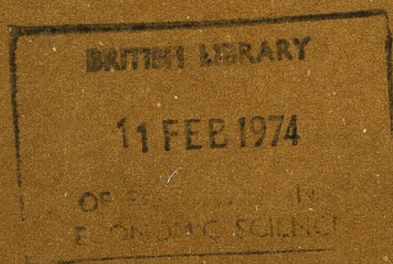




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Female activity rates

New Earnings Survey 1973—Analyses by
occupation

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Stoppages of work in 1973

DEPARTMENT OF EMPLOYMENT GAZETTE

January 1974 (pages 1-104)

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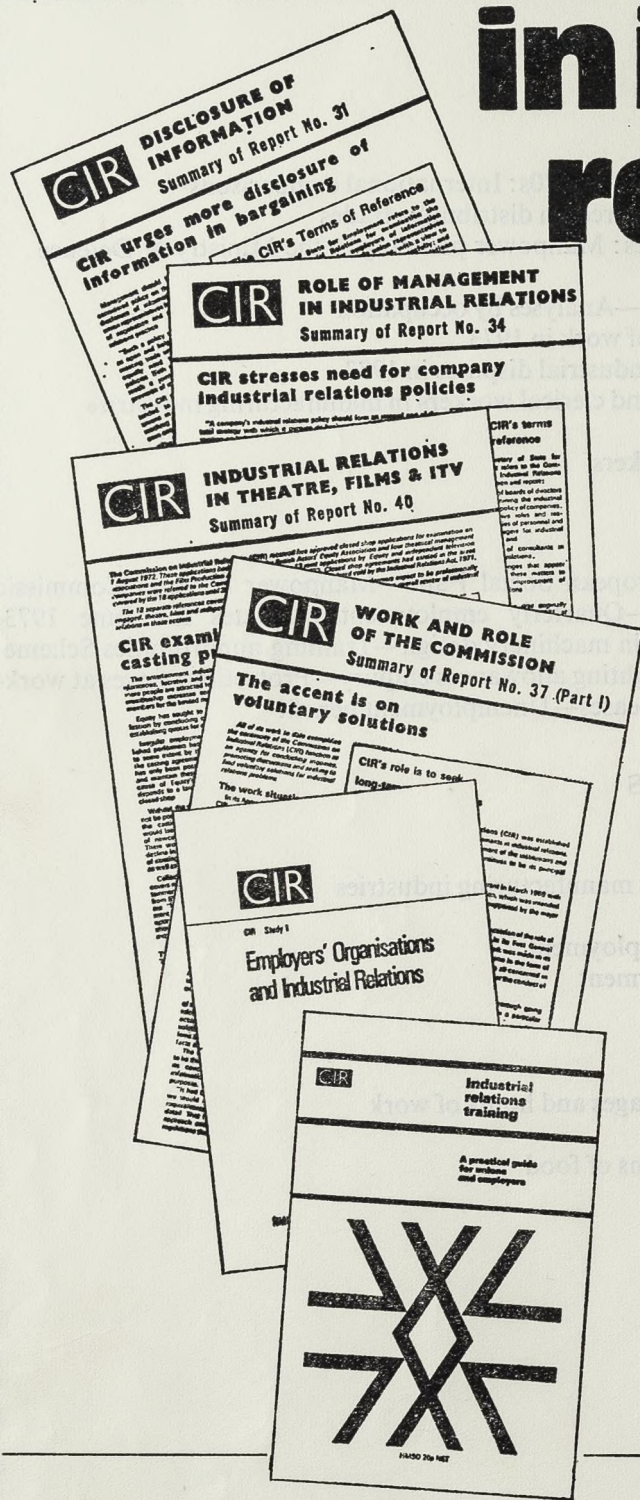
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Graduate employment in the 1970s: International comparisons

Much has been written and said recently about graduates running into employment difficulties. Is this situation unique to the United Kingdom? The Unit for Manpower Studies has recently been collecting information about trends in graduate employment in a number of other countries, namely Australia, Belgium, Canada, France, Italy, Japan, Sweden, the United States of America and West Germany.

One feature common to these countries is that they have experienced a rapid expansion in the proportion of young people entering higher education and emerging with degrees. In many cases the numbers involved have double or even trebled over a ten year period.

The implications of this vary from country to country.

Deteriorating prospects

Controversy over deteriorating employment prospects has been particularly marked in Canada, Italy, Sweden and the United States. Graduates in these countries have found employers reluctant to take them into jobs normally done by non-graduates. The difficult employment situation apparently caused some slackening in the upward trend in young people seeking to enter higher education in Canada, Sweden and the United States—in Sweden and two Canadian provinces this amounted to an absolute drop in the numbers involved. Another reaction among students in these countries has been a shift in favour of vocationally-oriented courses, reflecting the view that those with some kind of preparation for a job would enjoy a competitive edge.

Variety of action

There is considerable variety between countries in the action they have taken to meet the situation. The Swedes have created a number of short-term employment opportunities such as the provision of archive work in offices or employment as youth leaders in social centres. For the longer term, a Commission on Education has suggested restricted admission to certain "over-subscribed" faculties and development of more vocationally-oriented courses. In the United States, the authorities are planning new programmes in areas such as public health to provide new employment opportunities in paramedical occupations and nursing. Resources have also been provided for recurrent education and for

the development of an integrated careers education programme.

While public concern has not reached the same levels in Australia, Belgium, France and West Germany, there has been some awareness of graduate employment problems in these countries.

In Australia, the prospects for PhDs and women arts graduates with pass BA degrees have looked particularly shaky. More intensive effort in terms of manpower forecasting, better employment information distribution and improvements to appointment services were being considered as remedies.

Supply outrunning demand

In Belgium and France there has been mounting awareness of a tendency for the supply of graduates to outrun demand. In both cases the system allows open access to higher education while expectations of a particular career level for graduates are allowed to persist. However, adverse political comment has been muted. In Belgium, university reforms originating in language riots in 1968 have diverted attention from the graduate employment issue. In France, the institutions where vocational commitments and guarantees are strongest, particularly the *grandes ecoles* which train recruits to top civil service posts and elite administrative jobs in politics nationalised industry and commerce, remain tightly selective.

Long-term concern

In West Germany, concern about graduate unemployment is focused on the longer term rather than the immediate future. There has been a warning that every second trained chemist could be without a job by 1980 if current trends continue. However, some in West Germany are sceptical about too narrow a conception of the jobs which graduates in particular disciplines can do; a survey of the employment of political science graduates, for whom economic demand was fairly limited, showed that they all found suitable jobs.

Only in the case of Japan have there been no significant incidents of graduate unemployment. This can be attributed to tight links between institutions of higher education and job openings and the fact that the former, which are highly selective, are very sensitive to the latter.

In considering what general lessons can be drawn from experience in these countries it is necessary to recognise that differences in the social, cultural and educational systems involved make it dangerous to attempt too much in transplanting lessons and constructing analogies. Bearing this warning in mind, however, some tentative conclusions appear to emerge:

- * it seems that because of the much greater opportunities for higher education now available to young people in most of the developed countries, the supply of graduates is tending to outrun demand as measured by traditional patterns of graduate employment. This means that, leaving aside the intrinsic difficulties of taking up careers in other countries, graduates will not be able to solve their problems by emigrating, since the state of surplus obtains practically everywhere.
- * It can by no means be assumed that young people will automatically want higher education when they see its employment advantages diminishing.

Survey of manpower resources in distributive trades

To assist it in the task of assessing the need for training in its industry, and hence in formulating its training policy, the Distributive Industry Training Board (DITB) has commissioned the Institute of Manpower Studies (IMS) to carry out a manpower survey of the industry.

The board, which was set up in 1968, considered this survey, conducted on a voluntary basis, as a necessary step because it was confronted with the difficulty of obtaining reliable data about the numbers, types and sizes of the large number of firms which make up the industry, and of the people who worked within them. The industry's fragmentation makes it difficult to obtain even the most basic information—such as, for example, the names of firms on the register—much less the detailed information on its manpower resources, its distribution, movement within and out of the industry etc., which is required if an efficient training policy suited to the peculiarities of the distributive trades is to be evolved.

To help the IMS research team in its work, a steering committee was set up in January 1972. Members include the deputy chairman of the DITB, the chairman of its research committee, and other board members drawn from trades unions and industry, as well as the training staff of the board and the IMS.

This seems to be the implication of the falls of enrolment in Canada, Sweden and the United States, though further research is needed before a firm conclusion about this can be reached.

- * The shift of students towards the vocational end of the higher education spectrum appears to be a common reaction to the appearance of a tighter job situation, but again further research seems warranted, in particular to discover whether such a policy really helps the long-term interests of the students.
- * There is growing interest in recurrent education—a new pattern of education, which breaks away from the old concept of education as a once-for-all process compressed into a block before commencing a career, and substituting the idea of short, recurring spells of education mixed with an individual's working life. This might serve as a more flexible way of equipping people for a rapidly changing society.

The broad objectives of the survey are threefold:

- to identify the existing manpower resources; what type of people (age, sex skill), where they are regionally, in what type of business and organisation;
- to measure the movement that is taking place within the industry and between the industry and the outside world; promotion, labour turnover, recruitment etc;
- to understand the main factors affecting employment within the industry: what is happening to the way work is organised, what types of business are increasing, and the use made by firms of different forms of training.

The method adopted by the IMS was to run two pilot surveys to test the most appropriate form of questions to ask. These were started in January 1972 and a cross-section of firms was contacted at that stage. A major difficulty, however, was the lack of data about the total working population of the industry within the scope of the board, which does not exactly correspond with the Standard Industrial Classification, and with other official sources of statistics. To help overcome this, the IMS collaborated with the DITB in a re-design of the

annual statutory return which is completed by employers to enable the board to assess levies. The revised return achieved a higher response than previous returns, and, in addition to providing more data, enabled the IMS to construct a sampling frame for a manpower survey.

The IMS also evolved its own occupational code for the survey, so utilising aspects of research developed in other parts of the institute's work. Following the pilot surveys, a sample of 2,500 firms of various sizes and types such as multiples, small retailers and wholesalers were selected for the main survey which started in September 1972. In agreement with the DITB it was decided that a field survey would be worth the extra time and expense involved because it would minimise inconvenience to companies and maximise the response rate.

It was decided to use the existing field staff of the DITB for the survey rather than to engage special staff and the IMS organised training and briefing sessions for them. The advantage of using the board's own staff was that experience would be gained by them and an increased knowledge about the problems of the industry.

Two questionnaires

The firms which agreed to take part in the main survey were asked to complete two questionnaires, one of which, the interview schedule, was designed for completion at the interview with the field officer; the other (a shorter one) termed the company questionnaire was designed so that it could, if necessary, be left with the company for completion. The interview schedule sought information about the type of company, its size, whether parent or subsidiary, public or private, whether a levy was paid to training boards and if so to which, geographical location(s), and which activity—retail, wholesale and so on—the firm was engaged in. It also ascertained the method of selling (where appropriate) such as for retailers, whether it was self-selection or self-service, and for wholesalers, whether cash and carry or other. Information was also sought about the main commodity and others sold or handled by the firm. Firms were then asked about their staffing structure and other employment features, for example recruitment methods for management and other staff, management problems such as personnel and training, buying, selling, etc; changes in policies and practices over recent years and their effect on staffing; future changes which were planned and their likely effect on manpower recruitment, whether training was given and if so the types and methods used. The company questionnaire sought numerical information about the numbers and types of worker; the number of recruits engaged over the past year and the occupational level at which they joined the firm; number of promotions, length of service, wastage rates and estimated cost of training given to all staff.

The response to the survey has proved most encouraging with information obtained from about three out of four of the firms participating in the survey. The information has been transferred onto magnetic tape and is

easily retrievable for subsequent analysis. The IMS has written a report for the board and this is providing an important contribution to the board's thinking and planning.

Basis of future training policy

The main intention of the IMS report is to provide a basis for the board's planning of its future training policy. There is a great deal of information now available which was not available before—in an industry where reliable data about manpower is sparse. It is not possible in a short article to cover many of the insights revealed by the analysis—which will be further examined by the board in the design of training policy—but some findings can be highlighted:

- * the significance of the wide structural diversity of the firms within scope of the board;
- * the importance of trading activities other than retail—wholesale, etc.;
- * the impact in terms of employment of the small number of very large firms—especially in retail;
- * the likelihood of increasing numbers of part-time workers in the industry in addition to an existing large "casual" workforce;
- * the growing concern of firms with employment issues. Over half the firms stated that they had great difficulties with recruitment and labour matters in general;
- * the extremely small intake of people in the "trainee" category into firms, and their very high wastage;
- * the high labour turnover rates generally—especially new recruits in certain occupations. Forty-two per cent of recruits left before completing one year's employment;
- * the importance to the industry of recruitment direct from school—a feature that will be certainly affected by the raising of the school leaving age;
- * the great variation between firms, particularly in relation to size, in the extent to which training is carried out. Although many firms stated that they were training their staff to some degree, very few are putting in formal systems and claiming grant from the board.

It is important now that these and other findings are fully examined to see if there is much variation between different sectors in the industry, and between different sizes and types of firm, and that the survey information is up-dated on a sound and regular basis.

A more detailed description of the survey method and questions may be found in an article by A. G. Atkinson, R. Pearson and A. M. Tulloch in the May 1973 issue of *RETAIL AND DISTRIBUTION MANAGEMENT*. A further article at a more detailed level on the results will appear soon in the same journal, and a more extended research background is given in a chapter by A. G. Atkinson, O. Robinson and A. M. Tulloch in *DISTRIBUTION RESEARCH: WHERE NEXT?* to be published by D. C. Heath (edited by Dr. D. Thorpe) early in 1974.

Forecasting for the forces: Manpower planning in the Ministry of Defence

Manpower planning is usually conceived as a modern body of techniques. Yet the armed services can lay claim to having pioneered manpower planning as long ago as the seventeenth century, when Samuel Pepys tried to regulate the recruitment of naval officers on a rational basis. Later ventures included the use of actuarial techniques in a manpower study of the Royal Marines in the late eighteenth century. This was followed early in the nineteenth by a system of career planning for naval officers, which was extended to ratings from about 1850.

The pioneering tradition broke new ground in the 1939-45 war which saw the beginnings of the evolution of the system of manpower planning currently in use and described in this article.

Manpower planning which is essential for both service planning and long term costings purposes, is required if the objectives of defence policy are to be achieved. The first step in the planning of manpower is a translation of this objective into manpower demands. Present and future commitments require a particular level of military capability which is converted into elements of army, naval or air force presence such as battalions or squadrons and their equipment. This broad structure is in turn translated into manning requirements over a ten-year period, and includes an allowance for technological change. The whole process rolls on year by year to produce a series of figures of manpower demand. New assessments are made once a year unless policy changes require a greater frequency.

Broad pattern

The detailed process of forecasting manpower follows the same broad pattern for all three services. By way of illustration, the operational steps for the Royal Air Force are as follows. Squadron patterns for a ten-year period are produced. These are broken down into numbers of established posts through the application of scales related to the amount of activity; for instance, engineering posts are related to the intensity of aircraft operation, catering posts to the mess population and so on. The scales or manning requirements are continually checked by establishment review teams on site.

When the sequence of converting commitments to a multiplicity of forecasts of actual posts is completed,

they are aggregated to a total demand forecast analysed by trade and rank. The final steps consist of adding a manning allowance or "margin" to cover such contingencies as sickness and training. These allowances are based on past statistical evidence of such contingencies and forecasts of training requirements.

Steps to meet demand

Having arrived at an estimate of manpower demand, the rest of the planning process lies in considering how to meet it. The steps involved in this are:

- (1) forming a "planned" career to meet the requirements. That is producing a mathematical model of the structure which gives a "perfect" career, in some sense, to an average group of entrants. This gives the career distribution which the defence authorities would like to obtain in the very long-term;
- (2) assessing present manpower stock;
- (3) estimating how this will run down. Run-down rates are calculated using service-table techniques (akin to life tables) which incorporate assumptions of wastage and prolongation (in other words, renewals and extensions of contracts);
- (4) calculating the recruits and promotion quotas needed to fill the gap between future manning requirements and run down strengths. Recruiting targets have to take into account wastage during training and the length of time needed to become trained; constraints imposed by maximum training capacity also have to be taken into account. Promotion quotas and patterns must allow for the need to smooth any likely slumps or booms in them associated with smaller or larger than normal outflows;
- (5) Assessing the prospects of obtaining these recruits in the light of analyses of factors such as economic conditions, the relative levels of service and civilian pay, demographic and educational changes affecting the pool from which recruits might come and the scale of advertising expenditure;
- (6) Assessing whether or not the promotion quotas and patterns are feasible with respect to the

quality and/or numbers in the fields for promotion;

- (7) Arriving at realistic manpower planning parameters to reconcile (4), (5) and (6) above. This might involve attempts to influence recruitment prospects by increasing advertising expenditure or changing the test score threshold required for acceptance of recruits. Or it may mean that promotion fields have to be extended by reducing age or seniority requirements. It might also involve basic policy changes; for example, new lengths of engagements, the switching of posts between branches.

Data integration

A manpower planning system of this complexity, covering nearly 400,000 servicemen, naturally makes formidable demands in terms of the availability of data and computational capacity. In the RAF alone, separate exercises have to be carried out for more than 100 groups of servicemen. The increasing use of computers is of great importance in overcoming these taxing operational demands. The basic data from the services' detailed personnel records are being increasingly integrated with computer payroll records.

As already inferred, manpower forecasting proceeds in parallel but separately for the RN, Army and RAF, the results being brought together at various stages such as the annual review of public expenditure. Special attention has been given to the introduction of a manpower statistics series on a tri-service basis without losing sight of the inherent manning differences that exist between these services due to their differing roles and structures. To aid top management to have a complete overall view for making policy decisions, forecasts of the implications and effects on service manpower of the introduction of some innovation such as a new type of engagement are now carried out within this integrated tri-service statistical framework.

To a large extent the statistical techniques that are employed are well-established ones. The use of computers enables the services to produce manpower forecasts more quickly, more cheaply, more frequently and in greater detail than would be possible with manual methods. An important effect of computers has been to enable the services to use optimisation procedures which would otherwise have been impossible. In particular, the RAF is well along the road in the study of optimisation methods in the planning of recruitment, training, promotion and manning—it has already computerised its establishment forecasting procedures and this will enable manpower requirements to be continually updated and monitored. These methods might serve, for example, to minimise the costs of implementing decisions subject to various constraints, such as a specified promotion rate or a maximum level of under-manning.

Scope for developing techniques

Though optimising procedures in the services are still in their infancy, it is already clear that they will result in an appreciable improvement in the use of resources; there is very great scope for developing techniques.

There are in addition many areas of common interest to all the services, such as public attitudes; the size distribution of service families for planning of married quarters; educational facilities and NAAFI and welfare requirements; and the success of resettlement programmes. Research in these areas, including the application of sample survey techniques, is carried out on behalf of all three services by a central manpower statistics research section.

As in other organisations, effective manpower planning in the services cannot be left to the statistician and the computer. It depends very much on the close interaction that takes place of statistical and service expertise. Only when the two come together as part of a single team can the best results be achieved.

Female activity rates

The major feature of the expansion of the labour force in recent years has been the increasing proportion of women taking paid employment, and this trend is likely to continue. The subject has already been featured in two previous articles about the change in the labour force (see this GAZETTE, November 1973, pages 1083 to 1087 and 1088 to 1092). This article explores in greater depth past changes in female activity rates, and indicates tentative projections for the future.

The first section of the article examines the long-term past trends in the extent to which women participate in the labour force, as illustrated by the percentage of single, married, widowed and divorced women of different ages who are economically active. For this historical perspective, data for 1921 to 1971 from the censuses of population have been used and some problems of interpretation are discussed briefly before the trends are described.

The second section deals with the problem of assessing the pattern in the future, and describes the time trends from 1951 to 1971 used as the basis for projection. Finally, the new projections emerging from this methodology are discussed.

Long-term trends

Trends in economic activity rates of women (the percentage of women in a given age group who participate in the labour force, either on a full-time or part-time basis) should be interpreted with care because of changes in the coverage, questions and definitions of the censuses of population over the 50 years being examined in this article. Early censuses of population were concerned with the concept of being normally occupied, whilst from 1961 onwards the concept changed to economic activity in the week prior to the census. Other changes affected the treatment of students and the coverage of those who have a job, perhaps for only a few hours a week, but spend most of their time on domestic duties. These differences are discussed more fully in the annex.

Some of the trends are so clear that they cannot be dismissed on the grounds of changes in questions or definitions, especially in the last ten years when these changes have been slight. There is, however, another factor which should be borne in mind; that is the timing, in an historical sense, of the censuses: 1921 was not long after the first world war, 1931 was in the depths of the depression and 1951 was not long after the second world war. The long-term effect of the second world war on female activity rates cannot be accurately assessed. The total working population figures for 1938-1948 (see BRITISH LABOUR STATISTICS: HISTORICAL ABSTRACT (table 116)) give a series of full-time equivalents for

females under 60, and show an upsurge of more than two million between 1938 and 1948, although the numbers had declined somewhat by the end of the ten-year period.

The whole pattern of female activity rates changed dramatically since 1921 as can be seen by comparing Fig 1 with Fig 2. The most striking difference is in the activity rates of married women which are now very much higher for all ages up to retiring age than they were just after the first world war. For single women the changes have been confined more to the age band 35-60, where the activity rates are now considerably higher than in 1921. For widowed and divorced women the pattern has also changed and a far higher proportion of them in the middle age ranges are now economically active.

Figs 3-6 illustrate the trends in activity rates of various age groups of women classified by marital status. In Figs 3 and 4, the steep rise in the activity rates of married women stands out in all age groups, and most particularly in recent years, amongst women aged 35-59 with increases of 30 percentage points in the last 20 years, to levels over 55 per cent. For age groups within this range and also for the 60-64 age group, the rate of increase in activity rates for married women in any period charted was steeper than during the preceding period until 1966. Between 1966 and 1971, the rate of increase has slowed down; two possible explanations of this are that, in the prevailing socio-economic climate, a maximum level is being approached, or there was slower economic growth during this period. For younger married women, the activity rates have also increased though less steeply, and, for those aged 20-24, the majority of the increase took place in the earlier part of the period.

The increases which are observed can be attributed to a number of factors, not all of which can be quantified. A few of the major influences are discussed below. With male activity rates always high for the working ages, and little growth in the number of males in this age bracket, employers have had to look increasingly to women to meet any additional requirements for labour. This has encouraged them to make it easier for women with domestic responsibilities to work by offering part-time employment (see the November 1973 issue of this GAZETTE on the increasing proportion of women working part-time).

In the past it was usual for a woman to leave work when she married, but now it is more usual to remain at work until the first child is due. With smaller families and less time between children the period of time while a woman has children under school age is considerably reduced, and her total absence from the labour force for bringing up her family is much shorter than in previous generations. It is also now more socially acceptable for a

woman with dependent children to be in employment. In addition to this, mass production and advances in technology have combined to produce many labour saving devices, convenience foods, cleaning materials, easy-care fabrics and so on, which reduce the amount of time necessary to carry out basic domestic chores. The service industries also have developed to cater increasingly for the needs of a working woman.

The patterns for single women and for widowed and divorced women are neither so uniform nor so easy to explain. Single women predominate in the younger age groups. After a rise in the activity rate for single women aged 20-24 from 81 per cent to 91 per cent between 1921 and 1951 (Fig 5), a period when it became more socially acceptable for single women to work, the rates have subsequently declined to 82 per cent due mostly to the increasing proportion of young women becoming involved in higher education. For single women aged 25-34 the rates continued to rise until 1961 and have now declined to a level as low as that of 1951. The number of women of this age who are single has declined steadily over the whole period, and in 1971 there were just over a quarter of the 1921 number of single women of this age. It is possible that out of this smaller number of single women a higher proportion may have domestic ties which make it impossible for them to work. For those aged 35-54 the activity rates have levelled off since 1961.

The activity rates of widowed and divorced women lie between those for single women and those for married women and, like the rates for married women, have shown some considerable increases over the period, as seen in Fig 6. For example, in the 35-44 age group, the rate had risen from 45 per cent in 1921 to almost 75 per cent by 1966, and has subsequently dropped slightly. For widowed and divorced women aged 45-59 the activity rates levelled off in 1966. The rates for women in the next age band, 60-64, declined slightly between 1931 and 1951 and then rose by 15 percentage points by 1966 and again declined by 1971.

The levelling off of activity rates for widowed and divorced women may be caused by increasing financial provision which allows their economic behaviour to be closer to that of married women with similar domestic responsibilities than to that of single women. It is also possible that the internal composition of the group has been changing, for example, towards a greater proportion of divorced women. Such a change could influence the levels of activity rates for the group.

Methodology for activity rate projections

Previous projections of labour supply have been based on annual working population activity rates derived from various sources (for details see this GAZETTE August 1971, pages 717-722). The article on the fall in the labour force between 1966 and 1971 (see this GAZETTE, November 1973, page 1083) described the weaknesses of these series, especially with regard to the difficulties of estimation, their over-sensitivity to pressure of demand for labour and the treatment of part-year workers as full economic units. In addition, one of the principal sources, the mid-year count of national insurance cards exchanged for employees, will cease to exist in 1975 and the new system of censuses of employment provides a somewhat different measure of employees in employment.

For these reasons, and because most final results from the 1971 Census of Population are now available, it was thought opportune and desirable to revise the methodology upon which future labour supply projections will be based. It is now proposed that projections should be linked with past activity rates derived from censuses of population. One of the advantages of this change is that the projections so obtained are not very sensitive to changes in pressure of demand (see this GAZETTE, November 1973, page 1085).

Time trends

Despite the difficulties of estimating annual activity rates, the series so obtained provided a valuable indication of the large increase over time in the activity rates for married women, and it has, therefore, been considered useful to apply this information when projecting activity rates for married women from the relatively infrequent benchmarks provided by censuses of population.

Activity rates for married women have increased sharply in the past, especially for those aged over 30. To identify the underlying factors associated with these increases, annual data from 1951 onwards has been re-arranged in the form of cohorts as illustrated in Fig 7. Each line on this diagram traces the changes in activity rates for those married women born in a particular five-year period, as they pass through the successive age ranges shown at the bottom. Altogether, the diagram covers 11 cohorts of married women, from those born in the period 1892-96 (Group 11) to those born in the period 1942-46 (Group 1). The continuous lines show the levels of activity rates for these groups achieved during the period 1951 to 1971, while the broken lines project future activity rates for each cohort.

The diagram shows that married women tend to rejoin the labour force between the ages of 30 and 45 so that activity rates rise to a maximum at approximately the latter age and tend to remain at that level for the following 10 years. Thereafter, there is a progressive decline in activity rates as married women begin to retire from the labour force. The evidence is naturally less complete for those cohorts which were already leaving the labour force at the beginning of the 20-year observation period, or only just joining it towards the end of that period; but it can be seen that these partial data are consistent with the general pattern described above. Another most important factor revealed by the chart is that successive cohorts exhibit higher activity rates at each age group from 30-34 onwards, than their predecessors. This conclusion is illustrated most simply by the fact that the cohorts appear in vertical numerical sequence, as determined by their activity rates.

In projecting future activity rates for these cohorts, it has been assumed that the patterns described above will continue. This means that the projected change in activity rates as a particular cohort moves from one five-year age-group to another, is assumed to follow the corresponding change shown by the preceding cohort as it moved between the same age groups. However, the method of projection includes an adjustment for trends towards increases or decreases in the activity rate changes as the previous three cohorts passed through the corresponding age groups. The initial projections covering the year 1976

are reasonably firmly founded on the actual experience up to 1971 of the preceding cohorts. On the other hand, the projections for 1981, and later five-year periods, involve an increasing degree of projection from the most recent data base.

Nevertheless, it is considered that these cohort studies provide a most useful way of analysing past activity rate trends for married women in the relevant age groups and that they also provide a measure of support for the assumption that activity rates for married women will continue to rise. Accordingly, the projected activity rates from these cohort studies have been used to provide an initial extrapolation of the corresponding activity rates for married women in the relevant age groups from the 1971 Census of Population.

Observed annual activity rates for married women aged under 30 have shown little change in recent years, and cohort studies for these groups, and for the annual data about non-married females, have not provided a suitable basis for future projection. Consequently, initial projections for the groups 16-19, 20-24 and 25-29 were assumed to have constant activity rates at the levels reached in 1971. Some of these initial projections were modified as indicated below.

For non-married females over 24, the projections are based entirely on separate trends in activity rates for the single and for the widowed and divorced as shown by past censuses of population. These separate projections have been combined to give a single projection for the single, widowed and divorced taken as a group.

For younger persons, the treatment of students is of particular importance. Within these groups, the enormous growth in further and higher education has been a principal factor in the decline of census activity rates, which exclude students because they are described as economically inactive. It follows that future activity rate trends for these groups will be determined to a large extent by trends in further and higher education. For projection purposes, therefore, it is proposed to consider an 'activity rate' which includes students in the numerator as well as in the denominator. These rates tend to be more stable than those based solely on the economically active groups. Since projections of the numbers in further and higher education were provided by the education departments, it follows that the projections of numbers economically active in these groups can be determined from the projected total of economically active plus students. Slight technical difficulties arise in aligning the projected rates completely with the past trends because of difficulties in identifying the numbers of students aged 25 and over and allocating them to specific age groups, and in the marital classification of students. For projection purposes, therefore, the numbers of students aged 25 and over are excluded and all younger students are classified to the unmarried group. These assumptions do not significantly affect the activity rate trends for these groups.

Projected female activity rates

The projected female activity rates are shown in Figs 9 and 10, which also show activity rate trends from 1951 to 1971, both on a census of population basis and as estimated annually from national insurance records

and mid-year population estimates. The activity rates are also shown in the table below.

Female activity rates: Historical and projected

	1951	1961	1971	1981	1986
16-19* Married females	38.1	41.1	42.4	42.4	42.4
Other females	96.1	97.7	97.7	97.7	97.7
20-24* Married females	36.6	41.4	46.7	48.7	48.7
Other females	94.3	95.3	94.4	94.4	94.4
25-34 Married females	24.4	29.5	38.4	41.7	43.3
Other females	85.1	87.9	80.8	78.0	76.6
35-44 Married females	25.7	36.4	54.5	63.3	66.4
Other females	77.0	81.7	80.0	78.8	78.2
45-54 Married females	23.7	35.3	57.0	68.2	73.2
Other females	67.2	75.5	78.1	78.0	77.9
55-59 Married females	15.6	26.0	45.5	56.5	60.5
Other females	50.9	63.1	67.2	65.9	65.3
60-64 Married females	7.2	12.7	25.2	31.6	33.2
Other females	25.2	32.3	33.7	31.2	30.0
65+ Married females	2.7	3.4	6.5	8.5	9.5
Other females	6.4	6.9	6.3	6.1	6.0

NOTE: All historical activity rates are based on Census of Population data.
* Includes students as economically active.

As indicated above, projected activity rates for married women are based mainly on the trends shown by the annual series, including the use of cohort studies. These trends have been linked with the past series of activity rates from censuses of population so as to provide projected activity rates on that basis. Finally, the trends so obtained were modified to align them more closely with past activity rate trends shown by censuses of population.

Fig 9 underlines the consistency of the evidence about past increases in the activity rates for married women, particularly those aged over 35. When these past data are rearranged in the form of cohorts (Fig 7), grouping together married women with particular dates of births, they demonstrate the progressive rise in activity rates as each generation of women passes a particular age group. Such analyses tend to strengthen the possibility that this pattern will continue unless there is a change in the long term demand for female labour. The most recent evidence from the General Household Survey suggests the possibility of even more rapid growth in the activity rates for married women. For example, this survey suggests that activity rates for the age group 45-54 may have exceeded 60 per cent by the end of 1972.

Finally, Fig 8 shows, in cohort form, activity rates for married women from censuses of population, together with the modified projections given in Fig 9 and in the table above. The number of points over the fifty-year period is limited by the long gap between the 1931 and 1951 Censuses.

Projected activity rates for non-married women are expected to show relatively little change. Activity rates for the younger age groups, 25-34, are likely to continue the decline which began in 1961, but, in all other age groups, the projections are expected to remain fairly steady or decline slightly.

For the age groups 16-24 the charts are based entirely on census of population trends since these provide the only time series in which all students in these age groups can be included both in the numerators and denominators of the activity rate series. However, the constant or slowly changing activity rates for married women in these age groups follow a similar pattern to that suggested by the annual series.

It is recognised that the projected increases in activity rates are subject to the important, over-riding assumption that activity rates for married women will in future follow similar paths through each subsequent age group, as in the post-war period. This, in turn, implies a judgement that economic and social factors will continue to influence increasing percentages of married women to join the labour force. It is recognised that these judgements are in some sense superficial and that considerable research is needed if the underlying influences are to be fully understood. Some possible factors pointing to changes are the pattern of family building, the availability of child-care facilities, and opportunities for female employment which still show considerable regional variations. It is also apparent that increased activity rates can be achieved only if the economy continues to expand at a rate sufficient to absorb the implied increase in the labour force over the years. One factor is whether increasing opportunities for part-time work can be made

available. Another imminent change that may affect activity rate trends is equal pay, although it is not clear in which direction this will influence the trends.

The projections described in this article are necessarily based on a medium-term outlook and have not been influenced by relatively short term fluctuations in the economy.

Future updating of trends

Although the annual activity rates referred to earlier have been discontinued, it may be possible to replace them by new series based on household surveys which are more closely related, conceptually, to estimates from censuses of population. Two possible sources are the continuous General Household Survey and the 1973 EEC Labour Force Survey. In due course, the next Census of Population will provide a benchmark against which activity rate series derived from these new sources can be assessed.

Fig 1 Activity rates of women by age and marital status 1921

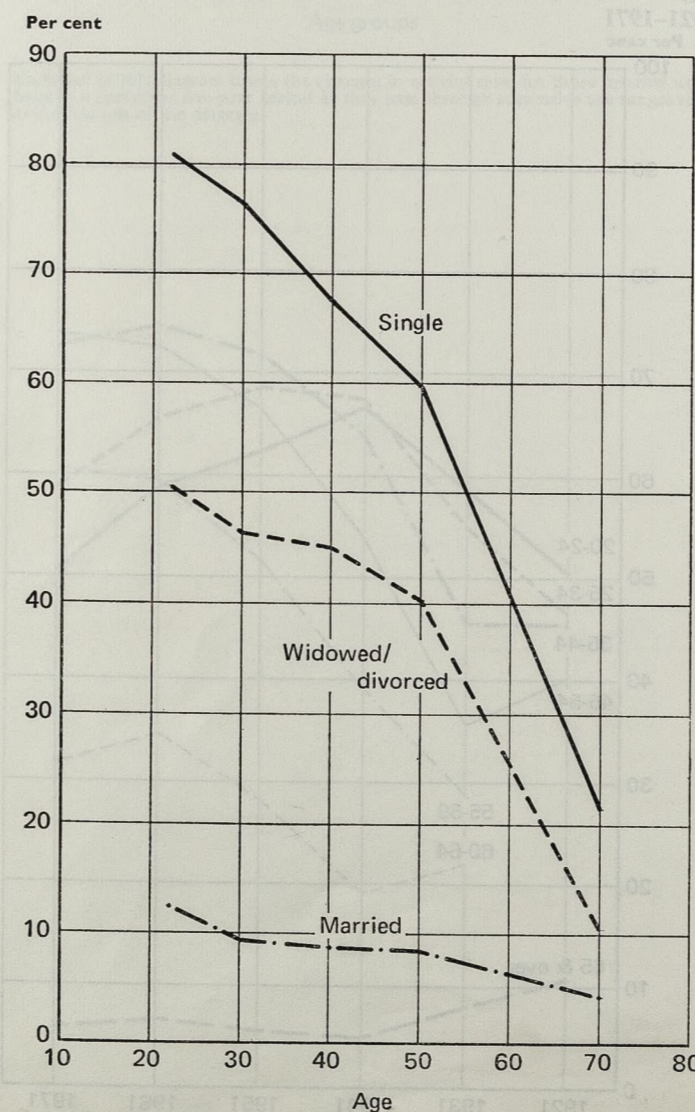


Fig 2 Activity rates of women by age and marital status 1971

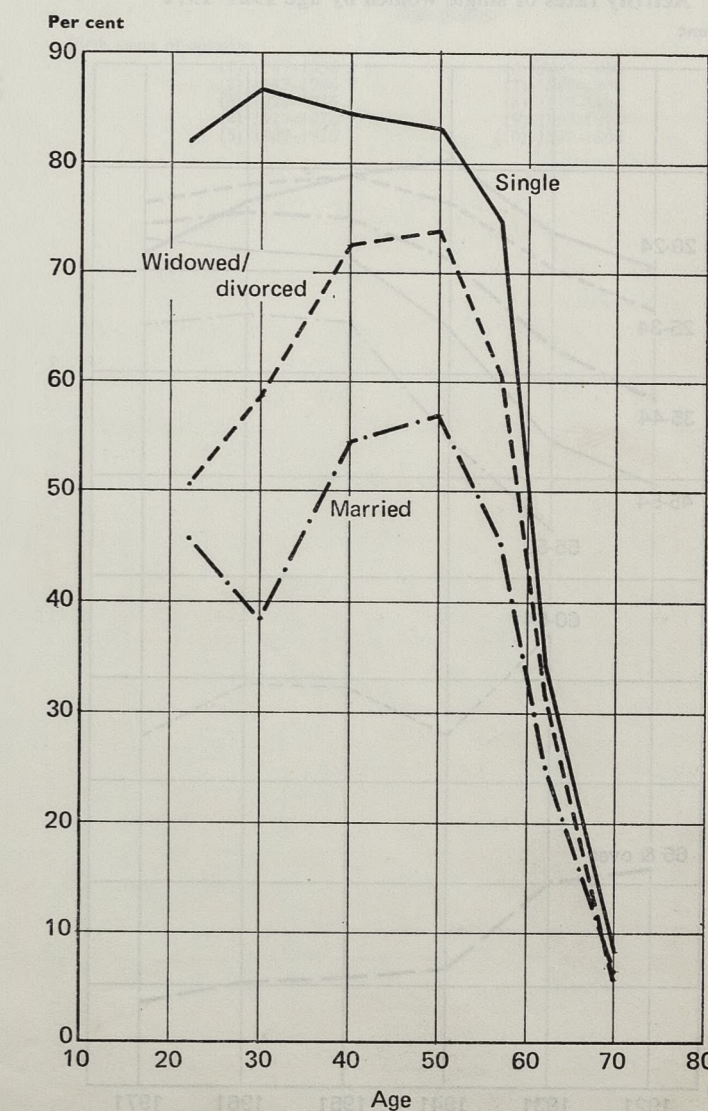


Fig 3 Activity rates of married women by age (20-44) 1921-1971

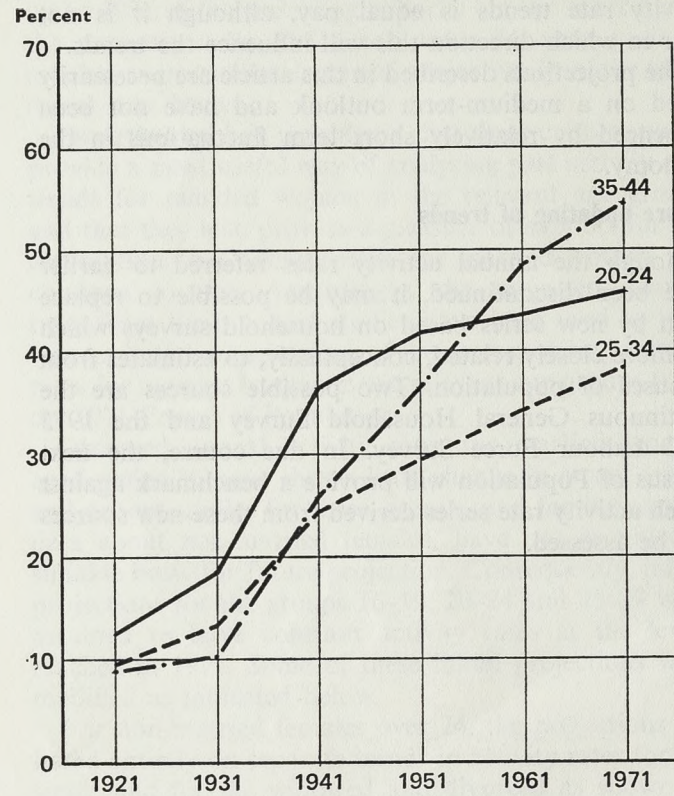


Fig 5 Activity rates of single women by age 1921-1971

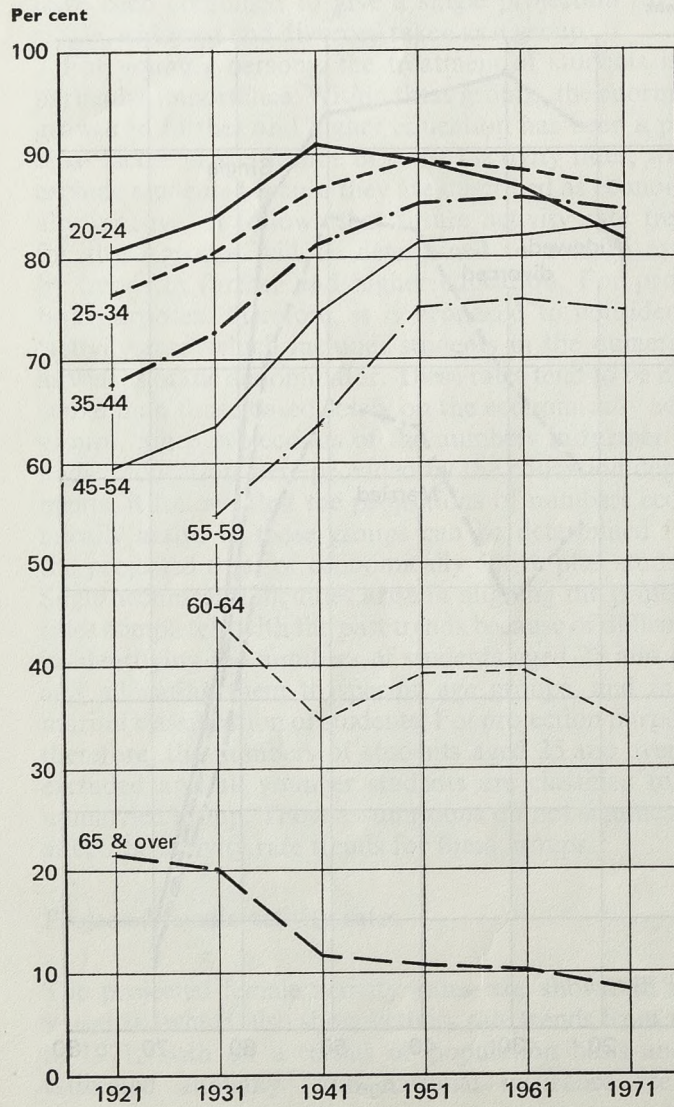


Fig 4 Activity rates of married women by age (45 and over) 1921-1971

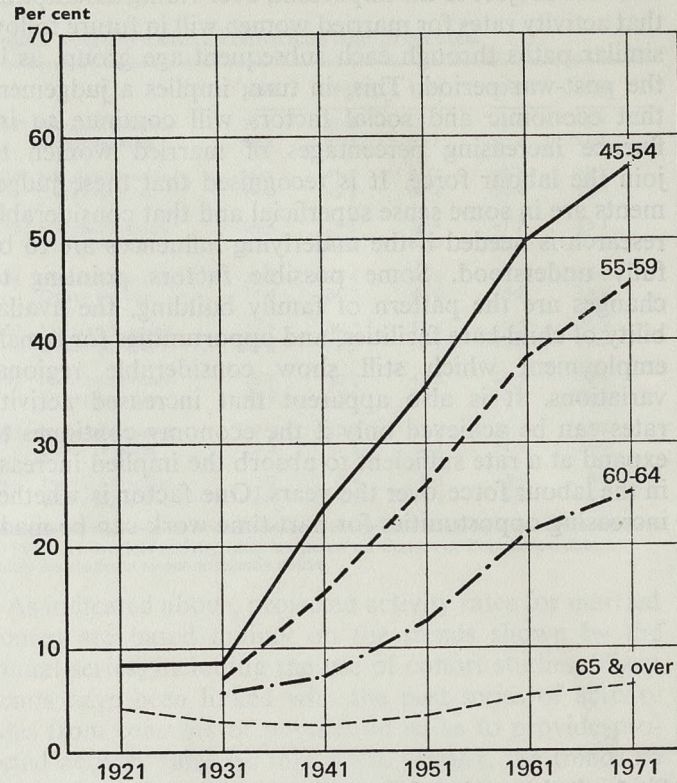


Fig 6 Activity rates of widowed and divorced women by age 1921-1971

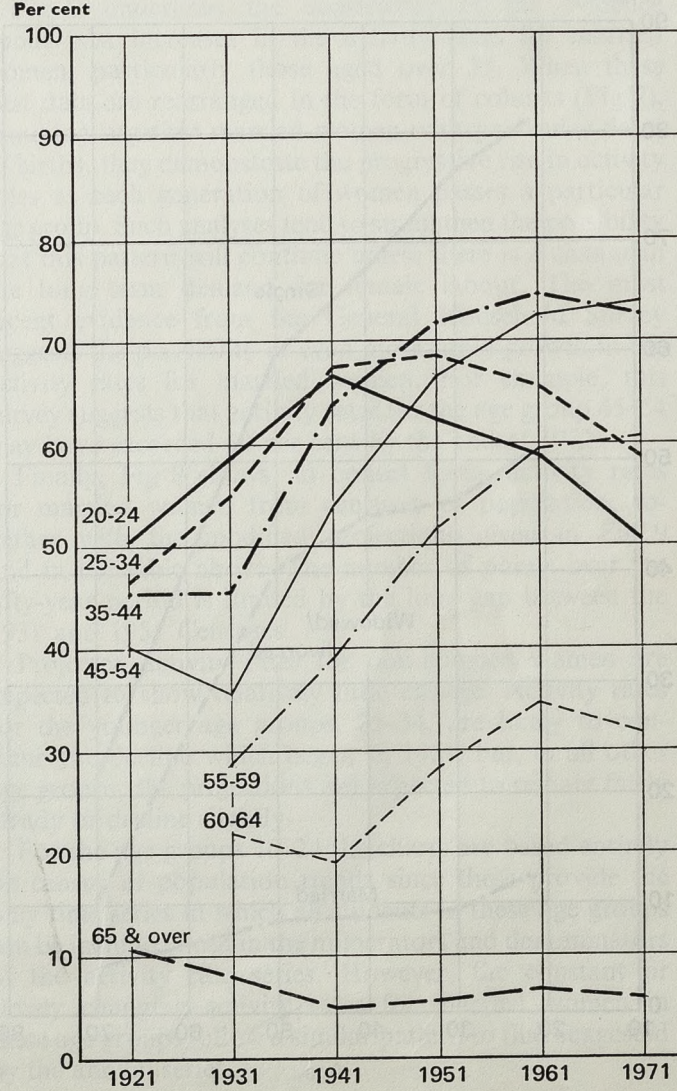
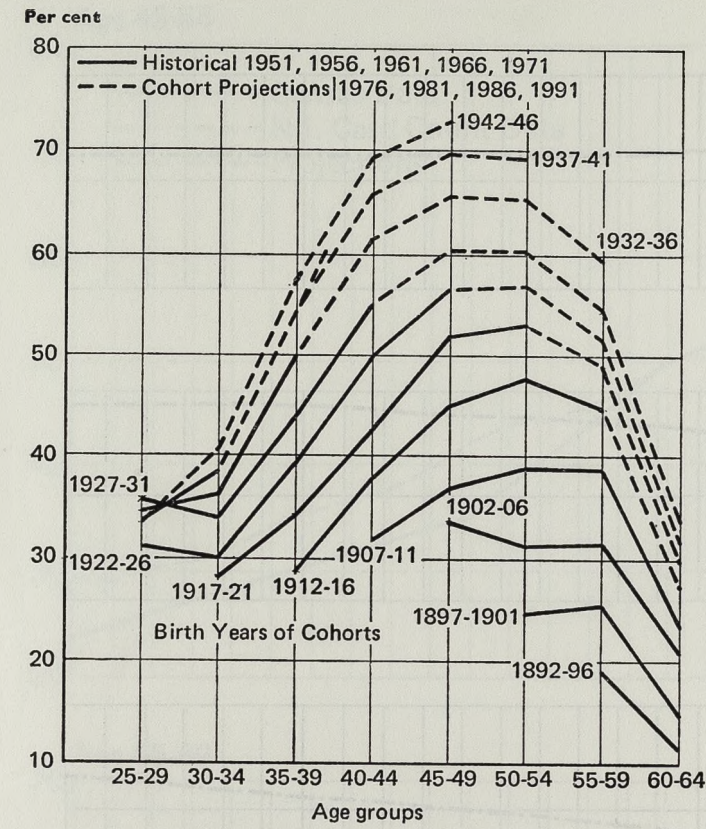
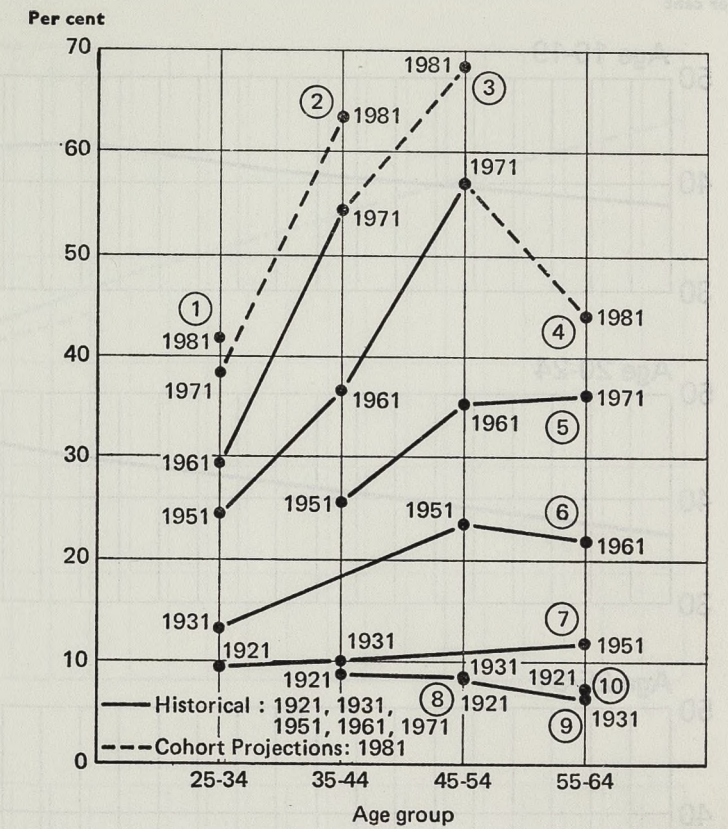


Fig 7 "Cohort" analysis of activity rates of married women: National insurance card count basis



Each line of this diagram traces the changes in activity rates for those married women born in a particular five-year period as they pass through successive age ranges shown at the bottom of the diagram.

Fig 8 "Cohort" analysis of activity rates of married women: Census of population basis



Birth years of cohorts

- (1) 1947-1956
- (2) 1937-1946
- (3) 1927-1936
- (4) 1917-1926
- (5) 1907-1916
- (6) 1897-1906
- (7) 1887-1896
- (8) 1877-1886
- (9) 1867-1876
- (10) 1857-1866

Fig 9 Activity rates 1951-1971 and projection 1971-1986: Married females

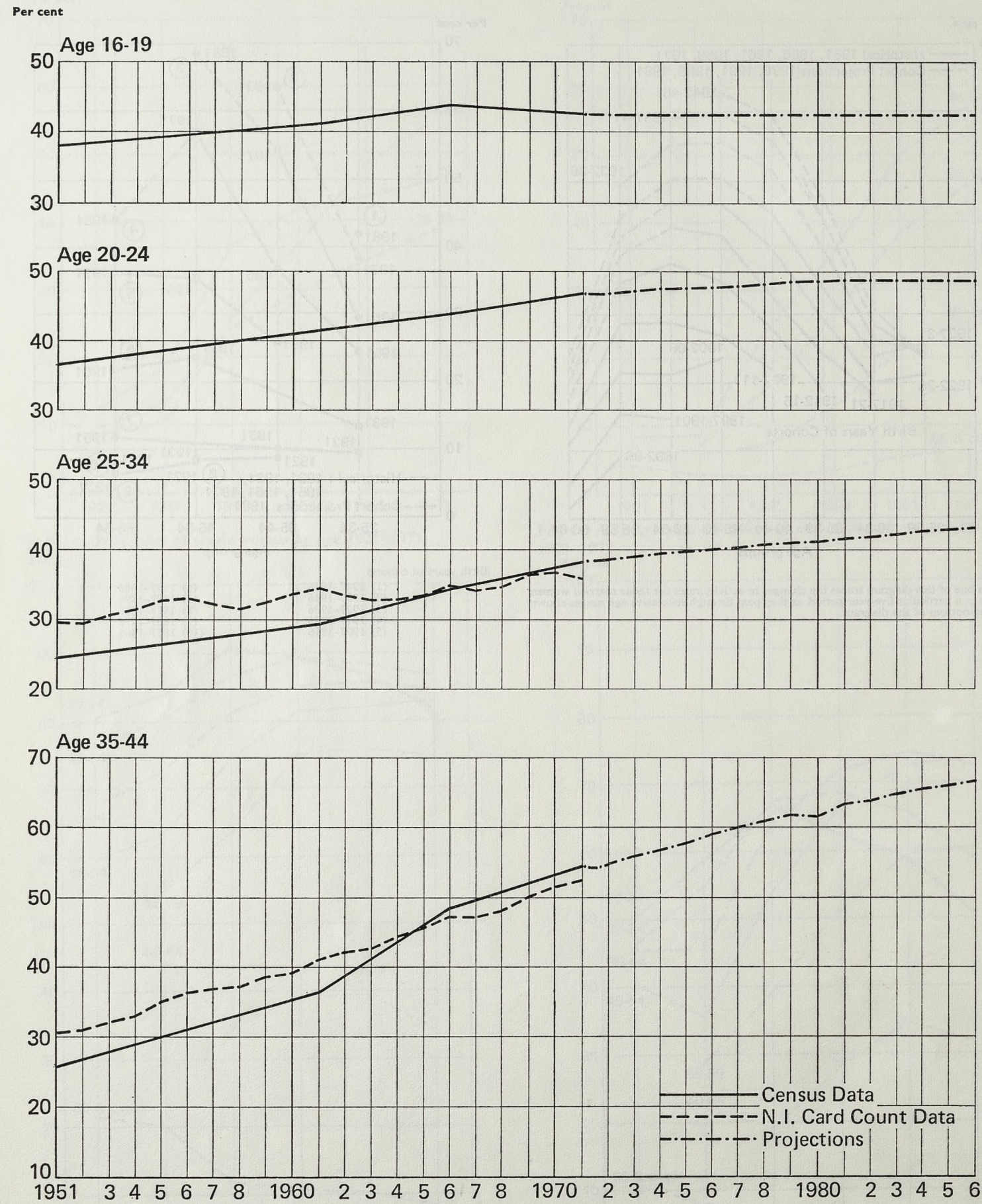


Fig 9 (continued) Activity rates 1951-1971 and projection 1971-1986: Married females

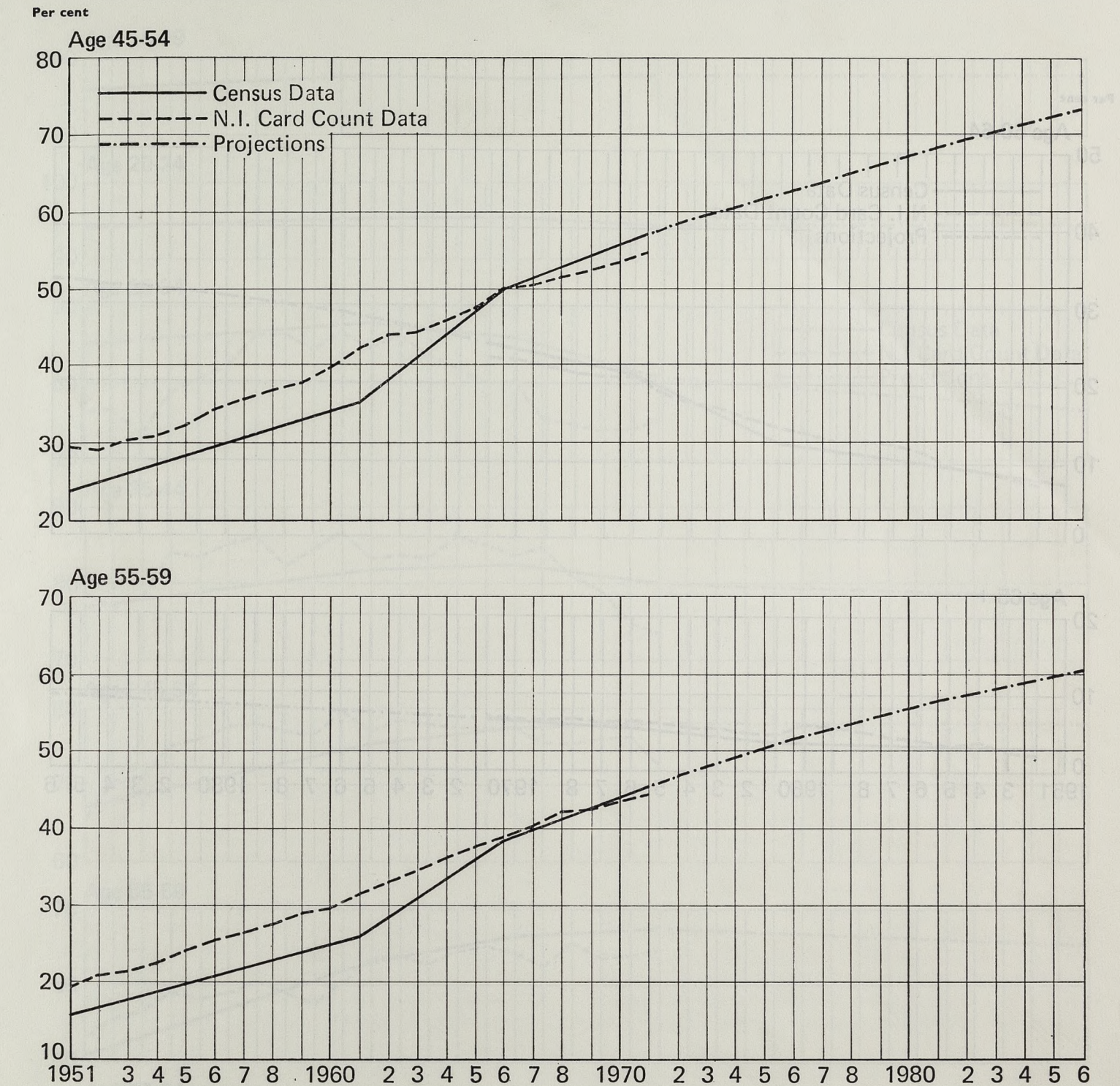


Fig 9 (continued) Activity rates 1951-1971 and projection 1971-1986: Married females

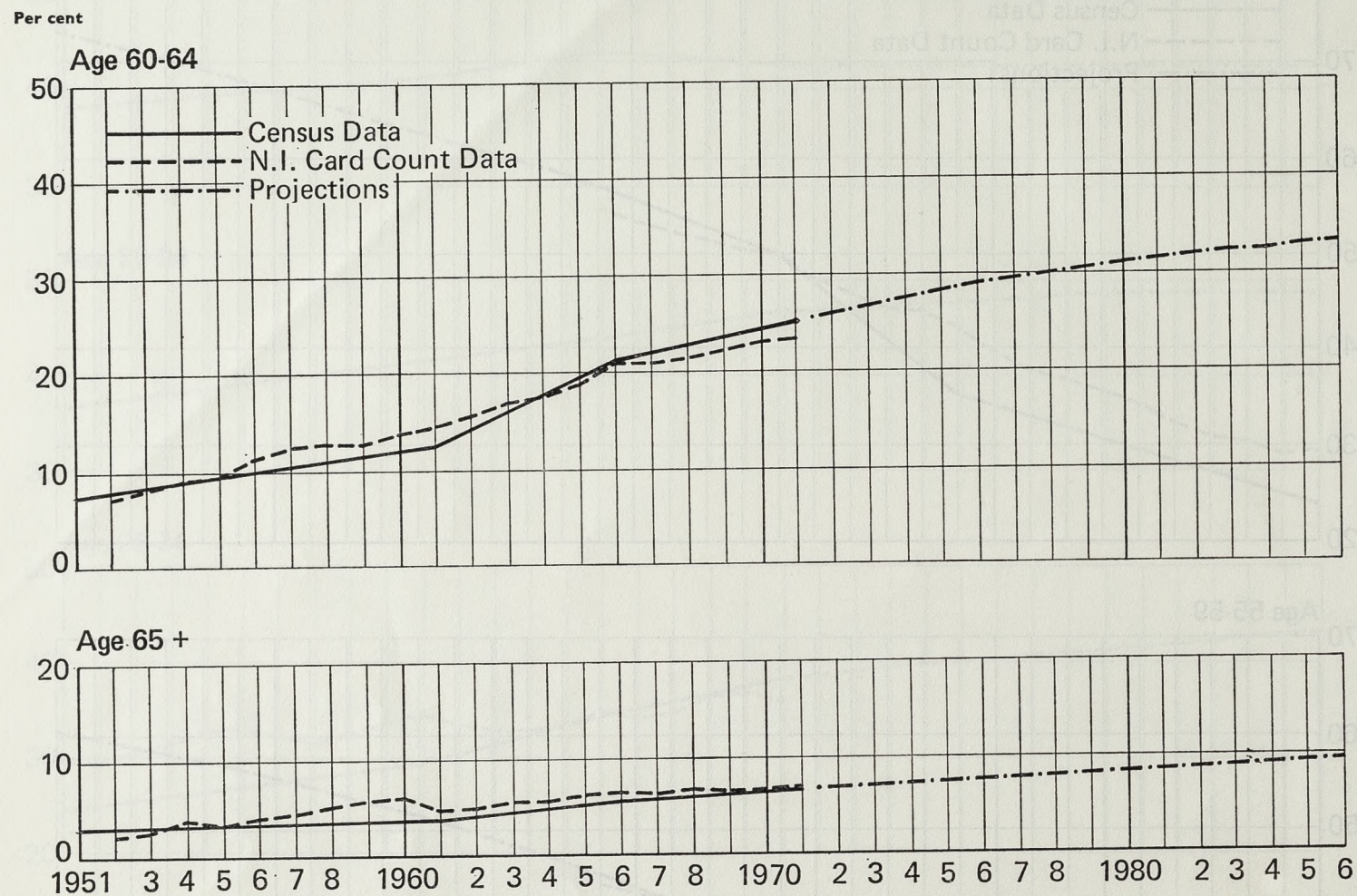
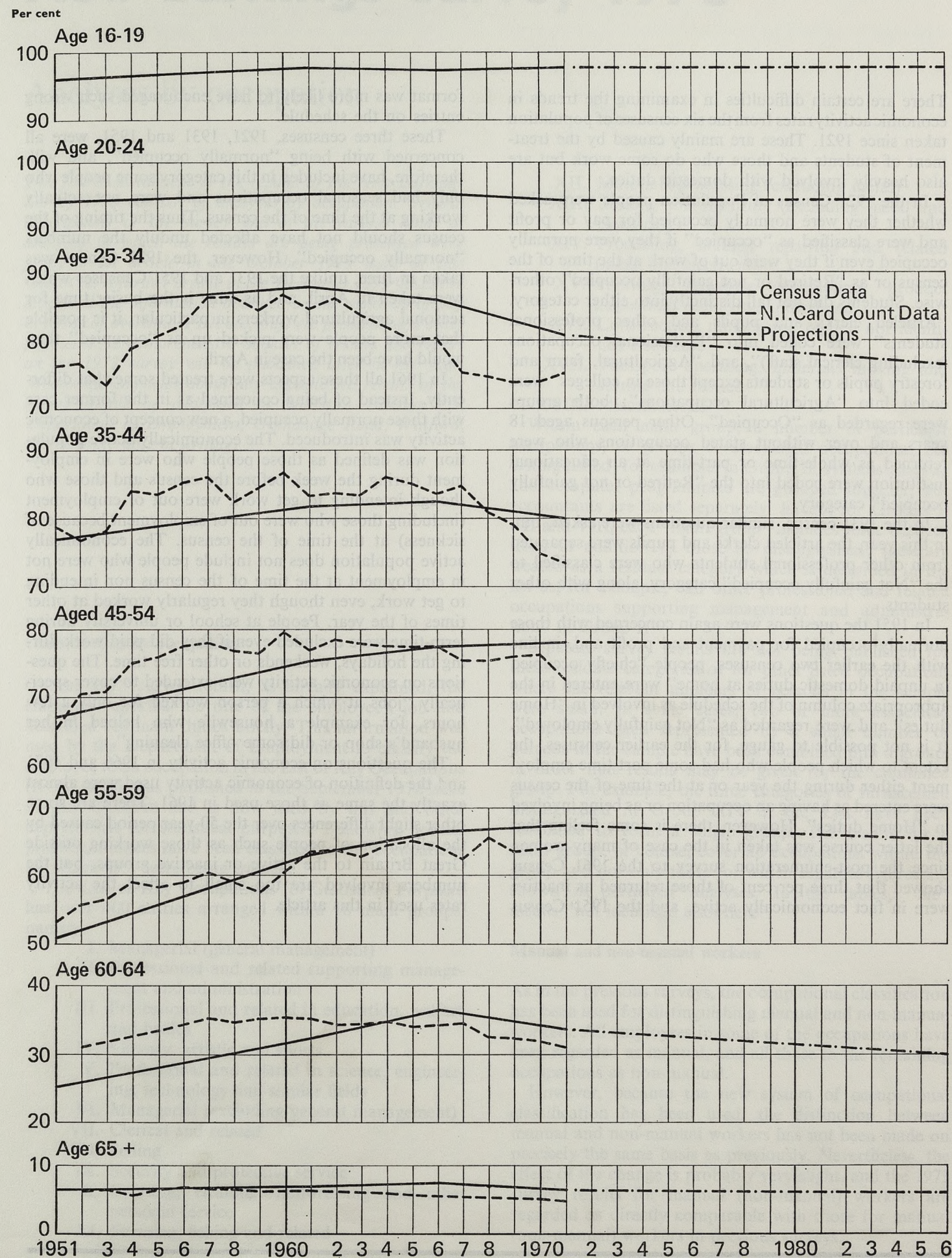


Fig 10 Activity rates 1951-1971 and projection 1971-1986: Single, widowed and divorced females



ANNEX: PROBLEMS OF INTERPRETATION OF TRENDS FROM CENSUSES OF POPULATION

There are certain difficulties in examining the trends in economic activity rates from the six censuses of population taken since 1921. These are mainly caused by the treatment of students and those who do some work but are also heavily involved with domestic duties.

In the 1921 Census of Population people were asked whether they were normally occupied for pay or profit and were classified as "occupied" if they were normally occupied even if they were out of work at the time of the census or as "Retired or not gainfully occupied" otherwise. Students did not fall distinctly into either category. "Articled clerks and pupils and other professional students" were coded into "Professional occupations (excluding clerical staff)", and "Agricultural, farm and forestry pupils or students except those in colleges" were coded into "Agricultural occupations"; both groups were regarded as "Occupied". Other persons aged 18 years and over without stated occupations who were returned as whole-time or part-time at an educational institution were coded into the "Retired or not gainfully occupied" category.

In the 1931 census, similar questions were asked, but, in this year, the articled clerks and pupils were separated from other professional students who were classified to the "Not gainfully occupied" category, along with other students.

In 1951 the questions were again concerned with those normally occupied for payment and profit and, in line with the earlier two censuses, people "chiefly occupied in unpaid domestic duties at home" were entered in the appropriate column of the schedule as involved in "Home duties" and were regarded as "Not gainfully employed". It is not possible to gauge, for the earlier censuses, the extent to which people who had some part-time employment either during the year or at the time of the census were entered as having an occupation or as being involved in "Home duties". However, there is some feeling that the latter course was taken in the case of many women since the post-enumeration survey to the 1961 Census showed that three per cent of those returned as inactive were in fact economically active, and the 1951 Census

format was more likely to have encouraged such wrong entries on the schedule.

These three censuses, 1921, 1931 and 1951, were all concerned with being "normally occupied", and will, therefore, have included in this category some people who only had seasonal occupations and were not actually working at the time of the census. Thus the timing of the census should not have affected unduly the numbers "normally occupied". However, the 1921 Census was taken in June, unlike the 1931 and 1951 Censuses which were taken in April, and as June is the busier time for seasonal agricultural workers in particular, it is possible that more people were picked up as "occupied" than would have been the case in April.

In 1961 all these aspects were treated somewhat differently. Instead of being concerned as in the former case with those normally occupied, a new concept of economic activity was introduced. The economically active population was defined as those people who were in employment during the week before the census and those who though intending to get work were out of employment (including those who were out of employment because of sickness) at the time of the census. The economically active population does not include people who were not in employment at the time of the census nor intending to get work, even though they regularly worked at other times of the year. People at school or university during term-time were excluded even if they did paid work during the holidays, weekends or other free time. The questions on economic activity were extended to cover specifically "jobs at which a person worked for only a few hours, for example a housewife who helped in her husband's shop or did some office cleaning".

The questions on economic activity in 1966 and 1971 and the definition of economic activity used were almost exactly the same as those used in 1961. There are some other slight differences over the 50-year period caused by the allocation of people such as those working outside Great Britain to the active or inactive groups, but the numbers involved are too small to affect the activity rates used in this article.

New Earnings Survey 1973

Analyses by occupation

This fourth instalment of the results of the New Earnings Survey 1973 consists of analyses by occupation. General descriptions of the survey and of the various kinds of analyses in which the results are being presented were given in an article in the October 1973 issue of this GAZETTE. A further article in the December 1973 GAZETTE described the information obtained on the make-up of pay in terms of overtime, PBR etc, shift etc premium and other payments. A comprehensive booklet of results and report on the 1973 survey will be published later in the year. Meanwhile enquiries about any unpublished results of the survey should be addressed to Statistics Division C5, Department of Employment, Orphanage Road, Watford, Herts, preferably in writing.

- XII. Materials processing (excluding metal)
- XIII. Making and repairing (excluding metal and electrical)
- XIV. Processing, making repairing and related (metal and electrical)
- XV. Painting, repetitive assembling, product inspecting, packaging and related
- XVI. Construction, mining and related not identified elsewhere
- XVII. Transport operating, materials moving and storing and related
- XVIII. Miscellaneous

Within each main group, a number of particular occupations, or groups of associated occupations, are distinguished; for example, in Group II, systems analysts and computer programmers are grouped together, but accountants are listed separately. Except for Groups I, VII and VIII, each "main group" includes some occupations in addition to those so distinguished; these are treated as a residual category which is described in the list as, for example, "all other professional and related occupations supporting management and administration" in Group II.

Separate survey results are not being published for these residual categories or for other listed occupations where the relevant numbers of persons in the sample were small. In some cases, two or more associated occupations each represented by a small number of persons in the sample have been combined into a group, in order that results may be given for the combined group. For example, the three categories of furnacemen distinguished in Group XIV in the List have been combined to form a single group. The results for a main group, of course, cover all occupations within the group and not only those for which separate figures are shown in particular analyses. In the tables, "nie" means "not identified elsewhere".

Manual and non-manual workers

As in the previous surveys, the occupational classification has been used for distinguishing manual and non-manual workers. All employees in some of the occupations have been regarded as manual, and all those in the remaining occupations as non-manual.

However, because the new system of occupational classification has been used, the distinction between manual and non-manual workers has not been made on precisely the same basis as previously. Nevertheless, the effect of the change is probably very slight, and the 1973 survey results for manual (non-manual) workers are regarded as directly comparable with those for manual (non-manual) workers in previous surveys.

Classification by occupation

On the 1973 survey return, as already explained, the employer reported the title of the employee's job and described the main duties briefly. This information was used by the Department of Employment to classify the employee to an occupation in the List of Key Occupations (KOS) which was published in the September 1972 issue of this GAZETTE and is now used by this and other departments for statistical purposes. Following normal practice, trainees have been classified to the occupations for which they were being trained.

The List of Key Occupations for Statistical Purposes has over 400 entries arranged within 18 main groups, namely

- I. Managerial (general management)
- II. Professional and related supporting management and administration
- III. Professional and related in education, welfare and health
- IV. Literary, artistic and sports
- V. Professional and related in science, engineering, technology and similar fields
- VI. Managerial (excluding general management)
- VII. Clerical and related
- VIII. Selling
- IX. Security and protective service
- X. Catering, cleaning, hairdressing and other personal service
- XI. Farming, fishing and related

Table 83 (continued) Distributions of gross weekly earnings of full-time adult women, by occupation, April 1973

(A different occupational classification was used in the corresponding 1972 survey table 81)

Table with 12 columns: Occupation (see notes), Number in sample, Percentage with weekly earnings less than (£10, £12, £14, £16, £18, £20, £22, £25, £30, £35, £40). Rows include XV Painting, repetitive assembling, product inspecting, packaging and related; XVII Transport operating, materials moving and storing and related; XVIII Miscellaneous; ALL MANUAL OCCUPATION; ALL NON-MANUAL OCCUPATION; ALL FULL-TIME WOMEN.

nie means not identified elsewhere.

Notes: 1. Results are given only for those occupations represented by at least 100 persons in the sample. Figures for a main occupational group cover all occupations within the group and not only those for which separate figures are shown in the table. 2. Corresponding quantiles are given in table 87 and means in table 81. 3. Further results for all the ranges used in table 9 of the October 1973 issue of this GAZETTE are available on request.

Table 84 Distributions of gross hourly earnings of full-time adult men, by occupation, April 1973

(A different occupational classification was used in the corresponding 1972 survey table 82)

Table with 12 columns: Occupation (note 1), Number in sample (note 2), Percentage with hourly earnings less than (50p, 55p, 60p, 65p, 70p, 75p, 80p, 90p, 100p, 125p, 150p). Rows include II Professional and related supporting management and administration; III Professional and related in education, welfare and health; V Professional and related in science, engineering, technology and similar fields; VII Clerical and related; VIII Selling; IX Security and protective service; X Catering, cleaning, hair-dressing and other personal service; XI Farming, fishing and related; XII Materials processing (excluding metals).

Table 86 (continued) Median, quartiles and deciles of gross weekly and hourly earnings of full-time adult men, by occupation, April 1973

(A different occupational classification was used in the corresponding 1972 survey table 84)

Table with 14 columns: Occupation (see notes), Gross weekly earnings (Lowest decile, Lower quartile, Median, Upper quartile, Highest decile, Standard error of median), Gross hourly earnings (Lowest decile, Lower quartile, Median, Upper quartile, Highest decile, Standard error of median). Rows include XVIII Miscellaneous, Foremen—miscellaneous, Electricity power plant operators, switchboard attendants, General labourers (including engineering, shipbuilding), ALL MANUAL OCCUPATIONS, ALL NON-MANUAL OCCUPATIONS, and ALL FULL-TIME MEN.

nie means not identified elsewhere. Notes: 1. The numbers in the sample to which the figures in this table relate are given in table 82 for gross weekly earnings and table 84 for gross hourly earnings. 2. The corresponding means are given in table 80.

Table 87 Median, quartiles and deciles of gross weekly and hourly earnings of full-time adult women, by occupation, April 1973

(A different occupational classification was used in the corresponding 1972 survey table 85)

FULL-TIME WOMEN, aged 18 and over, whose pay was not affected by absence APRIL 1973

Table with 14 columns: Occupation (see notes), Gross weekly earnings (Lowest decile, Lower quartile, Median, Upper quartile, Highest decile, Standard error of median), Gross hourly earnings (Lowest decile, Lower quartile, Median, Upper quartile, Highest decile, Standard error of median). Rows include II Professional and related supporting management and administration, III Professional and related in education, welfare and health, IV Literary, artistic and sports, V Professional and related in science, engineering, technology and similar fields, VI Managerial (excluding general management), VII Clerical and related, VIII Selling, IX Security and protective service, X Catering, cleaning, hairdressing and other personal service, XII Materials processing (excluding metals), XIII Making and repairing (excluding metal and electrical), XIV Processing, making and repairing and related (metal and electrical), XV Painting, repetitive assembling, product inspecting, packaging and related.

Table 88 (continued) Overtime hours and overtime earnings of full-time adult men, by occupation, April 1973

(A different occupational classification was used in the corresponding 1972 survey table 86)

FULL-TIME MEN, aged 21 and over, whose pay was not affected by absence APRIL 1973

Table with columns for Occupation (note 1), ALL EMPLOYEES INCLUDING THOSE WITH NO OVERTIME PAY FOR THE SURVEY PAY-PERIOD, and EMPLOYEES WHO RECEIVED OVERTIME PAY FOR THE SURVEY PAY-PERIOD. Includes rows for various occupations like Painting, Construction, Transport, etc., and summary rows for ALL MANUAL OCCUPATIONS, ALL NON-MANUAL OCCUPATIONS, and ALL FULL-TIME MEN.

nie means not identified elsewhere. Notes: 1. Results are given, in general, only for those occupations for which estimates of average hourly earnings are included in table 80, and in which overtime pay accounts for at least one per cent of average gross weekly earnings... 2. These are the actual hours (per week in the pay-period) for which the employee received overtime pay in the survey pay-period.

Table 89 Overtime hours and overtime earnings of full-time adult women by occupation, April 1973

(A different occupational classification was used in the corresponding 1972 survey table 87)

FULL-TIME WOMEN, aged 18 and over, whose pay was not affected by absence APRIL 1973

Table with columns for Occupation (note 1), ALL EMPLOYEES INCLUDING THOSE WITH NO OVERTIME PAY FOR THE SURVEY PAY-PERIOD, and EMPLOYEES WHO RECEIVED OVERTIME PAY FOR THE SURVEY PAY-PERIOD. Includes rows for various occupations like Clerical and related, Selling, Catering, etc., and summary rows for ALL MANUAL OCCUPATIONS, ALL NON-MANUAL OCCUPATIONS, and ALL FULL-TIME WOMEN.

nie means not identified elsewhere. Notes: 1. Estimates are given, in general, only for those occupations for which estimates of average hourly earnings are included in table 81, and in which overtime pay accounts for at least one per cent of average gross weekly earnings... 2. These are the actual hours (per week in the pay-period) for which the employee received overtime pay in the survey pay-period.

Table 94 (continued) Make-up of average gross weekly earnings of full-time adult men who received premium payments for shift, night and week-end work, by occupation, April 1973

FULL-TIME MEN, aged 21 and over, whose pay was not affected by absence APRIL 1973

Occupation (note 1)	Number of such employees in sample	EMPLOYEES WHO RECEIVED SHIFT ETC PREMIUM PAYMENTS FOR THE SURVEY PAY-PERIOD (note 2)											
		Make-up of average gross weekly earnings						Shift etc premium payments as percentage of average earnings less overtime pay	Percentage of the employees who received			Average weekly hours	
		Total Amount	Standard error	Overtime pay	PBR etc payments	Shift etc premium payments	All other pay (note 3)		Overtime pay	PBR etc payments	Normal basic	Overtime	
£	£	£	£	£	£	per cent	per cent	per cent					
XVIII Miscellaneous	634	40.1	0.4	5.3	3.8	5.3	25.7	15.1	51.0	56.9	40.0	5.7	
Electricity power plant operators, switchboard attendants	130	43.3	0.8	3.1	4.8	6.7	28.7	16.6	24.6	72.3	40.4	3.2	
General labourers (including engineering, shipbuilding)	295	37.5	0.6	6.0	3.6	4.6	23.3	14.7	60.7	48.1	39.5	6.6	
ALL MANUAL OCCUPATIONS	10,097	42.6	0.1	6.6	4.1	5.4	26.6	14.9	59.2	48.3	39.8	6.4	
ALL NON-MANUAL OCCUPATIONS	1,306	45.8	0.5	4.6	0.6	5.0	35.6	12.2	49.1	6.7	38.6	4.0	
ALL FULL-TIME MEN	11,403	43.0	0.1	6.3	3.7	5.3	27.7	14.6	58.0	43.6	39.7	6.2	

— means less than 0.05.
 Notes: 1. More general information about make-up of average gross weekly earnings of full-time men in these occupations, including those who did not receive shift etc premium payments, is given in table 90.
 2. Results are given for those occupations represented by at least 100 persons in the sample of whom at least 50 received shift etc premium payments, provided that the estimates of average gross weekly earnings of those receiving such payments had a percentage standard error of not more than 4.0 per cent. Figures for a main occupational group cover all occupations within the group and not only those for which separate figures are shown in the table.
 3. "All other pay" includes not only basic pay but any items other than overtime payments, PBR etc payments and shift etc premium payments.

Table 95 Make-up of average gross weekly earnings of full-time adult women who received premium payments for shift, night and week-end work, by occupation, April 1973

FULL-TIME WOMEN, aged 18 and over, whose pay was not affected by absence APRIL 1973

Occupation (note 1)	Number of such employees in sample	EMPLOYEES WHO RECEIVED SHIFT ETC PREMIUM PAYMENTS FOR THE SURVEY PAY-PERIOD (note 2)											
		Make-up of average gross weekly earnings						Shift etc premium payments as percentage of average earnings less overtime pay	Percentage of the employees who received			Average weekly hours	
		Total Amount	Standard error	Overtime pay	PBR etc payments	Shift etc premium payments	All other pay (note 3)		Overtime pay	PBR etc payments	Normal basic	Overtime	
£	£	£	£	£	£	per cent	per cent	per cent					
III Professional and related in education, welfare and health	1,277	24.0	0.2	0.1	—	2.1	21.8	8.9	4.2	0.1	39.1	0.2	
Nurse administrators and executives	190	36.5	0.5	0.2	0.0	2.5	33.7	7.0	4.2	0.0	39.7	0.3	
Registered and enrolled nurses, midwives	727	22.0	0.3	0.1	—	1.9	20.1	8.6	3.2	0.1	39.3	0.1	
Nursing auxiliaries and assistants	312	19.9	0.2	0.1	0.0	2.1	17.7	10.8	4.8	0.0	38.6	0.2	
VII Clerical and related	226	28.9	0.6	1.8	0.1	2.1	24.9	7.7	39.4	4.4	37.3	2.0	
X Catering, cleaning, hairdressing and other personal service	523	22.9	0.3	1.4	0.3	3.5	17.7	16.2	27.7	14.5	39.1	2.0	
Chefs/cooks	53	25.1	0.8	1.4	0.4	4.2	19.0	17.9	28.3	18.9	39.4	2.0	
Home and domestic helpers, maids	137	21.6	0.5	1.0	0.2	3.5	16.9	17.0	26.3	8.0	39.0	1.5	
Other cleaners	101	20.1	0.5	0.7	0.5	2.9	16.0	14.9	16.8	18.8	38.6	1.0	
XII Materials processing (excluding metals)	73	25.1	0.7	1.7	4.8	2.6	16.0	11.1	28.8	61.6	37.7	2.1	
XIV Processing, making and repairing and related (metal and electrical)	59	26.5	0.7	1.2	4.1	3.0	18.0	12.1	32.2	69.5	38.6	1.8	
XV Painting, repetitive assembling, product inspecting, packaging and related	174	26.8	0.5	1.8	1.8	3.5	19.6	14.2	27.6	39.7	38.1	1.7	
Packers, bottlers, canners, fillers	98	25.2	0.6	1.2	1.5	3.3	19.2	13.7	17.4	45.9	38.3	1.1	
XVII Transport operating, materials moving and storing and related	83	33.0	0.8	5.5	1.8	2.8	22.9	10.1	71.1	63.9	40.7	6.3	
ALL MANUAL OCCUPATIONS	973	25.1	0.2	1.9	1.6	3.3	18.3	14.2	31.9	32.9	38.9	2.3	
ALL NON-MANUAL OCCUPATIONS	1,546	25.1	0.2	0.4	—	2.2	22.5	8.8	9.9	0.9	38.8	0.5	
ALL FULL-TIME WOMEN	2,519	25.1	0.2	1.0	0.6	2.6	20.9	10.8	18.4	13.3	38.9	1.2	

— means less than 0.05.
 Notes: 1. More general information about make-up of average gross weekly earnings of full-time women in these occupations, including those who did not receive shift etc premium payments, is given in table 91.
 2. Results are given for those occupations represented by at least 100 persons in the sample of whom at least 50 received shift etc premium payments, provided that the estimates of average gross weekly earnings of those receiving such payments had a percentage standard error of not more than 4.0 per cent. Figures for a main occupational group cover all occupations within the group and not only those for which separate figures are shown in the table.
 3. "All other pay" includes not only basic pay but any items other than overtime payments, PBR etc payments and shift etc premium payments.

The new draft code is expressly aimed at designers, manufacturers importers and suppliers of machines, and urges that machines should be so constructed that they operate as quietly as is reasonably practicable, that they should be noise tested, that warning notices should be attached to machines likely to produce very high noise levels and that proper installation and operating instructions should be provided.

* DRAFT CODE OF PRACTICE FOR THE REDUCTION OF NOISE FROM NEW MACHINERY.
† CODE OF PRACTISE FOR REDUCING THE EXPOSURE OF EMPLOYED PERSONS TO NOISE: HMSO 52½p net.

TRAINING OPPORTUNITIES SCHEME

In the 13 weeks ended September 10, 1973, 11,554 persons were admitted to training under the Training Opportunities Scheme. Of the total, 10,362 were able-bodied and 1,192 disabled.

The total number in training at the end of the period was 15,637 (13,820 able-bodied and 1,817 disabled), of whom 10,138 (9,409 able-bodied and 729 disabled) were at government training centres, 3,821 (3,441 able-bodied and 380 disabled) at colleges of further education, 1,140 (970 able-bodied and 170 disabled) at employers' establishments and 538 at residential (disabled) centres.

In the quarter under review, training was completed by 10,689 persons (9,554 able-bodied and 1,135 disabled), and 8,396 (7,470 able-bodied and 926 disabled) were placed in employment.

GUIDELINES ON LONDON WEIGHTING ALLOWANCES ENQUIRY

Six major issues on which it wants to receive evidence about London weighting allowances have been identified in guidelines issued by the Pay Board.

They are:

- what kind of allowances are paid, and how do they operate?
- what kind of organisations pay—or do not pay—London allowances?
- what are the purposes for which the allowances were introduced?
- what kind of changes are needed?
- how can London allowances be developed in a continuing incomes policy?

The purpose of the guidelines is to help people prepare and submit evidence, and to

help the board to assess it. The guidelines are not intended to restrict the issues or questions people may wish to raise.

The board has been asked to review the basis of London weighting allowances, and to report to the Secretary of State for Employment by the end of June. Evidence should be submitted as soon as possible.

Anyone wishing to obtain copies of the guidelines, or to present evidence should write to the Secretary of the Pay Board, Neville House, Page Street, London SW1P 4LS.

PROTECTION OF EYES AT WORK

Special regulations for the protection of the eyes of people at work are to be made by Mr William Whitelaw, Secretary of State for Employment.

A draft of the new regulations* has been circulated for comment, and objections should be submitted in writing on or before March 15, 1974 to HM Chief Inspector of Factories, Department of Employment, 1 Chepstow Place, London W2 4TF.

These regulations will apply to people employed in factories and on construction sites, and will increase the number of processes covered by existing regulations.

They will replace the Protection of Eyes Regulations 1938, which specify a limited range of processes for which the provision of "suitable goggles or effective screens" is required by section 65 of the Factories Act 1961. Also replaced will be certain regulations for particular trades, for instance shipbuilding and foundries.

The new regulations will apply to all the processes already covered and also to a number of additional ones where there may be a risk of eye injury, for example, handling glass and the manufacture of wire rope. Protection will also be extended to people whose eyes may be at risk from a nearby process, although actually on another job.

Goggles and other personal eye protectors, as well as certain types of shields, will be required to conform with specifications approved by the Chief Inspector of Factories. This requirement will tighten up the standard of eye protectors, and the procedure for providing employees at risk with eye protectors will also be strengthened.

* HMSO 10½p

INDUSTRIAL FATALITIES AND DISEASES

In November, 37 fatalities were reported under the Factories Act, compared with 74 in October. This total included 20 arising from factory processes, 15 from building operations and works of engineering construction, and two in docks and warehouses.

Fatalities in industries outside the scope of the Factories Act included five in mines and quarries reported in the four weeks ended November 24, compared with six in the four weeks ended October 27. These five included two underground coal mine workers and two in quarries, compared with five and none a month earlier.

In the railway service there were two fatal accidents in November and three in the previous month.

In November, six seamen employed in ships registered in the United Kingdom were fatally injured, compared with two in October.

In November, 22 cases of industrial diseases were reported under the Factories Act. These comprised 18 of chrome ulceration, two of lead poisoning, one of aniline poisoning, and one of beryllium poisoning.

LEFT OVER

Because of the current shortage of paper and pressure on space certain tables have been omitted from the statistical time series in this issue. These include: tables 103 (employees in employment: industrial analysis), 104-116 (unemployment: regional analyses), 118 (unemployed: analysis by duration), 119 (vacancies notified and remaining unfilled) and 120 (overtime and short-time in manufacturing industries). The latest monthly figures for these are under the relevant subject heading in the monthly summary (pages 69-83). Other tables not published are 122, 123, 124, 125, 126, 128 and 132 (a) and (b), the latest figures for which are those which appeared in the December issue.

UNEMPLOYMENT BENEFIT

For the period of 13 weeks ended November 30, 1973 expenditure on unemployment benefit in Great Britain (excluding cost of administration) amounted to approximately £32,014,000. During the 13 weeks ended August 31, 1973, the corresponding figure was £32,190,000 and during the 13 weeks ended December 1, 1972 it was £50,426,000.

Monthly Statistics

SUMMARY

Employment in production industries

The estimated total number of employees in employment in industries covered by the index of industrial production in Great Britain at mid-November 1973 was 9,680,800 (7,178,900 males and 2,501,900 females). The total included 7,678,700 (5,338,000 males and 2,340,600 females) in manufacturing industries, and 1,315,600 (1,229,800 males and 85,800 females) in construction. The total in these production industries was 36,700 higher than that for October 1973 and 20,200 higher than in November 1972. The total in manufacturing industries was 28,700 higher than in October 1973 and 25,700 higher than in November 1972. The number in construction was 11,600 higher than in October 1973, and 24,500 higher than in November 1972.

Unemployment

The number of unemployed, excluding school-leavers and adult students seeking vacation jobs, in Great Britain on December 10, 1973 was 482,503. After adjustment for normal seasonal variations, the number was 476,400, representing 2.1 per cent of all employees, compared with 490,300 in November 1973. In addition, there were 1,793 unemployed school-leavers and 1,945 unemployed adult students, so that the total number unemployed was 486,241, a fall of 7,320 since November. This total represents 2.2 per cent of all employees.

Of the number unemployed in December, 175,502 (35.7 per cent) had been on the register for up to 8 weeks, 114,406 (23.3 per cent) for up to 4 weeks, and 70,643 (14.4 per cent) for up to 2 weeks.

Vacancies

The number of unfilled vacancies for adults at local employment offices in Great Britain on December 5, 1973 was 348,240; 14,738 lower than on November 7. After adjustment for normal seasonal variations, the number was 356,200, compared with 366,000 in November. Including 108,038 unfilled vacancies for young persons at youth employment service careers offices, the total number of unfilled vacancies on December 5 was 456,278; 21,190 lower than on November 7.

Temporarily Stopped

The number of temporarily stopped workers registered in order to claim benefits in Great Britain on December 10, 1973 was 7,994, a fall of 7,342 since November.

Overtime and short-time

In the week ended November 17, 1973 the estimated number of operatives other than maintenance workers working overtime in establishments with 11 or more employees in manufacturing industries, excluding shipbuilding and ship repairing, was 1,915,000. This is about 37.2 per cent of all operatives. Each operative worked an average of 8½ hours overtime during the week.

In the same week the estimated number on short-time in these industries was 23,100 or about 0.4 per cent of all operatives, each losing 14 hours on average.

Basic rates of wages and hours of work

At December 31, 1973, the indices of weekly rates of wages and of hourly rates of wages of all workers (July 31, 1972 = 100) were 121.0 and 121.6, compared with 120.3 and 120.8 at November 30.

Index retail prices

At December 11, the official retail prices index was 188.2 (prices at January 16, 1962 = 100), compared with 186.8 at November 13 and 170.2 at December 12, 1973. The index for food was 210.5, compared with 207.0 at November 13.

Stoppages at work

The number of stoppages of work due to industrial disputes in the United Kingdom beginning in December which came to the notice of the Department of Employment was 57, involving approximately 34,300 workers. During the month approximately 58,700 workers were involved in stoppages, including some which had continued from the previous month, and 274,000 working days were lost, including 191,000 lost through stoppages which had continued from the previous month.

STOPPAGES OF WORK

The official series of statistics of stoppages of work due to industrial disputes in the United Kingdom relates to disputes connected with terms and conditions of employment. Stoppages involving fewer than 10 workers or lasting less than one day are excluded except where the aggregate of working days lost exceeded 100. Workers involved are those directly involved and indirectly involved (thrown out of work although not parties to the disputes) at the establishments where the disputes occurred. The number of working days lost is the aggregate of days lost by workers both directly and indirectly involved (as defined). It follows that the statistics do not reflect repercussions elsewhere, that is, at establishments other than those at which the disputes occurred. For example, the statistics exclude persons laid off and working days lost at such establishments through shortages of material caused by the stoppages included in the statistics. More information about definitions and qualifications is given in a report on the statistics for the year 1972 on pages 554 to 565 of the June 1973 issue of this GAZETTE.

The number of stoppages beginning in December*, which came to the notice of the department, was 57. In addition, 63 stoppages which began before December were still in progress at the beginning of the month.

The approximate number of workers involved at the establishments where these stoppages occurred is estimated at 58,700, consisting of 34,300 involved in stoppages which began in December, and 24,400 involved in stoppages which had continued from the previous month. The latter figure includes 1,400 workers involved for the first time in December in stoppages which began in earlier months. Of the 34,300 workers involved in stoppages which began in December, 32,600 were directly involved and 1,700 indirectly involved.

The aggregate of 274,000 working days lost in December includes 191,000 days lost through stoppages which had continued from the previous month.

Causes of stoppages

Principal cause	Beginning in December 1973		Beginning in the first twelve months of 1973	
	Number of stoppages	Number of workers directly involved	Number of stoppages	Number of workers directly involved
Pay—wage-rates and earnings levels	29	27,300	1,356	706,200
—extra-wage and fringe benefits	1	100	92	35,100
Duration and pattern of hours worked	—	—	73	12,700
Redundancy questions	2	400	86	40,700
Trade union matters	5	1,400	231	73,300
Working conditions and supervision	6	1,300	234	51,900
Manning and work allocation	1	†	388	93,700
Dismissal and other disciplinary measures	13	2,100	383	79,900
Miscellaneous	—	—	11	3,500
Total	57‡	32,600	2,854	1,096,800

Duration of stoppages ending in December

Duration of stoppage in working days	Number of stoppages	Workers directly involved	Working days lost by all workers involved
Not more than 1 day	8	18,900	19,000
Over 1 and not more than 2 days	14	4,500	6,000
Over 2 and not more than 3 days	13	5,000	9,000
Over 3 and not more than 6 days	18	3,300	21,000
Over 6 and not more than 12 days	16	4,200	77,000
Over 12 days	28	10,500	211,000
Total	97	46,300	342,000

* The figures for the month under review are provisional and subject to revision; those for earlier months have been revised where necessary in accordance with the most recent information. The figures have been rounded to the nearest 100 workers and 1,000 working days; in the tables the sums of the constituent items may not, therefore, agree with the totals shown.

† Less than 50 workers.

‡ Includes two stoppages involving "sympathetic" action.

STATISTICS FOR 1973

A summary of the provisional statistics of stoppages of work in 1973, with comparative figures for 1972, is given in the article on pages 61 and 62 of this GAZETTE.

BASIC WEEKLY RATES OF WAGES, NORMAL WEEKLY HOURS AND BASIC HOURLY RATES OF WAGES

The statistical tables in this article relate to changes in basic rates of wages or minimum entitlements and reductions in normal weekly hours, where these are the outcome of centrally determined arrangements, usually national collective agreements or statutory wages regulation orders. In general, no account is taken of changes determined by local negotiations at district, establishment or shop floor level. The figures do not, therefore, necessarily imply a corresponding change in the local rates or actual earnings of those who are being paid at rates above the basic or minimum rates. The figures are provisional and relate to manual workers only.

Changes in rates of wages and normal hours of work are subject to the government's counter-inflation legislation.

Indices

At December 31, 1973 the indices of changes in weekly rates of wages, of normal weekly hours and of hourly rates of wages for all workers, compared with a month earlier, were:

ALL INDUSTRIES AND SERVICES

Date	Indices July 31, 1972 = 100			Percentage increase over previous 12 months	
	Basic weekly rates	Normal weekly hours	Basic hourly rates	Basic weekly rates	Basic hourly rates
1973 November 30	120.3	99.6	120.8	11.4	11.6
1973 December 31	121.0	99.6	121.6	11.9	12.2

Notes: 1. The full index numbers and explanatory notes are given in table 130.
2. The November figures have been revised to include changes having retrospective effect.

Principal changes reported in December

Brief details of the principal changes, with operative dates, are set out below:

Agriculture—Scotland: Increases of amounts ranging from £1.40 to £1.55 a week according to occupation, for women employed by the week or longer period, of 2p an hour for men and 6p an hour for women employed by the day or hour. Reduction in the current average working week of two hours (December 3).
Local authorities—school meals service, etc—England and Wales: Increases of amounts ranging from 72p to 83p, according to occupation, for adult workers, with proportional amounts for young workers (September 3).
Health services—GB: Standard rates increased by £2.40 a week for adult men and £2.16 for adult women with proportional amounts for young workers (beginning of the pay week containing December 13).
Laundering (Wages Council)—GB: Increases in general minimum time rates of 4.15p an hour for adult workers with proportional amounts for young workers (December 10). Increase of 1.25p an hour for adult females when engaged on women's work (December 24).
Local authorities' services (manual workers)—GB: Increases in basic weekly rates of £2.32 for men 19 and over and £2.14 for women 19 and over, with proportional amounts for young workers (November 7).

Full details of changes reported during the month are given in the separate publication CHANGES IN RATES OF WAGES AND HOURS OF WORK.

The changes in monetary amounts represent the increases in basic full-time weekly rates of wages or minimum entitlements only, based on the normal working week, that is excluding short-time or overtime.

Estimates of the changes reported in December indicate that the basic weekly rates of wages or minimum entitlements of about 1,360,000 workers were increased by a total of £2,240,000 but, as stated earlier, this does not necessarily imply a corresponding change in "market" rates or actual earnings. For these purposes, therefore, any general increases are regarded as increases in basic or minimum rates. The total estimates, referred to above, include figures relating to those changes which were reported in December, with operative effect from earlier months (935,000 workers, £1,480,000 in weekly rates of wages). Of the total increase of £2,240,000 about £2,055,000 resulted from arrangements made by joint industrial councils or similar bodies established by voluntary agreement, and £185,000 from statutory wages regulation orders. During December about 41,000 workers had their normal weekly hours reduced by two hours.

The various tables analysing the changes between January and December 1973 appear in the article "RATES OF WAGES AND HOURS OF WORK IN 1973" on pages 57 to 60 of this issue.

Changes in holidays-with-pay arrangements

Increases in annual holiday entitlements include the following:

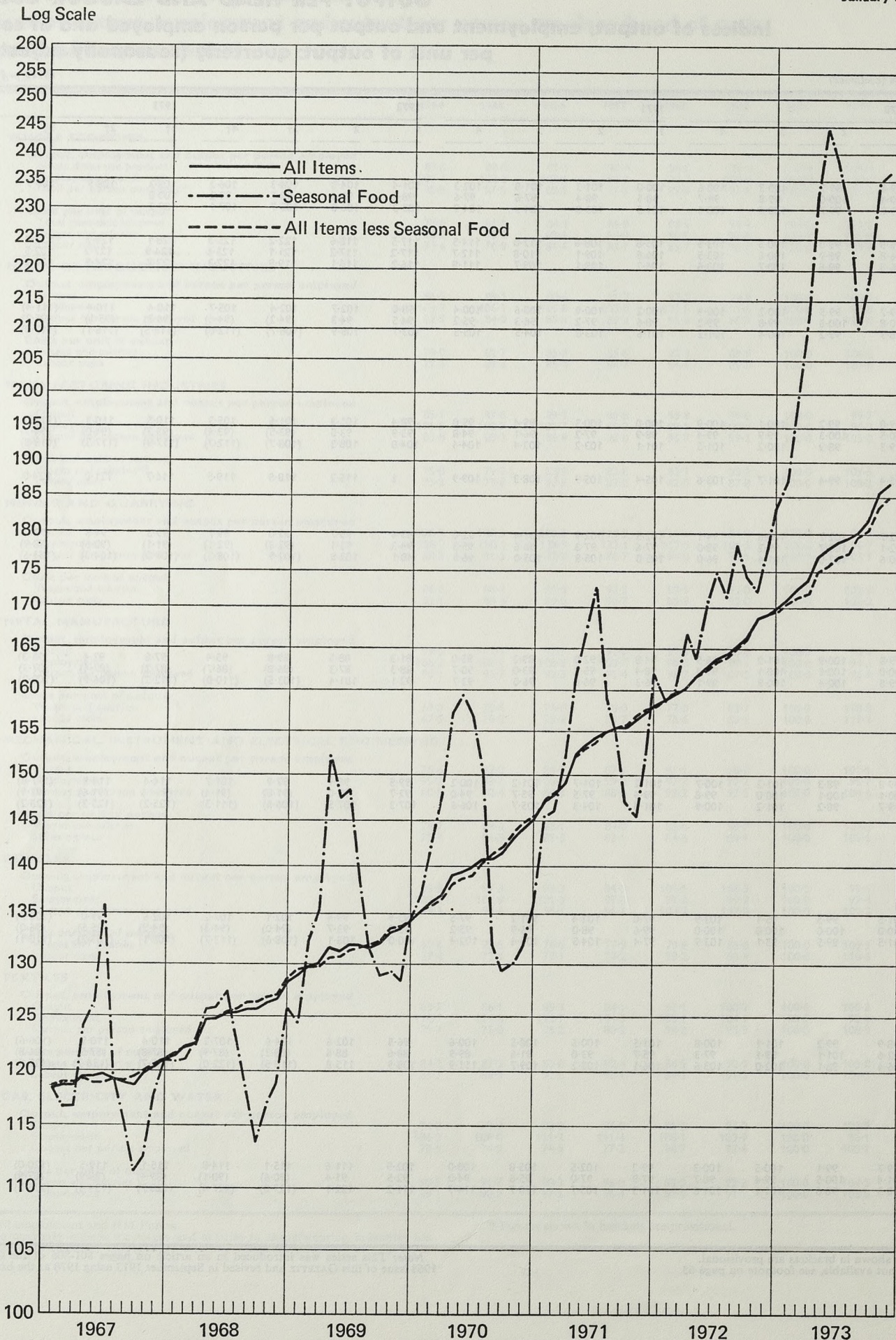
Aerated waters manufacture—(Wages Council) Scotland: Qualifying period for the long service annual holiday reduced to 12 months immediately preceding April 1, 1974 and April 1 in each succeeding year.
Road haulage (Wages Council) NI: Qualifying service for three weeks' annual holiday reduced to 12 months continuous employment with the same employer on January 1, 1973 and in each succeeding year on January 1.

It is estimated that about six per cent of all manual workers are now entitled to a basic annual paid holiday of two weeks, about nine per cent to between two and three weeks, 36 per cent to three weeks, 45 per cent to between three and four weeks and the remaining four per cent to holidays of four weeks or more.

In addition, about 13 per cent of all manual workers are engaged in industries and services in which there is provision for additional days of holiday after a certain number of years' continuous service with the one employer.

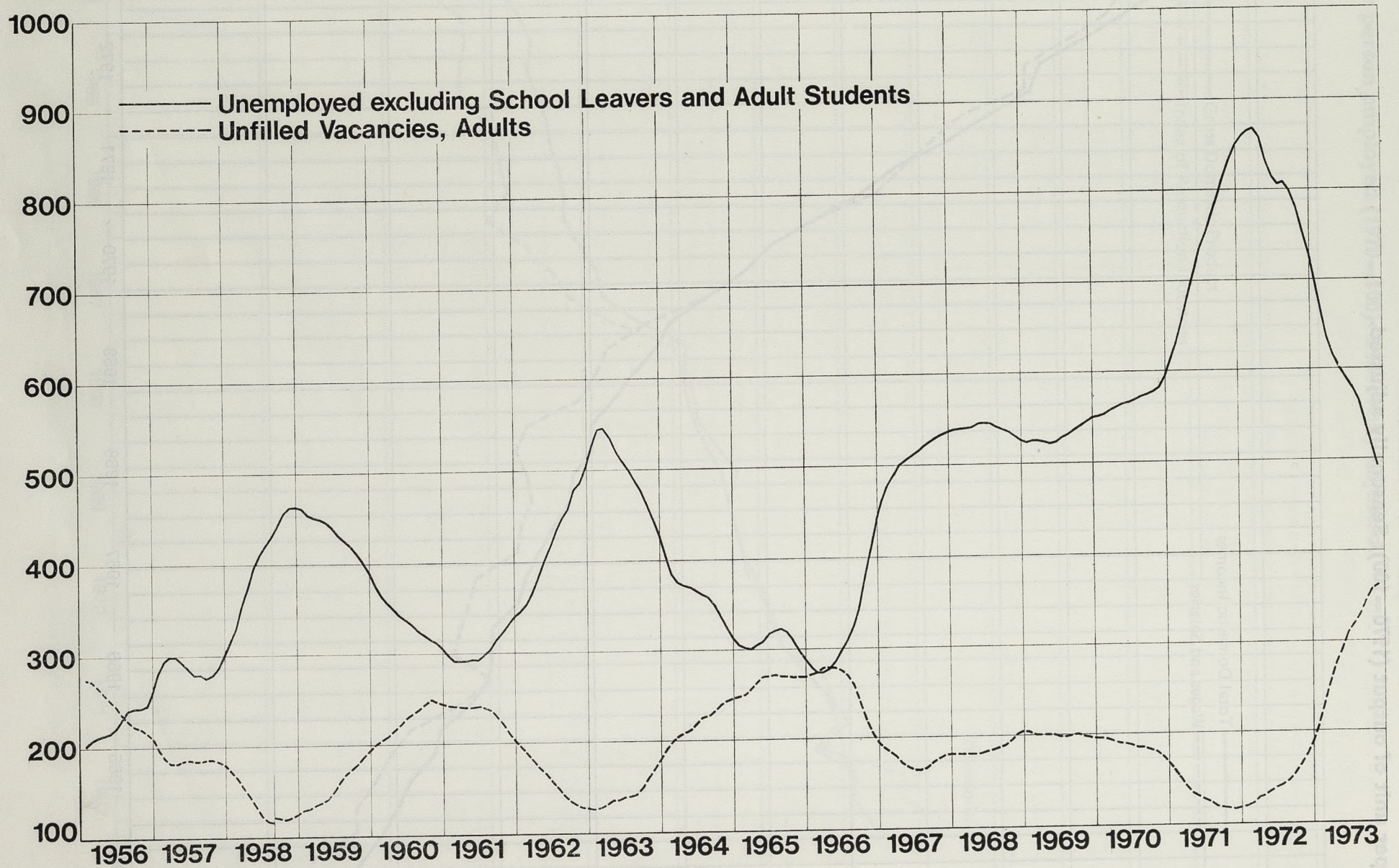
Index of retail prices

January 1962 = 100



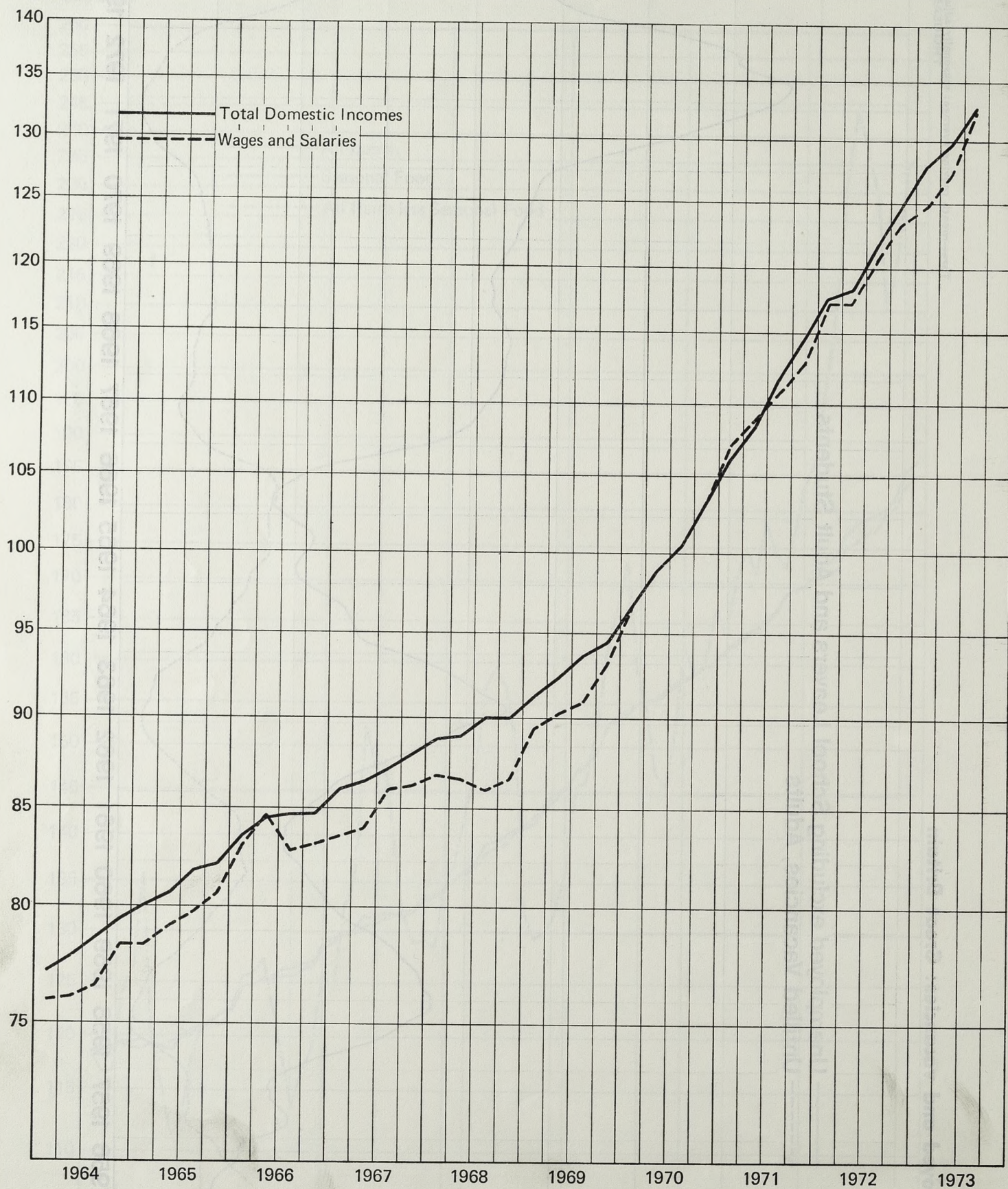
Unemployed and vacancies: Great Britain

Three-month moving average: seasonally adjusted
THOUSANDS



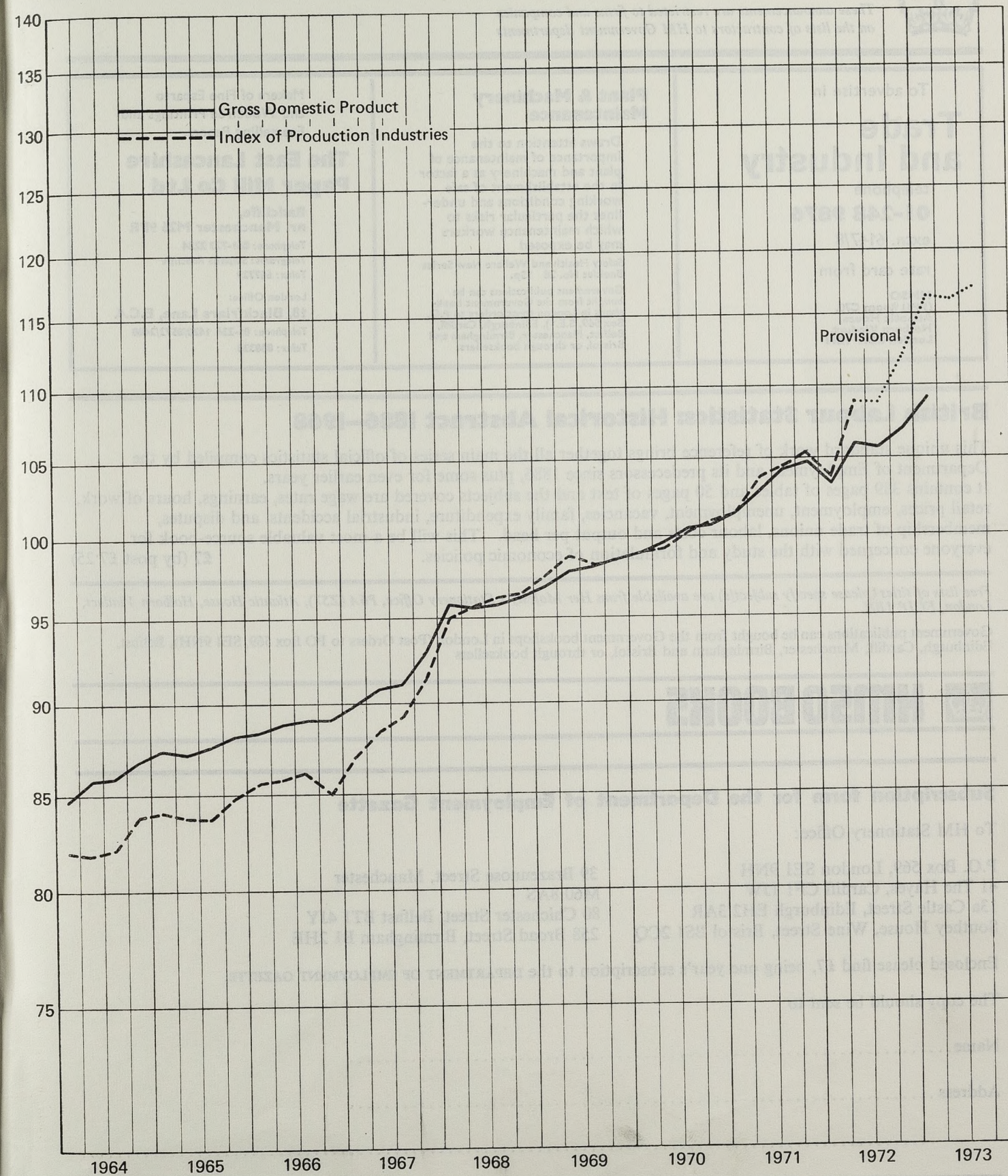
Costs per unit of output (1970=100): Seasonally adjusted.

Log Scale



Output per person employed (1970=100): Seasonally adjusted.

Log Scale





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