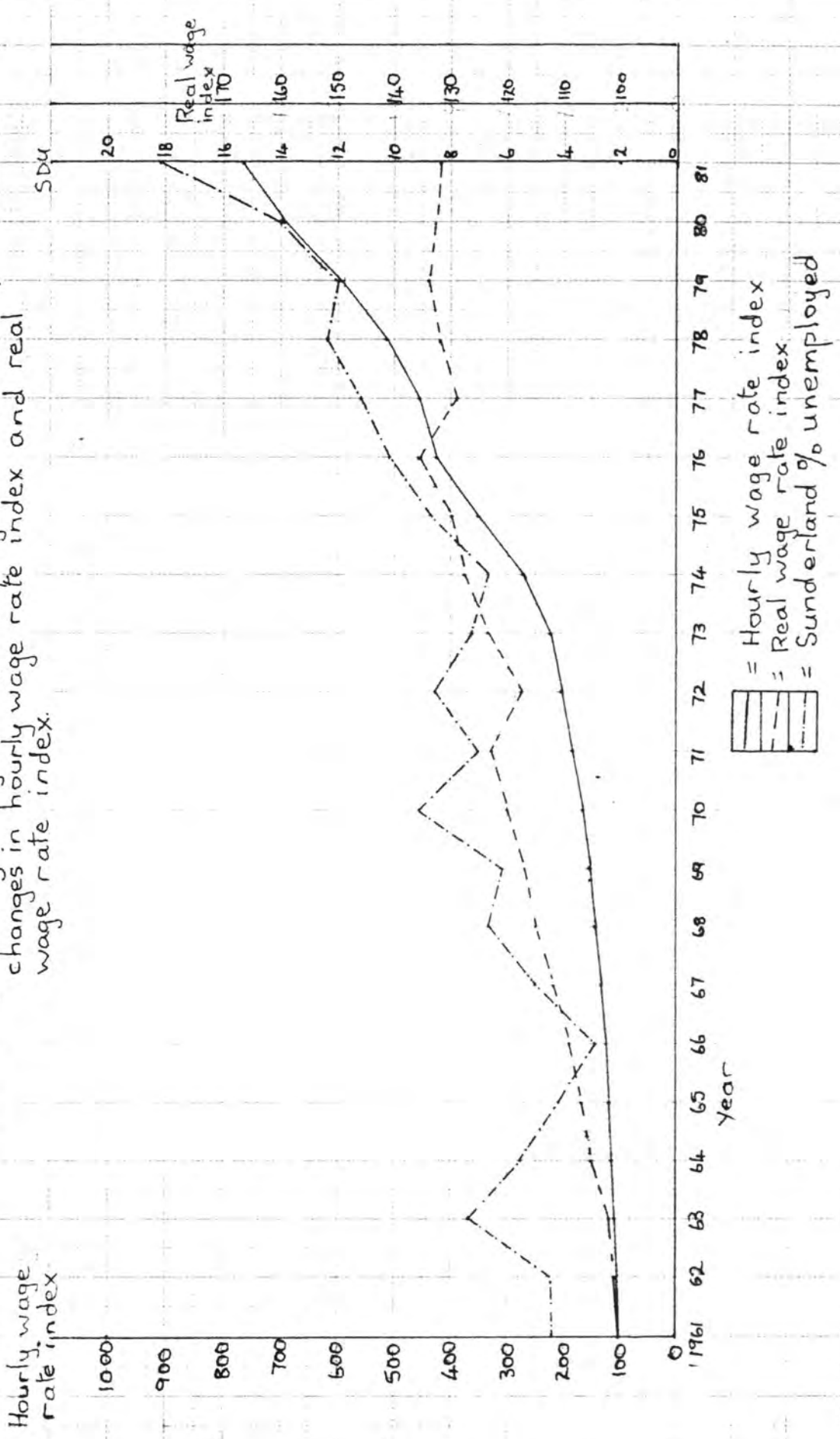


GRAPH I4

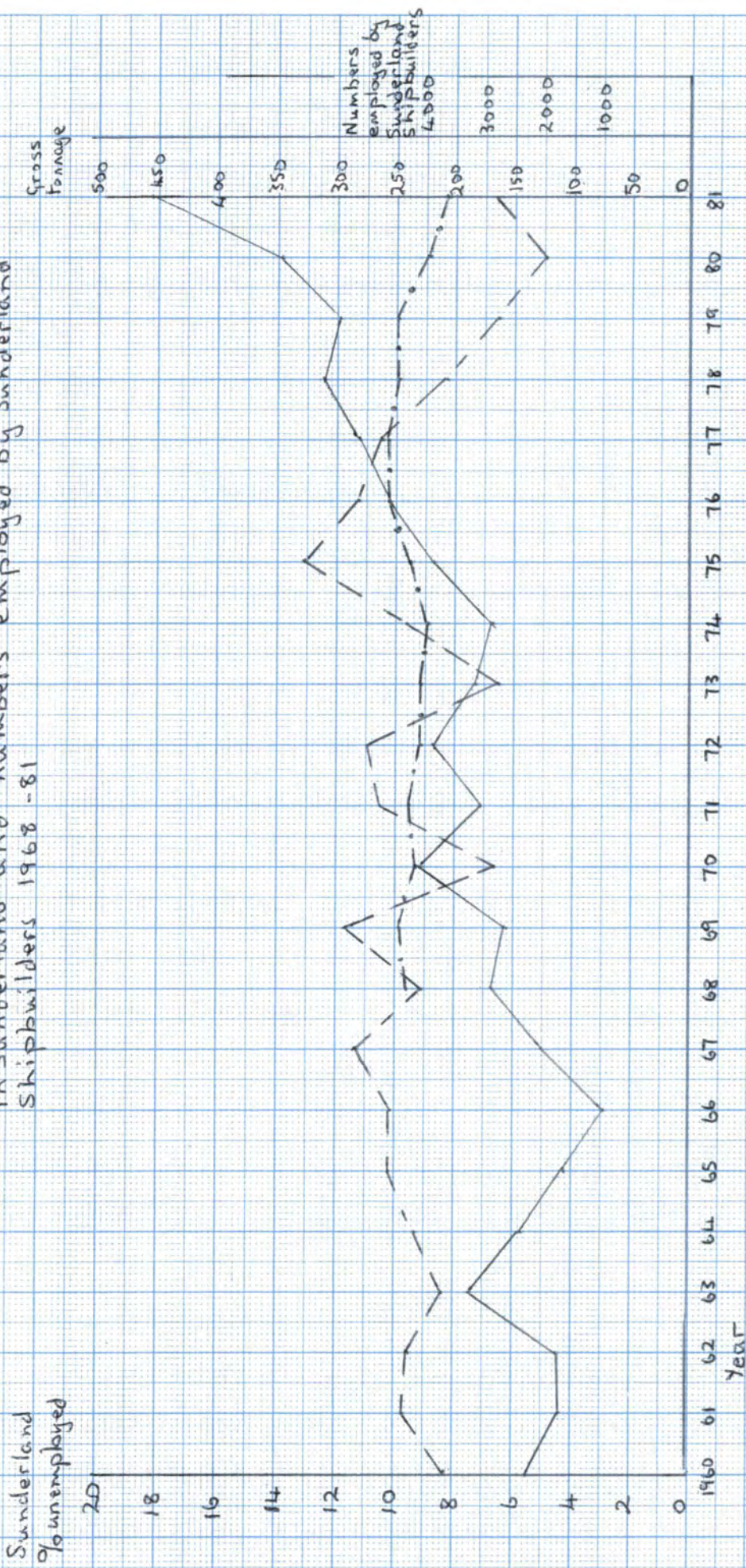
Graph of quarterly data for Sunderland (SU) and Gt. Britain (GBU) % unemployed showing effects of trade cycle from 1974 Quarter 1 until 1980 Quarter 1.



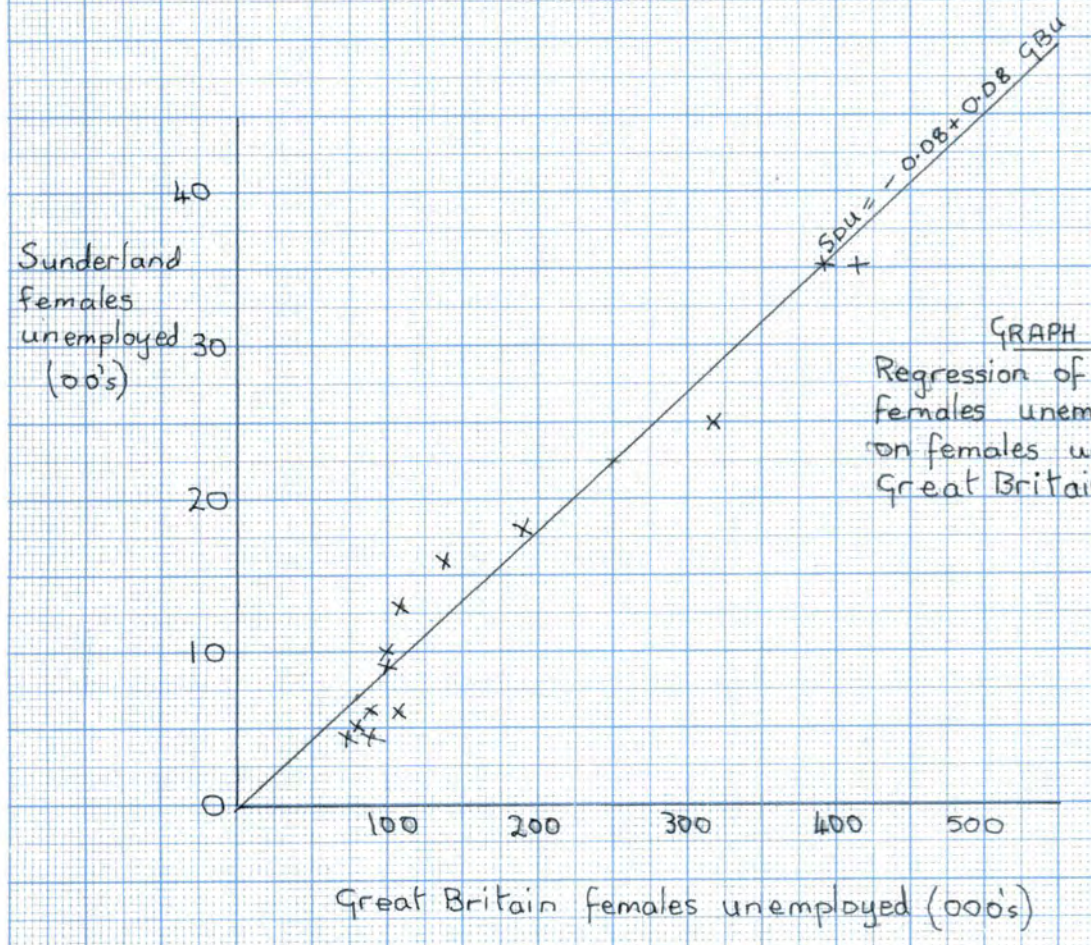
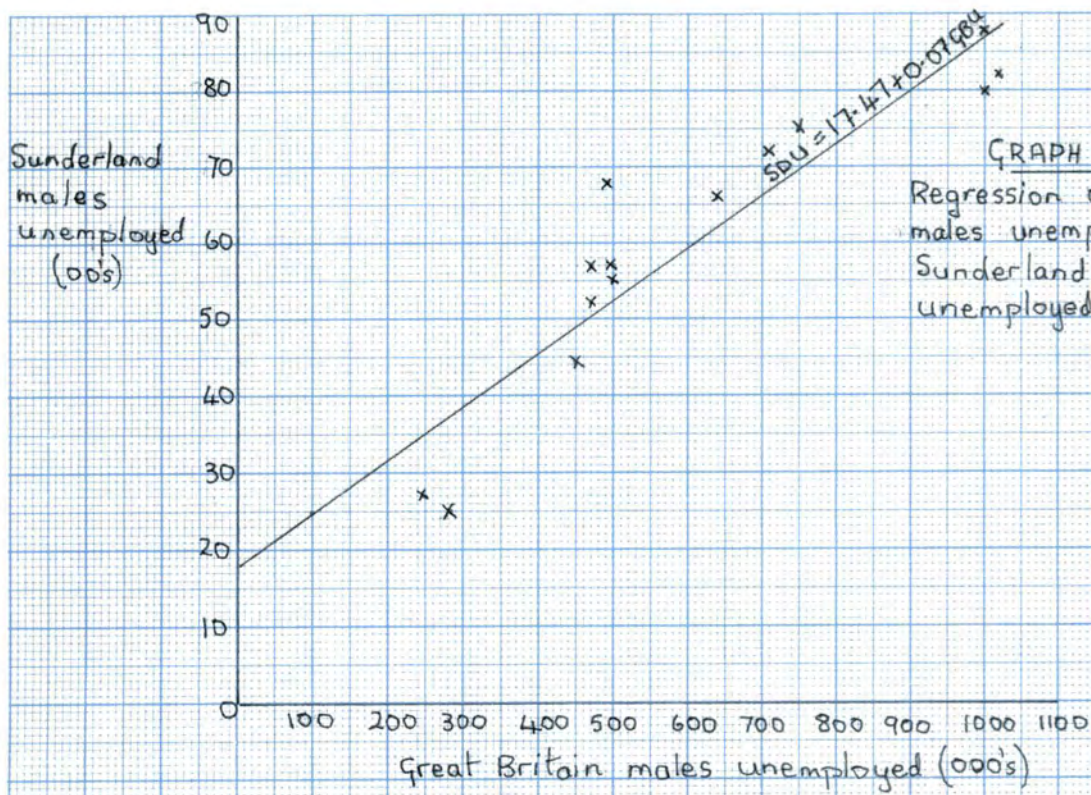
GRAPH 15 :- Showing changes in % unemployed in Sunderland, changes in hourly wage rate index and real wage rate index.



GRAPH 16:- Showing relationship between gross tonnage of ships completed in Sunderland 1960-81, % rate of unemployment in Sunderland and numbers employed by Sunderland Shipbuilders 1968-81



— = Sunderland % unemployed.
 - - - = Gross tonnage completed in Sunderland (all shipyards)
 - . - . = Numbers employed by Sunderland Shipbuilders only (See Page 73)



GRAPH 19: Shows percentage change in unemployment on previous time period for males.

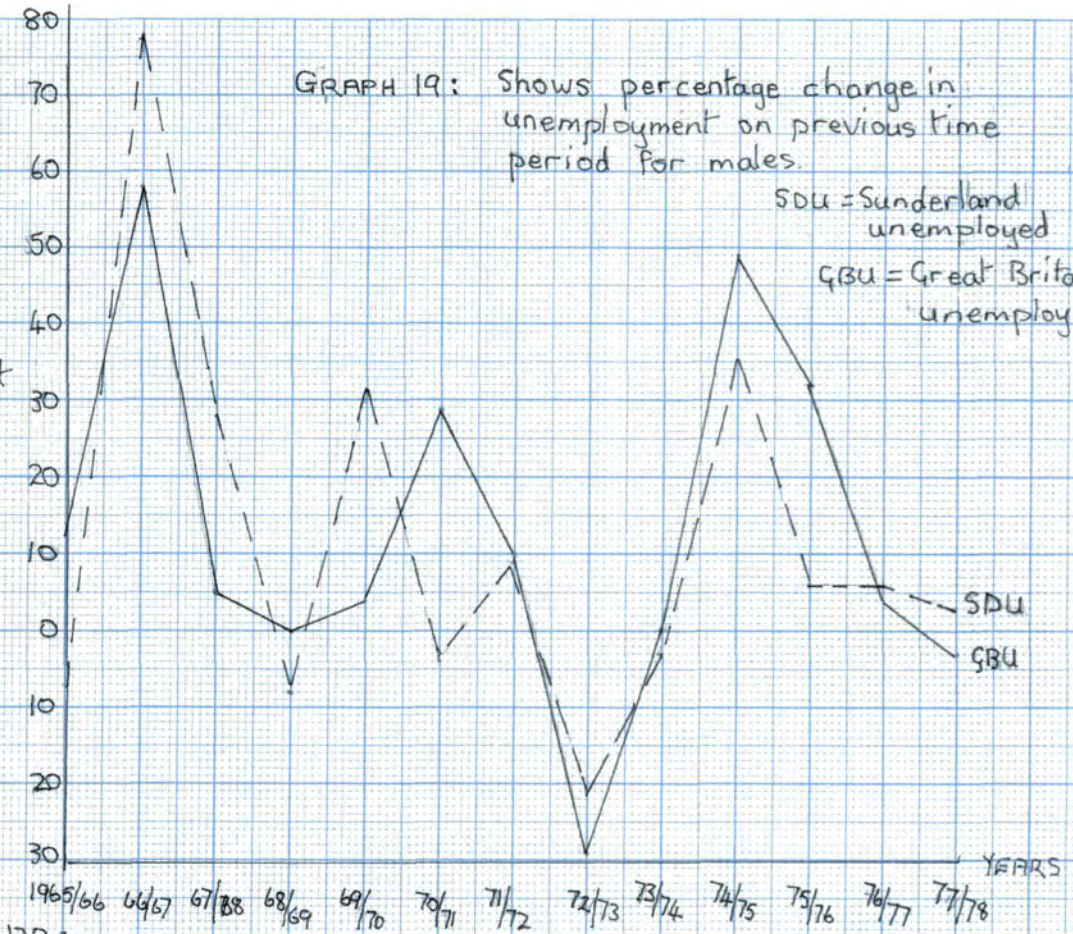
% change in unemployment

(+)

(-)

SDU = Sunderland unemployed

GBU = Great Britain unemployed



GRAPH 20 Shows percentage change in unemployment on previous time period for females

% change in unemployment

(+)

(-)

SDU = Sunderland unemployed

GBU = Great Britain unemployed

