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SUMMARY VARIABLES FOR EMPLOYMENT HISTORY

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Summary

The paper describes the derivation of summary measures of employment, unemployment and economic inactivity.

Difficulties arise from the incompleteness of the employment histories especially with regard to the part-time employment of the 15.5 per cent of the cohort with more than four jobs. This introduces a bias against minimum age school leavers, frequent job changers and women which ramifies through a variety of measures. Further problems are found in relation to "fill-in time" and rounding error. Much computational effort has been put into trying to circumvent these problems, but there is a limit to what can be achieved.

One consequence is that there is no single time base which is fully appropriate as a proportion of which time in, for example, employment or unemployment can be expressed.

Distributions are given on a selection of the measures which have been computed. These have very different characteristics: some are skewed, some U-shaped, others roughly normal. Some are heavily censored; others less so. A variety of measures will need to be examined if an accurate picture of the work experience of the cohort is to be given.

Some computational problems will be eased by the development of a data structure in which the sequence of events can be readily determined.

Introduction

1. The purpose of this paper is not to present substantive findings, but to give an account of the basic summary measures which have been computed for the analysis of employment histories.

2. The paper is divided into two parts. Part A describes the characteristics of the most important summary measures and gives distributions on some of them. Part B gives precise definitions of all of the variables.

3. The variables computed so far are restricted to measures of employment, unemployment and economic inactivity. The education history data are more awkward to handle because of the problem of dealing with full-time courses entered after first leaving full-time education, and will be discussed in a later paper.

Incompleteness of the data

4. The most serious difficulties in summarising the employment history data arise from their incompleteness. Start and end dates are coded in the questionnaire for no more than four events of any one type, be they jobs, periods of unemployment or spells out of the labour force (OLF), although start and end dates of additional events are recorded uncoded in the diary, together with information on whether any jobs were full-time or part-time. For those with more than four events of any one type only a very limited set of summary variables have been coded from the diary: the total number of jobs, periods of unemployment and spells OLF, the total duration of full-time jobs, unemployment and time OLF, and the duration of the longest period of unemployment. The incompleteness affects a significant proportion of the sample: 15.5 per cent have more than four jobs, 1.7 per cent more than four spells of unemployment, and 0.2 per cent more than four spells OLF.

5. This incompleteness introduces a bias into the data. It affects disproportionately the frequent job changers, the minimum age school leavers who have been longest in the labour market, and, because total time in only full-time and not in part-time jobs is recorded, it affects women disproportionately.

6. The effects of the incompleteness ramify through a whole range of measures. For example, because for those with more than four jobs only the total time in full-time jobs and not part-time jobs is coded, it is not possible to calculate directly for this group the total time in employment, and hence the total time economically active, which is the sum of time in employment and time unemployed. Nor do we have a straightforward measure of total time economically inactive, which is most simply defined negatively as the time during which the respondent is not economically active. Again, because we have the total number of full-time and part-time jobs, we are not able to compute mean job length, or even the mean length of full-time jobs.

7. Wherever possible in the derivation of summary measures rules are adopted to fill in missing information for those with more than four jobs[1]. However these rules usually incorporate assumptions which themselves introduce error. Moreover, there comes a point where the computing involved becomes so complex that it is itself liable to undetected errors, and the gain in information does not justify the computing effort.

Further problems of measurement

8. Additional difficulties arise because the diary allows for periods of "fill-in time", which is defined as work between school and further education where the respondent entered further education in the same year as leaving school, work taken by students waiting to take up a job already offered, casual jobs of non-students while on holiday, and periods of at least one month in a series of short term jobs. Although recorded in the diary, such periods were not coded in the questionnaire. This means that it is not possible to determine for those with more than four jobs whether months unaccounted for in the employment history were occupied by a fifth or subsequent job or by fill-in time. Indeed, even for those with four or fewer jobs we cannot say whether any gaps in the history are due to fill-in time or to errors in transcribing dates.

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1 See for instance the derivation of JOBTIME2 in Part B.

9. There is a further problem which stems from the way in which start and end dates were recorded; this is the problem of rounding error. Compare two hypothetical histories covering the period August 1st to November 30th. Respondent A started a job on the earlier date and left it on the later. His time in that job is calculated to be eleven minus eight; in other words only three months out of the four are accounted for. Respondent B, on the other hand, began a job on August 1st which he left on September 6th. He was unemployed from September 7th to September 28th, and began a second job which he in turn left on November 6th; he was then unemployed again from November 7th to November 28th. When the durations of the two unemployment periods and the start and end dates of the jobs are coded in the questionnaire, this person appears to have been unemployed for two months and in jobs for three: that is, five months out of the available four months are accounted for. Though this problem may appear trivial, when rounding error is accumulated across several jobs and spells of unemployment it can sum to a considerable block of time and has made it difficult in a number of cases both to check dates and to disentangle the effects of the incompleteness of the data.

Time base measures

10. One of the consequences of the problems described above is the lack of any really appropriate time base in terms of which durations of various kinds can be expressed. Because the sample is all of the same age, the total number of months spent in employment, for example, is itself of some interest, but a total time in employment of 24 months clearly has a very different significance for a young woman who left university at the age of 21 from that which it has for a woman who left full-time education when she was 16. In order to understand these differences, time in employment must be expressed as a proportion of something else. Several candidates present themselves for this role, but none is fully satisfactory.

11. The difference between the date of interview and age of first leaving full-time education (CTAETOIV) is one possibility. This is a useful measure, but suffers from two problems. First, there may have been one or more jobs, periods of unemployment or spells OLF lasting up

to five months before the date of first leaving full-time education[1]. Second, the respondent may have undertaken one or more full-time education courses after first leaving full-time education, and given the way the data base is structured at the moment it is difficult to take these into account without a great deal of computing effort.

12. Another possibility is to define total time economically active by subtracting total months OLF (OLFTIME) from the difference between the first legal school leaving date and the date of interview. The difficulty with this is that it gives only a partial account of time spent economically inactive: note would still have to be taken of full-time education courses, both before and after the date of first leaving full-time education, and there is no way of adding in fill-in time. For this reason this method has not been used.

13. A third approach is to define economically active time as the sum of time in employment and time unemployed. This is the tactic which has been adopted in the calculation of ECACTIM1. The main problem is the amount of missing information on total time in employment stemming from the lack of information about part-time jobs for those with more than four jobs. Because of this a second version has been calculated, ECACTIM2, which takes total time in full-time jobs as a proxy for time in full-time and part-time jobs for those who have missing information on the latter. Doing this reduces missing information to negligible proportions but introduces an element of error into the measure whose size it is impossible to estimate.

14. Table 1 shows the characteristics of the three base measures which have been used: CTAETOIV, ECACTIM1 and ECACTIM2. As would be expected, the mean value of CTAETOIV is somewhat greater than that of ECACTIM1; its standard deviation is also smaller. ECACTIM1 and ECACTIM2 have very similar means and standard deviations.

15. Because no one time base measure available to us is fully satisfactory, most proportions summarising the employment history data have been

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1 See Note 1 to Part B.

computed in three versions using the three different bases shown in Table 1[1] .

Measures of time in employment

16. The most important measures of time in employment, by which is meant time in both full-time and part-time jobs, are listed in Table 2. On most of these measures, with the exception of total number of jobs (NEWN4144) and months in current job (CURRJOB), there is a large amount of missing information.

17. Distributions by sex on some of these variables are shown in Figures 1 to 5. It will be noted that the distributions are of very different shapes: total number of jobs (NEWN4144) is skewed to the right hand side, total months in jobs (JOBTIME2) to the left. Mean job length (MEANJOB) and time in current job (CURRJOB) are roughly U-shaped,[2] while months in longest job (LNGSTJOB) has the only distribution which in any way resembles the normal. The techniques used to examine the relationships between these variables should be chosen with care.

18. Although all the measures are censored in the sense that they represent only a fragment of the respondent's total work history up to his final departure from the labour market, some are more obviously censored than others. For example, while the total number of jobs (NEWN4144) might be regarded as a complete record for the years between 16 and 23, months in longest job (LNGSTJOB) is censored in that the current incomplete job might at some future date turn out to be longer than any job held previously. This aspect should also be taken account of in analysis.[3]

19. The sex differences observable in the graphs illustrate some of the varying aspects of job histories that can be examined by the choice of different but related measures. Women in the sample are less likely than men to have had only one job (Fig. 1); they are more likely than men to have had two, three or four jobs but less likely to have had more than four, so that overall their mean number of jobs

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1 For example, PROPJOB1, PROPRJOB2 and PROPJOB3.

2 Due to censoring of the data.

3 Special techniques are needed to handle censored data such as survival analysis and event history analysis.

is only slightly below the mean for men. Despite this, they have spent in general considerably fewer months than men in employment (Fig.2); thus their longest job is likely to be shorter than a man's (Fig.3) and their mean job length is also less (Fig.4). However, when it comes to months in current job (which is not computed for those not currently in employment) it is only at the extremes of the distributions amongst those who have been in their current job either a very long or a very short time that there is a noticeable difference between the sexes (Fig.5).

Measures of time in full-time jobs, part-time jobs, unemployment and economic inactivity

20. Details of the key measures computed to summarise these aspects of employment histories are given in Tables 3 to 6. Figures 6 to 10 illustrate some of the more interesting among them.

Conclusion

21. The decision not to code complete employment histories for the full sample has had unfortunate consequences for the quality of the data available, although with effort some of the missing information can be retrieved. The data however will always contain biasses against certain groups.

22. Different measures of the same phenomenon, for example time in employment, have different statistical properties which must be taken account of in analysis. In order to gain a thorough understanding of a given phenomenon, several measures may have to be used.

23. Some of the computational difficulties in handling the data will be overcome when we have established a data structure which orders events in a single time sequence, describing the main economic activity in each month between first legal school leaving date and the date of interview. This data structure, which is a simple extension of lengthy programming work already done for checking dates[1], will have several advantages. It will simplify considerably

1 By Chris Burge.

the derivation of variables which involve the sequence of events, for example time in employment since marriage or since the birth of the first child. It makes it feasible to take account of full-time education causes after the date of first leaving full-time education and thus to derive better base measures than are now available to us. It will also enable us to take account of economic activity before first leaving full-time education and thus to improve the accuracy of our measures.

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3 Measures of time in full-time jobs

4 Measures of time in part-time jobs

5 Measures of unemployment

6 Measures of time out of the labour force (OLF) and economic inactivity

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Summary variables for employment history data

Part A: Characteristics of summary variables

Table 1 : Time base measures

variable	definition	mean	s.d.	N good values	N missing values	N not applicable
CTAETOIV	Total months between first leaving full-time education and interview	75.1	21.0	12496	42	0
ECACTIM1	Total months economically active defined exactly	65.0	26.5	12079	459	0
ECACTIM2	Total months economically active defined approximately	65.0	26.3	12486	52	0

Table 2 : Measures of time in full-time and part-time jobs

variable	definition	mean	s.d.	N good values	N missing values	N not applicable
NEWN4144	Total number of full-time and part-time jobs	2.7	1.9	12538	0	0
JOBTIME2	Total months in full-time and part-time jobs	61.0	27.0	12082	456	0
PROPJOB1	Months in full-time and part-time jobs as % of months economically active	92.5	16.7	11891	459	188
PROPJOB3	Months in full-time and part-time jobs as % of months between first leaving full-time education and interview	80.6	26.4	11984	488	66
LNGSTJOB	Months in longest full-time or part-time job	45.1	25.3	11863	675	0
CURRJOB	Months in current full-time or part-time job	38.8	29.4	9203	11	3324
MEANJOB	Mean length in months of all full-time and part-time jobs	33.1	25.5	11801	456	281

Table 3 : Measures of time in full-time jobs

variable	definition	mean	s.d.	N good values	N missing values	N not applicable
FTJBTIME	Total months in full-time jobs	60.0	27.4	12477	61	0
PROFTJB1	Total months in full-time jobs as % of months economically active defined exactly	90.5	19.4	11879	471	188
PROFTJB2	Months in full-time jobs as % of months economically active defined approximately	90.4	19.3	12286	64	188
PROFTJB3	Months in full-time jobs as % of months between first leaving full-time education and interview	79.1	27.5	12370	102	66
LNGSFTJB	Months in longest full-time job	44.7	25.6	11876	662	0
CURRFTJB	Months in current full-time job	40.0	29.4	8637	14	3887

Table 4 : Measures of time in part-time jobs

variable	definition	mean	s.d.	N good values	N missing values	N not applicable
PTJBTIM2	Total months in part-time jobs	0.9	5.1	12087	451	0
PROPTJB1	Months in part-time jobs as a % of months economically active	1.9	10.3	11887	463	188
PROPTJB3	Months in part-time jobs as % of months between first leaving full-time education and interview	1.2	6.7	11988	484	66
CURRPTJB	Months in current part-time job	9.9	15.9	406	114	12018

Table 5 : Measures of unemployment

variable	definition	mean	s.d.	N good values	N missing values	N not applicable
NEWN4716	Total number of spells of unemployment	0.8	1.2	12536	2	0
UNEMTIME	Total number of months unemployed	4.2	9.4	12531	7	0
PROPUNM1	Total months unemployed as % of months economically active defined exactly	7.5	16.6	11891	459	188
PROPUNM2	Total months unemployed as % of months economically active defined approximately	7.7	16.6	12298	52	188
PROPUNM3	Months unemployed as % of months between first leaving full-time education and interview	6.1	13.6	12423	49	66
LNGSUNEM	Months in longest unemployment spell	3.0	6.9	12533	5	0
CURRUNEM	Months in current unemployment spell	10.4	13.5	1177	0	11361
MEANUNEM	Mean length in months of all unemployment spells	5.2	6.8	5592	7	6939
UNMBFRJB	Months unemployed before first job	0.6	2.1	12249	8	281

Table 6 : Measures of time out of the labour force (OLF) and economic inactivity

variable	definition	mean	s.d.	N good values	N missing values	N not applicable
NEWN4818	Total number of spells OLF	0.6	0.8	12538	7	0
OLFTIME	Total number of months OLF	6.9	16.0	12517	21	0
PROPOLF	Months OLF as % of months between first leaving full-time education and interview	9.5	20.2	12417	55	66
CURROLF	Months in current spell OLF	29.2	24.3	1769	45	10724
ECINTIM1	Total months economically inactive defined exactly	9.8	18.1	12013	525	0
PROECIN1	Total months economically inactive defined exactly as % of months between first leaving full-time education and interview	13.6	23.6	11948	524	66
ECINTIM2	Total months economically inactive defined approximately	10.1	18.1	12408	130	0
PROECIN2	Total months economically inactive defined approximately as % of months between first leaving full-time education and interview	13.9	23.6	12343	129	66

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Summary variables for employment history data

Part A: Characteristics of summary variables

Figure 1: Total number of full-time and part-time jobs (NEWN4144), by sex.

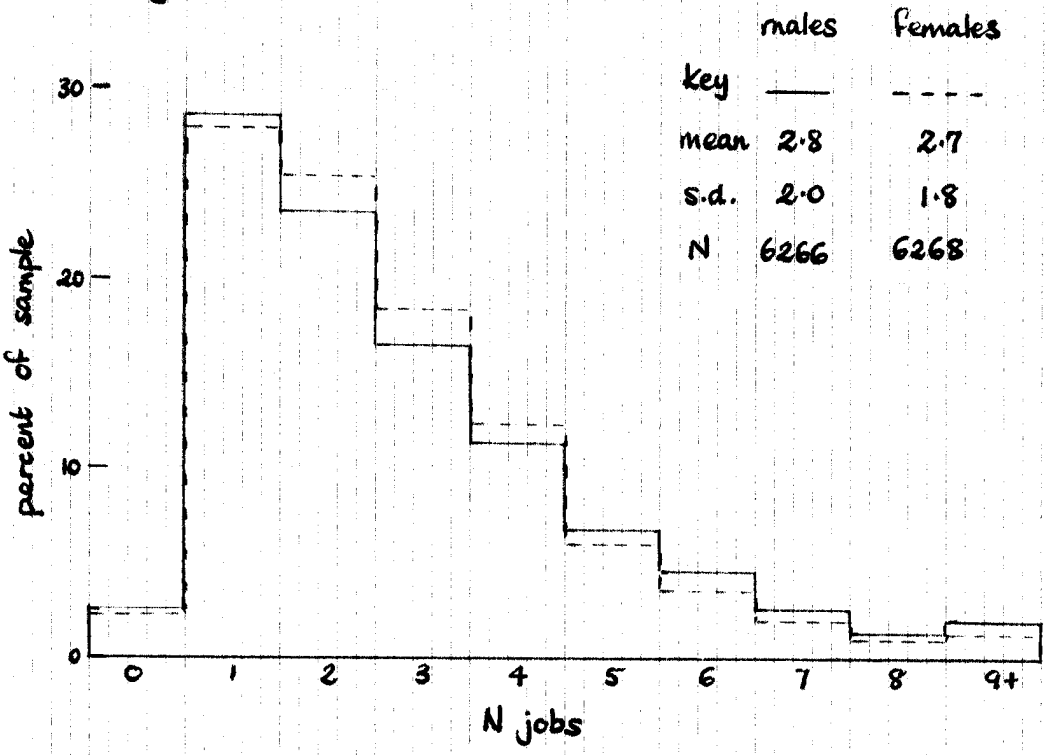


Figure 2: Total months in full-time and part-time jobs (JOBTIME2), by sex.

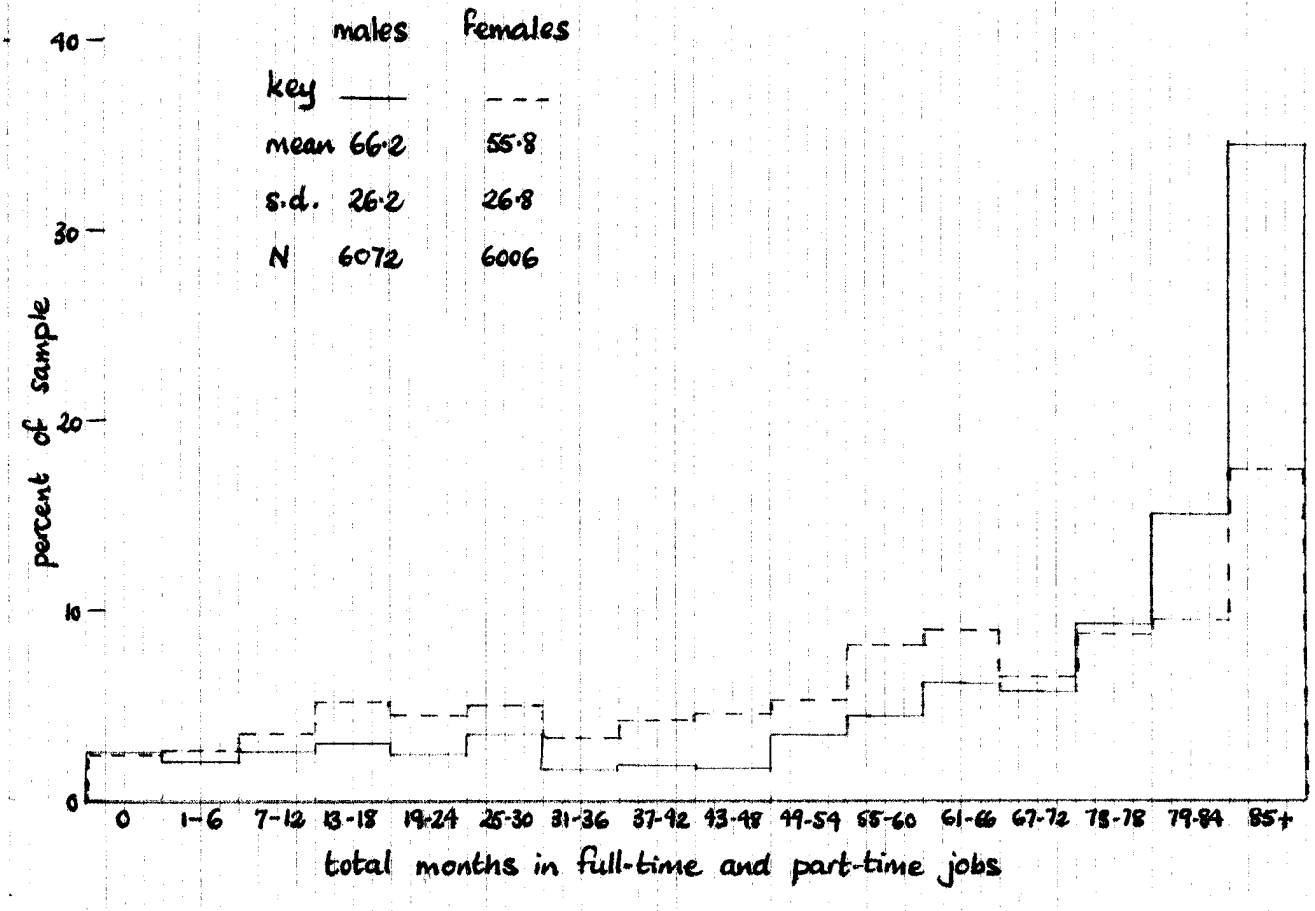


Figure 3: Months spent in longest full-time or part-time job (LNGSTJOB) by sex.

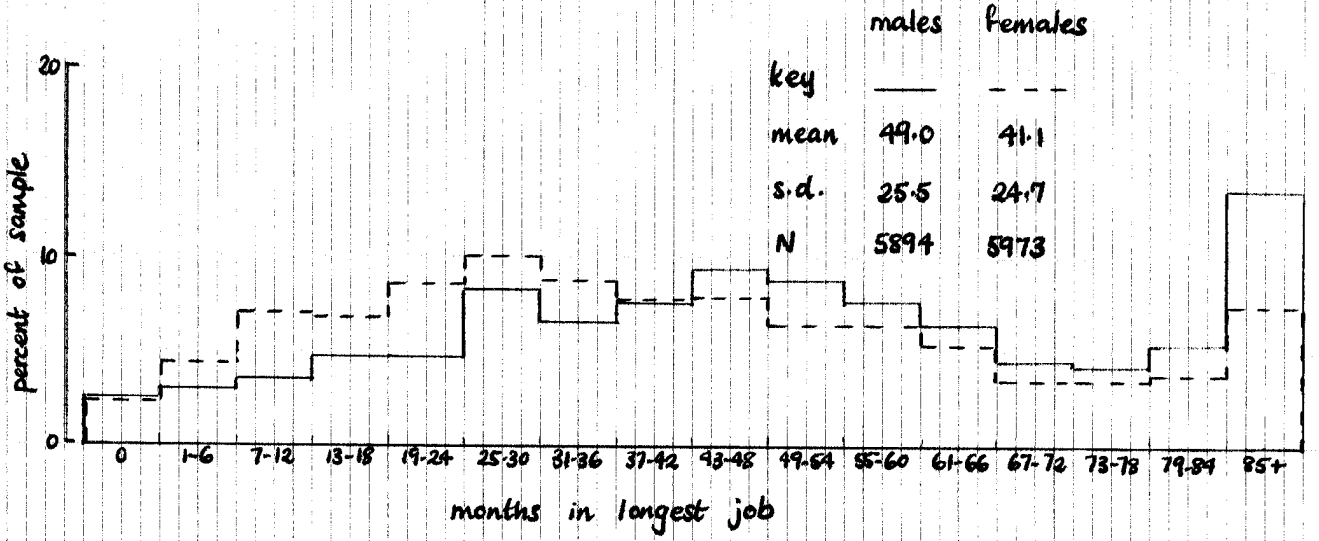


Figure 4: Mean length in months of all full-time and part-time jobs (MEANJOB) by sex.

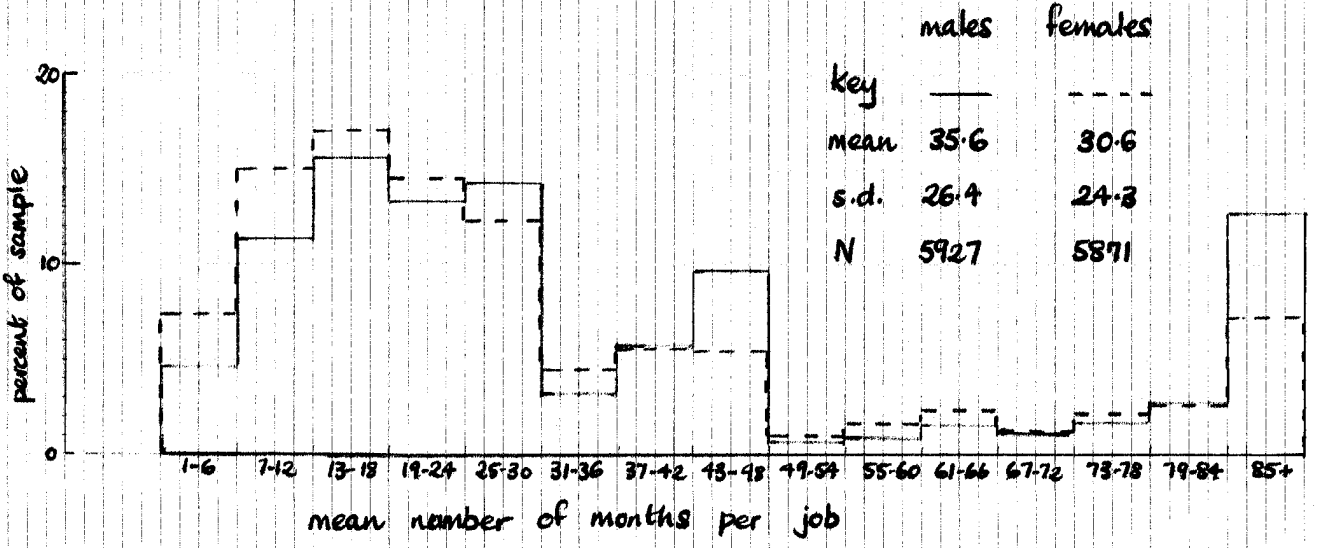


Figure 5: Months spent in current full-time or part-time job (CURRJOB), by sex.

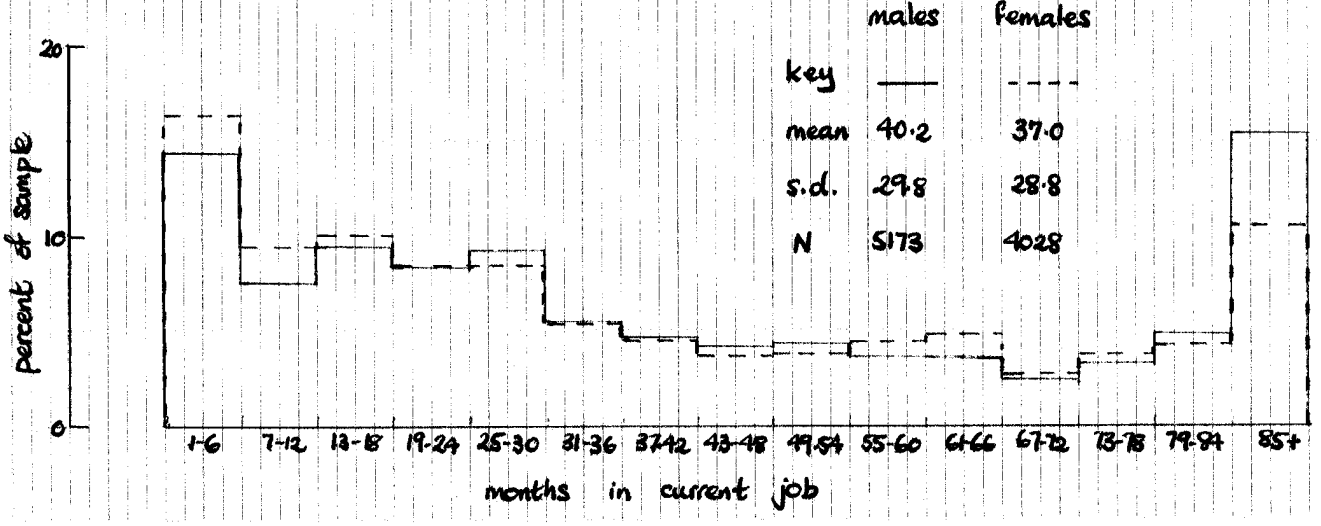


Figure 6: Total number of spells of unemployment (NEWN4716), by sex.

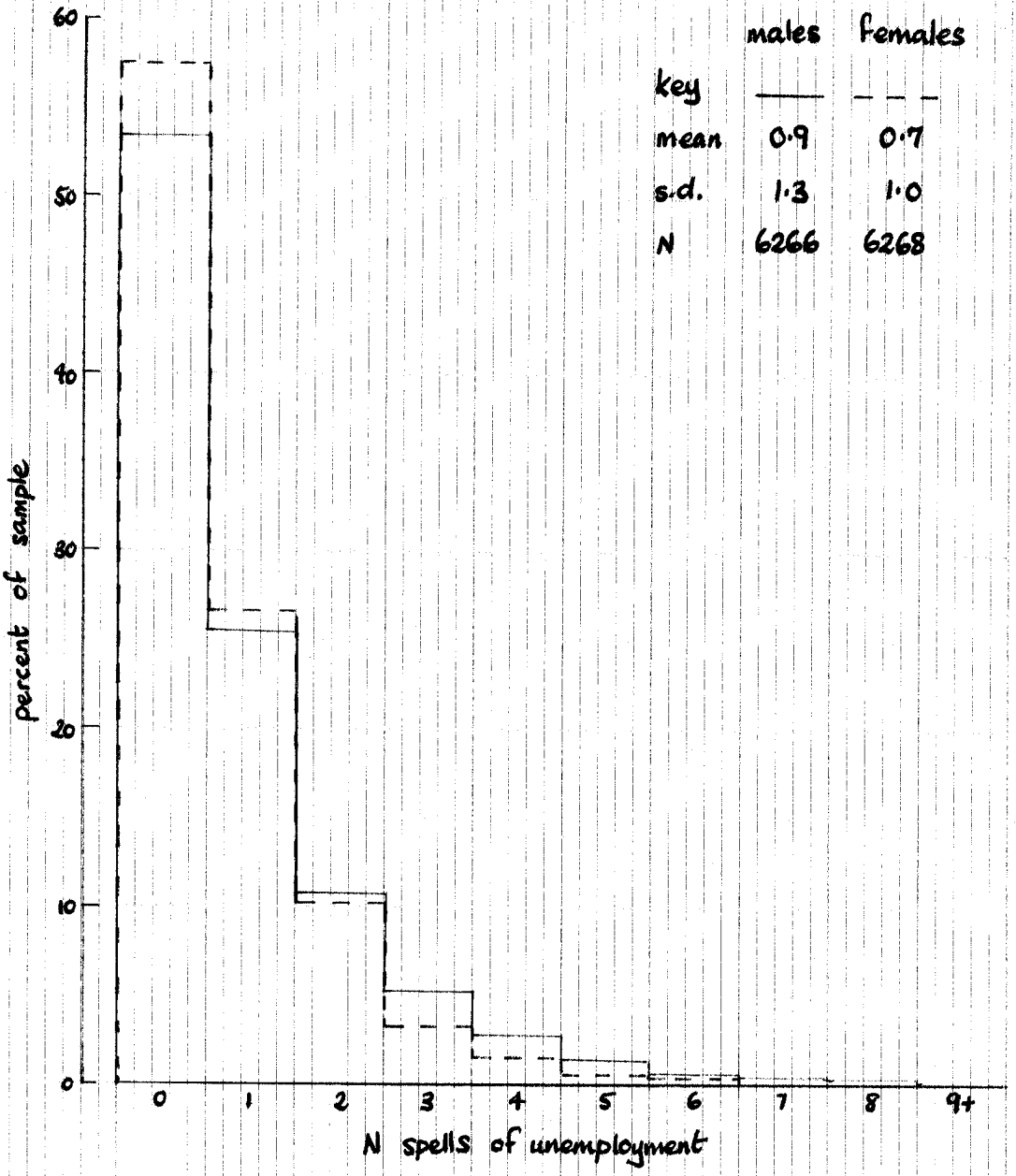


Figure 7: Total number of months unemployed (CUNEMTIME) by sex.

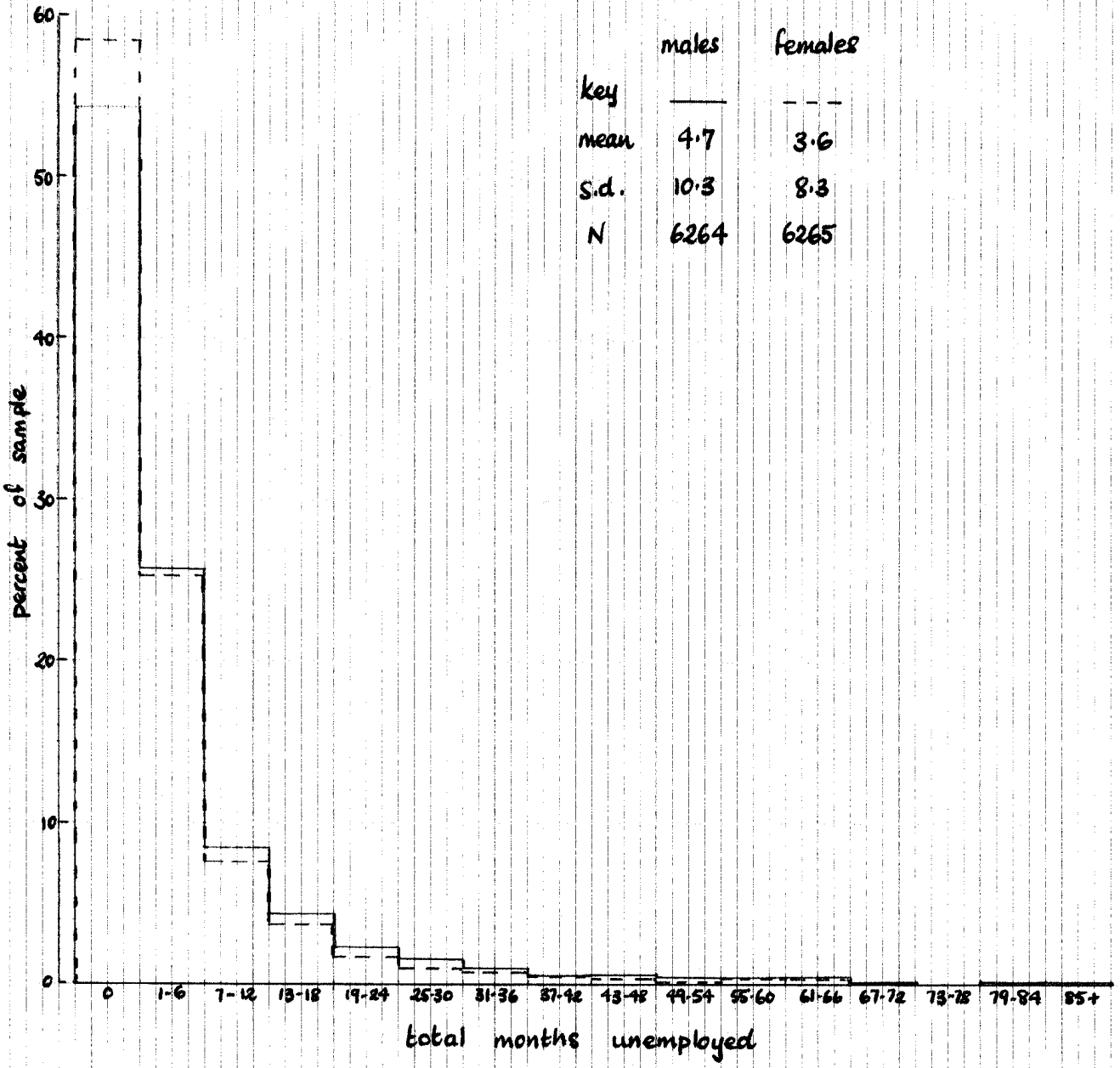
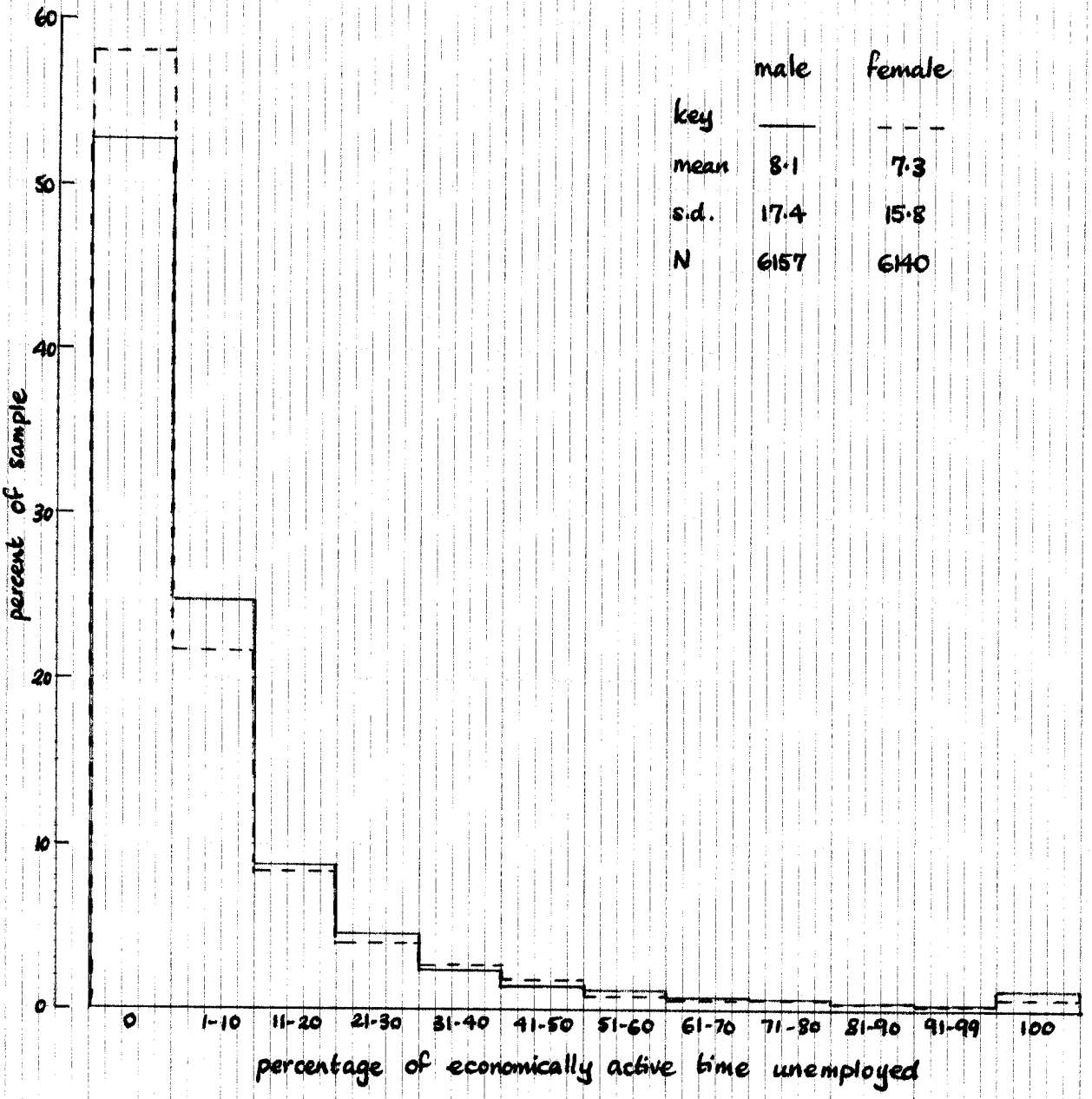


Figure 8: Months unemployed as a percentage of months economically active (PROPUNM2[1]) by sex.



[1] Less exact definition of economic activity - see Table 1.

Figure 9: Months spent in current period of unemployment (CURRUNEM) by sex.

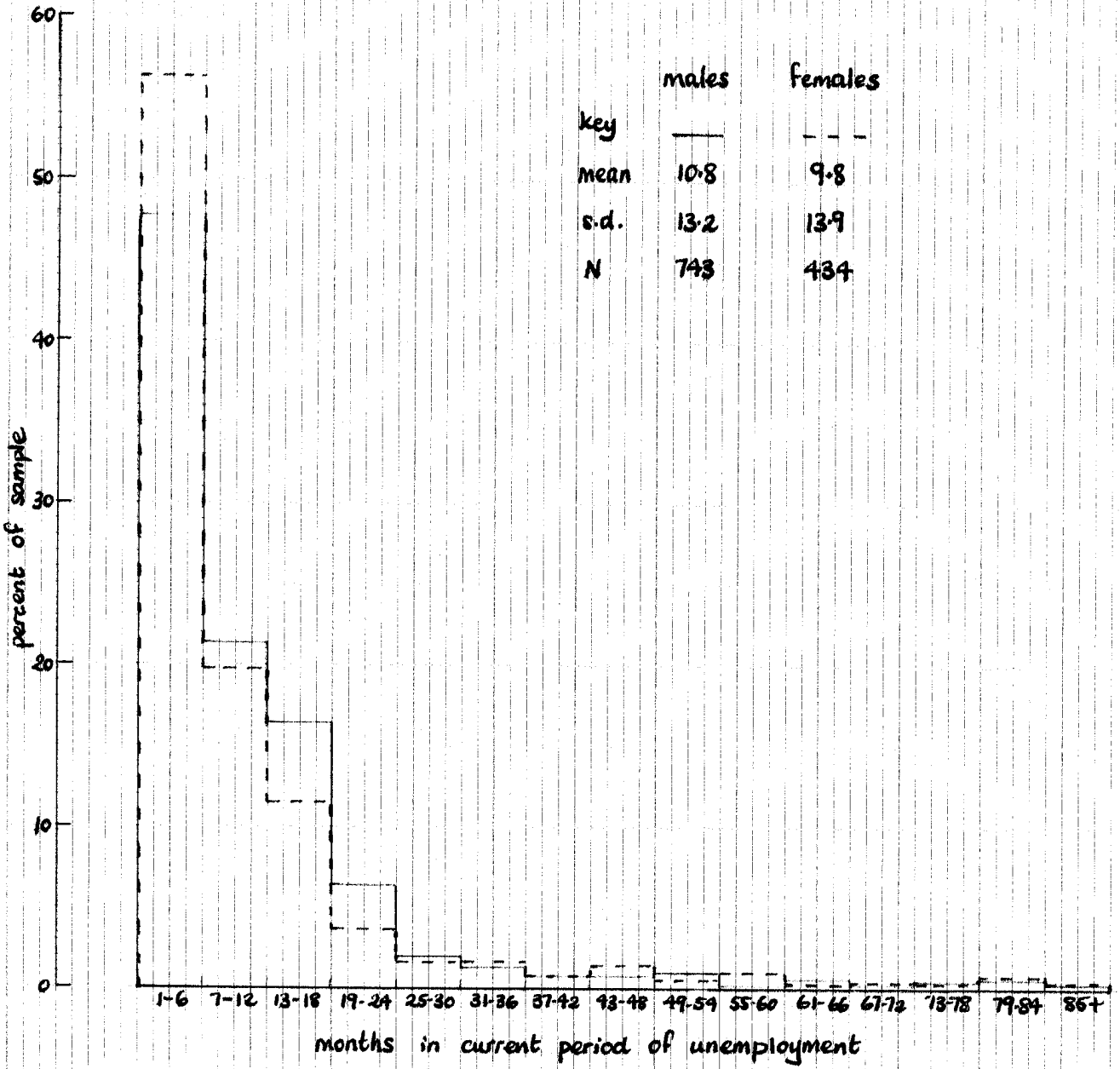
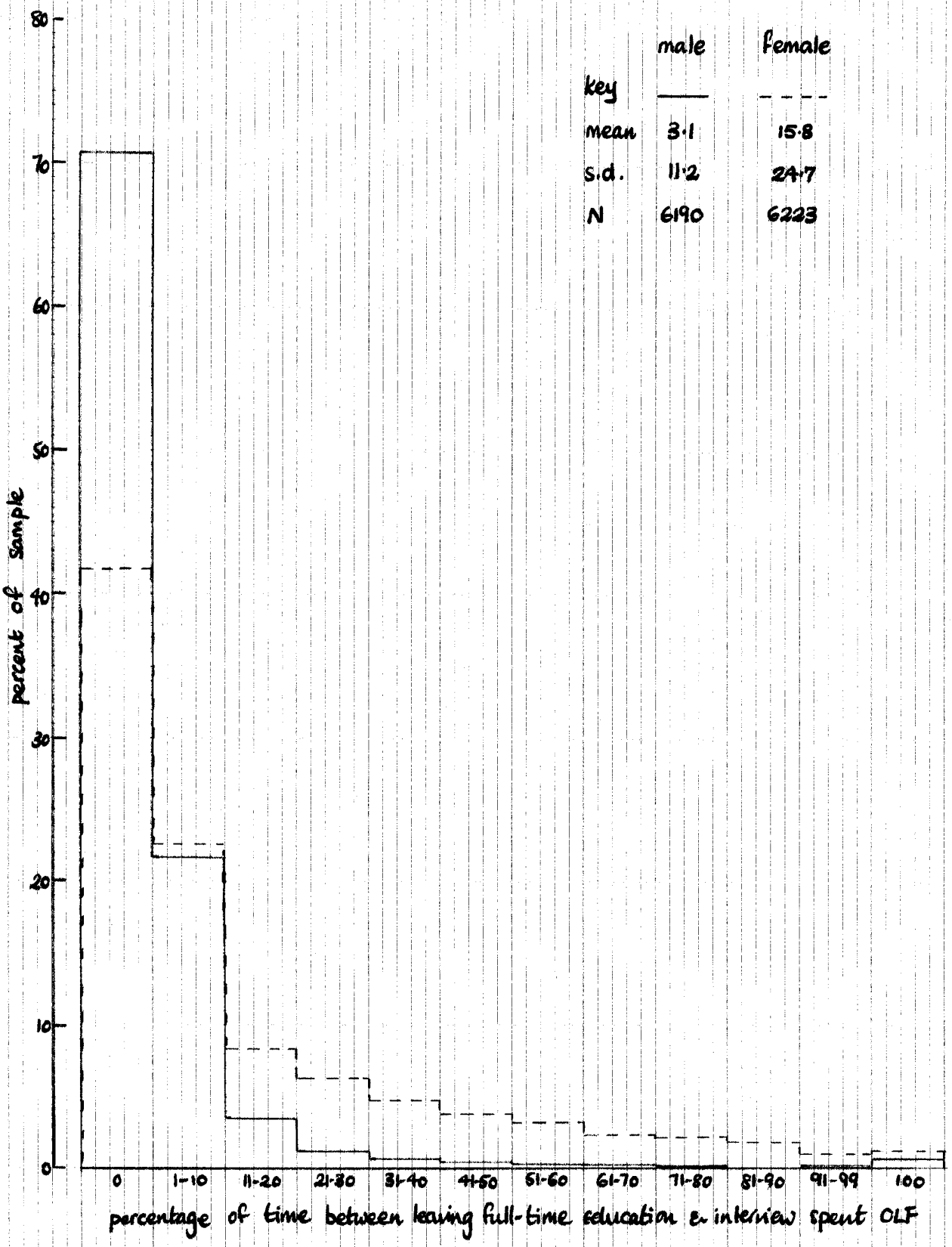


Figure 10: Months spent out of the labour force as a percentage of total months between first leaving full-time education and interview (PROPOLF) by sex.



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NATIONAL CHILD DEVELOPMENT STUDY

WORKING PAPER NO. 16

SUMMARY VARIABLES FOR EMPLOYMENT HISTORY DATA.

PART B:

Definitions of summary variables.

Note: Definitions are arranged in the temporal order in which the variables were derived, as later variables are often derived from combinations of earlier variables. So that each variable may be found easily, an alphabetical index is also given.

Prepared by: Joan Payne.

For: Department of Employment. (Dr. Catherine Hakim).

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November. 1983.

Alphabetical index to derived variables.

Variable name	Number	Variable name	Number
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CURRFTJB	43	NEWN4716	59
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CURRPTJB	44	NEWN4733	24
CURRUNEM	37	NEWN4739	25
ECACTIM1	29	NEWN4818	60
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ECINTIM1	30	OLF1TIME	6
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1. CTAETOIV: Months between first leaving full-time education and interview

   Date of interview minus CTAE[1], the date of first leaving full-time continuous education. Respondents who are still in full-time education have CTAETOIV set to zero.

2. JOB1TIME: Months in first job

   End date of job minus start date. If the respondent is still in the job, the end date is set to the interview date.

3. JOB2TIME: Months in second job

4. JOB3TIME: Months in third job

5. JOB4TIME: Months in fourth or latest job if more than four

6. OLF1TIME: Months in first period out of the labour force

   End date of period out of the labour force minus start date. If the respondent is still out of the labour force the end date is set to the interview date.

7. OLF2TIME: Months in second period out of the labour force

8. OLF3TIME: Months in third period out of the labour force

9. OLF4TIME: Months in fourth period out of the labour force, or latest period if more than four

10. JB1FTMON: Months in first job if first job is full-time

    Takes the value of JOB1TIME if the first job is full-time. If the first job is part-time it is set to zero.

11. JB2FTMON: Months in second job if second job is full-time

12. JB3FTMON: Months in third job if third job is full-time

13. JB4FTMON: Months in fourth job, or latest job if more than four, if that job is full-time

14. JB1PTMON: Months in first job if first job is part-time

Takes the value of JOB1TIME if the first job is part-time. If the first job is full-time it is set to zero.

15. JB2PTMON: Months in second job if second job is part-time

16. JB3PTMON: Months in third job if third job is part-time

17. JB4PTMON: Months in fourth job, or latest job if more than four, if that job is part-time

18. FTJBTIME: Total months in full-time jobs

For respondents who have never had a job, this is set to zero. For those with one to four jobs it is the sum of JB1FTMON to JB4FTMON (which is zero if all jobs are part-time). For those with five or more jobs it is set equal to N6238.

19. PTJBTIME: Total months in part-time jobs

For respondents who have never had a job, this is set to zero. For those with one to four jobs it is the sum of JB1PTMON to JB4PTMON (which is zero if all jobs are full-time). Those with five jobs are dealt with as follows:

(a) if N6238 is greater than the sum of JB1FTMON to JB4FTMON, it is assumed that the fifth job is full-time and PTJBTIME is set equal to the sum of JB1PTMON to JB4PTMON;

(b) if N6238 is not greater than the sum of JB1FTMON to JB4FTMON, it is assumed that the fifth job is part-time and PTJBTIME is set to missing.

Those with six or more jobs have PTJBTIME set to missing.

20. JOBTIME: Total months in full-time and part-time jobs

For respondents who have never had a job, this is set to zero. For those with one to four jobs it is the sum of JOB1TIME to JOB4TIME. Those with five jobs are dealt with as follows:

(a) if N6238 is greater than the sum of JB1FTMON to JB4FTMON, it is assumed that the fifth job is full-time and JOBTIME is set equal to the sum of N6238 and PTJBTIME;

(b) if N6238 is not greater than the sum of JB1FTMON to JB4FTMON, it is assumed that the fifth job is part-time and JOBTIME is set to missing.

Those with six or more jobs have JOBTIME set to missing.

21. OLFTIME: Total months out of the labour force

For respondents who have had no spells out of the labour force this is set to zero. For those with one to four spells out of the labour force it is the sum of OLF1TIME to OLF4TIME. For those with five or more spells out of the labour force it is set equal to N6250.

22. NEWN4721: Months in first period of unemployment

If the period of unemployment has ended, this is set equal to N4721. If the period of unemployment is still continuing, it is set equal to the date of interview minus the start date of the unemployment period.

23. NEWN4727: Months in second period of unemployment

24. NEWN4733: Months in third period of unemployment

25. NEWN4739: Months in fourth period of unemployment, or latest period if more than four

26. UNEMTIME: Total months unemployed

For respondents who have had no periods of unemployment, this is set to zero. For those with one to four periods of unemployment it is the sum of NEWN4721 to NEWN4739. For respondents with five or more periods of unemployment it is set equal to N6246.

27. JOBTIME2: Total months in full-time and part-time jobs, filling in missing information

This is set equal to JOBTIME, but those with missing information are dealt with according to the following rules.

(a) Those with six or more jobs: if the sum of N6238, UNEMTIME and OLFTIME is equal to CTAETOIV plus or minus two, it is assumed that no time is left unaccounted for and that therefore the respondent had no part-time jobs. Thus JOBTIME2 is set equal to N6238. The "plus or minus two" rule is an empirical rule based on the examination of a number of cases which allows for rounding error.

(b) Those with two to four jobs where the start date of the first job and the end date of the last job are known, but the dates at which the respondent changed jobs are unknown: if UNEMTIME and OLFTIME are both zero, JOBTIME2 is set equal to the difference between the start date of the first job and the end date of the last job.

These two rules reduce missing information from 9.7 per cent on JOBTIME to 3.6 per cent on JOBTIME2. However the value of JOBTIME2 may be incorrect if any jobs, periods of unemployment or spells out of the labour market are recorded before the date of first leaving full-time education, or if a part-time job occupies the margin allowed for rounding error, but the degree of error will not be large.

28. PTJBTIM2: Total months in part-time jobs, filling in missing information

This is set equal to PTJBTIME, but the number with missing information is reduced as follows. For those with six or more jobs, if the sum of N6238, UNEMTIME and OLFTIME is equal to CTAETOIV plus or minus two, it is assumed that no time is left unaccounted for and that therefore the respondent had no part-time jobs. Thus PTJBTIM2 is set to zero. Missing information is reduced from 9.6 per cent on PTJBTIME to 3.6 per cent on PTJBTIM2, but a degree of error is introduced in the same way as for JOBTIME2 (q.v.).

29. ECACTIM1: Total months economically active defined exactly

The sum of JOBTIME2 and UNEMTIME. Note that it includes jobs and spells of unemployment occurring before the date of first leaving full-time education (CTAE[1]), each of which could be up to five months in length. The definition of economic activity is exact because it includes time in part-time jobs: there is however 3.7 per cent missing information, largely because of the lack of information about part-time jobs for those with more than four jobs where PTJBTIM2 cannot be set to zero.

30. ECINTIM1: Total months economically inactive defined exactly

CTAETOIV minus ECACTIM1. Negative values of up to -5 are set to zero to allow for rounding error and for jobs and periods of unemployment recorded before CTAE[1]. Negative values of -6 or less are set to missing.

31. ECACTIM2: Total months economically active defined approximately

This is set equal to ECACTIM1, but for those with missing information on ECACTIM1 it is set to the sum of N6238 and UNEMTIME. The effect of this is to ignore time in part-time jobs for those with more than four jobs. Missing information is reduced to 0.4 per cent but an unknown degree of error is introduced.

32. ECINTIM2: Total months economically inactive defined approximately

CTAETOIV minus ECACTIM2. Negative values are dealt with in the same way as ECINTIM1. Missing information of 4.4 per cent on ECINTIM1 is reduced to 1.0 per cent on ECINTIM2, but error is introduced in the same way as for ECACTIM2.

33. LNGSTJOB: Months in longest full-time or part-time job

For those who have never had a job, this is set to zero. For those with one to four jobs it is set to the greatest value amongst JOB1TIME to JOB4TIME. For those with more than four jobs the following rules are applied.

(a) Those with five jobs where the difference between N6238 and the sum of JOB1TIME to JOB4TIME is greater than zero: LNGSTJOB is set to the greatest value amongst JOB1TIME to JOB4TIME and the difference between N6238 and the sum of JOB1TIME to JOB4TIME.

(b) Those with five jobs where (a) does not apply but the difference between CTAETOIV and the sum of N6238, UNEMTIME and OLFTIME is less than the greatest value amongst JOB1TIME to JOB4TIME: LNGSTJOB is set to the greatest value amongst JOB1TIME to JOB4TIME.

(c) Those with six or more jobs where the difference between CTAETOIV and the sum of N6238, UNEMTIME and OLFTIME is less than the greatest value amongst JOB1TIME to JOB4TIME, and where the difference between N6238 and the sum of JOB1TIME to JOB4TIME is also less than the greatest velue amongst JOB1TIME to JOB4TIME: LNGSTJOB is set to the greatest value amongst JOB1TIME to JOB4TIME.

These three rules reduce missing information on LNGSTJOB to 5.4 per cent, but a degree of error is introduced if jobs or periods of unemployment were recorded before the date of first leaving full-time education.

34. LNGSFTJB: Months in longest full-time job

For those who have never had a job, this is set to zero. For those with one to four jobs it is set to the greatest value amongst JB1FTMON to JB4FTMON (which is zero if the respondent has only had part-time jobs). For those with more than four jobs the following rules are applied.

(a) Those with five jobs: LNGSFTJB is set to the greatest value amongst JB1FTMON to JB4FTMON and the difference between N6238 and the sum of JB1FTMON to JB4FTMON.

(b) Those with more than five jobs where the greatest value amongst JB1FTMON to JB4FTMON is greater than the difference between N6238 and the sum of JB1FTMON to JB4FTMON: LNGSFTJB is set to the greatest value amongst JB1FTMON to JB4FTMON.

The effect of these two rules is to reduce missing information on LNGSFTJB to 5.3 per cent without introducing any error.

35. LNGSUNEM: Months in longest period of unemployment

For respondents who have never been unemployed, this is set to zero. For those with one to four periods of unemployment it is set to the greatest value amongst NEWN4721 to NEWN4739. For those with more than four periods of unemployment, it is set to N6248.

36. UNMBFRJB: Months in first period of unemployment before first job

For respondents who have never had a job, this is set to "not applicable". For those who have had at least one job but have never been unemployed, it is set to zero. For those who have had at least one job and have also been unemployed, but the first unemployment period started after the start of the first job, it is also set to zero. For those who have had at least one job and a period of unemployment which started before the first job, it is set to NEWN4721. No account is taken of second or later periods of unemployment which began before the first job, nor is any note taken of whether another activity (a full-time education course, a spell out of the labour force or a period of "fill-in" time) intervened between the end of the first period of unemployment and the start of the first job.

37. CURRUNEM: Months in current period of unemployment

For those currently unemployed[2] this takes the value of one amongst NEWN4721 to NEWN4739 according to the value of N4716. For those not currently unemployed it is set to "not applicable".

38. PROPUNM1: Total months unemployed as a percentage of total months economically active defined exactly

UNEMTIME as a percentage of ECACTIM1. If ECACTIM1 is zero, it is set to "not applicable".

39. PROPUNM2: Total months unemployed as a percentage of total months economically active defined approximately

UNEMTIME as a percentage of ECACTIM2. If ECACTIM2 is zero, it is set to "not applicable".

40. PROPUNM3: Total months unemployed as a percentage of total months between first leaving full-time education and interview

UNEMTIME as a percentage of CTAETOIV[3]. If CTAETOIV is zero, it is set to "not applicable".

41. MEANUNEM: Mean length in months of all periods of unemployment

UNEMTIME divided by N4716. Note that for those with more than nine spells of unemployment the denominator is nine. For those who have never been unemployed MEANUNEM is set to "not applicable".

42. CURRJOB: Months in current full-time or part-time job

For those currently in employment[2], this takes the value of one amongst JOB1TIME to JOB4TIME according to the value of N4144. For those not currently in employment it is set to "not applicable".

43. CURRFTJB: Months in current full-time job

For those currently in full-time employment[2], this takes the value of one amongst JB1FTMON to JB4FTMON according to the value of N4144. For those not currently in full-time employment it is set to "not applicable".

44. CURRPTJB: Months in current part-time job

For those currently in part-time employment[2], this takes the value of one amongst JB1PTMON to JB4PTMON according to the value of N4144. For those not currently in part-time employment it is set to "not applicable".

45. CURROLF: Months in current spell out of the labour force

For those currently out of the labour force[2], this takes the value of one amongst OLF1TIME to OLF4TIME according to the value of N4818. For those not currently out of the labour force it is set to "not applicable".

46. PROPJOB1: Total months in full-time and part-time jobs as a percentage of total months economically active defined exactly

JOBTIME2 as a percentage of ECACTIM1. If ECACTIM1 is zero, it is set to "not applicable".

47. PROPJOB2: Total months in full-time and part-time jobs as a percentage of total months economically active defined approximately

JOBTIME2 as a percentage of ECACTIM2. If ECACTIM2 is zero, it is set to "not applicable".

48. PROPJOB3: Total months in full-time and part-time jobs as a percentage of total months between first leaving full time education and interview

JOBTIME2 as a percentage of CTAETOIV[3]. If CTAETOIV is zero, it is set to "not applicable".

49. PROFTJB1: Total months in full-time jobs as a percentage of total months economically active defined exactly

FTJBTIME as a percentage of ECACTIM1. If ECACTIM1 is zero, it is set to "not applicable".

50. PROFTJB2: Total months in full-time jobs as a percentage of total months economically active defined approximately

FTJBTIME as a percentage of ECACTIM2. If ECACTIM2 is zero, it is set to "not applicable".

51. PROFTJB3: Total months in full-time jobs as a percentage of total months between first leaving full-time education and interview

FTJBTIME as a percentage of CTAETOIV[3]. If CTAETOIV is zero, it is set to "not applicable".

52. PROPTJB1: Total months in part-time jobs as a percentage of total months economically active defined exactly

PTJBTIM2 as a percentage of ECACTIM1. If ECACTIM1 is zero, it is set to "not applicable".

53. PROPTJB2: Total months in part-time jobs as a percentage of total months economically active defined approximately

PTJBTIM2 as a percentage of ECACTIM2. If ECACTIM2 is zero, it is set to "not applicable".

54. PROPTJB3: Total months in part-time jobs as a percentage of total months between first leaving full-time education and interview

PTJBTIM2 as a percentage of CTAETOIV[3]. If CTAETOIV is zero, it is set to "not applicable".

55. PROECIN1: Total months economically inactive defined exactly as a percentage of total months between first leaving full-time education and interview

ECINTIM1 as a percentage of CTAETOIV. If CTAETOIV is zero, it is set to "not applicable".

56. PROECIN2: Total months economically active defined approximately as a percentage of total months between first leaving full-time education and interview

ECINTIM2 as a percentage of CTAETOIV. If CTAETOIV is zero, it is set to "not applicable".

57. PROPOLF: Total months out of the labour force as a percentage of total months between first leaving full-time education and interview

OLFTIME as a percentage of CTAETOIV[3]. If CTAETOIV is zero, it is set to "not applicable".

58. NEWN4144: Total number of full-time and part-time jobs

This is set equal to N4144, but those coded 2 on N4143 are given the value zero.

59. NEWN4716: Total number of periods of unemployment

This is set equal to N4716, but those coded 2 on N4715 are given the value zero.

60. NEWN4818: Total number of spells out of the labour force

This is set equal to N4818, but those coded 2 on N4817 are given the value zero.

61. MEANJOB: Mean length in months of all full-time and part-time jobs

JOBTIME2 divided by N4144. Those who have never had a job have MEANJOB set to "not applicable".

NOTES

1. CTAE is computed by Dougal Hutchison. For those who have had no full-time education courses it gives the date of first leaving school or sixth form college. For those with at least one full-time education course it gives the end date of the latest full-time course, provided that there is a gap of no more than five months between the school leaving date and the start of the first course, or between any two courses.

2. This is based on the derived variable ECONSTAT: current economic status, which uses information from several sections of the questionnaire.

3. As CTAE allows one or more gaps of up to five months each between full-time education courses, it is possible that one or more jobs, periods of unemployment or spells out of the labour force were recorded before CTAE. This means that proportions which use CTAETOIV as their base will in some cases be overestimates. Indeed some values of PROPUNM3, PROPJOB3, PROFTJB3 and PROPOLF were greater than 100 per cent; such values have all been set to 100 per cent.