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**OCCUPATIONAL SEX SEGREGATION  
AND PART-TIME WORK  
IN MODERN BRITAIN**

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**Thesis submitted for the degree of**

**Doctor of Philosophy**

**City University, London**

**Social Statistics Research Unit**

**June 1998**

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## **ACKNOWLEDGEMENTS**

I am grateful to the Economic and Social Research Council, who funded the research and training required for this thesis.

The idea for this study of occupational segregation was conceived whilst I studied for a Master's degree at Birkbeck College. Heather Joshi supervised my master's dissertation, and provided valuable advice and encouragement to embark on this work. Heather has also supervised this doctoral research, together with Carolyn Vogler, both now at City University. Their attention and thoughtful criticism have helped to develop my skills as a researcher, and clarify and sharpen my arguments. I owe them both special thanks.

Other academics have also kindly taken an interest in this work. Bob Blackburn in particular has often given his time to discuss segregation measurement issues and his interest and views are greatly valued. John Bynner, Peter Elias and Ben Fine have also given useful advice and comments on different aspects of the analysis.

The LS support team at City University made analysis of the ONS Longitudinal Study a less daunting and positively enjoyable experience. Kevin Lynch has very patiently dealt with my requests for tables, and helped me to understand the complexities of this longitudinal data. Dina Maher has provided valuable practical help on numerous occasions.

I developed my quantitative research skills on the M.Sc. Course in Social Research Methods and Statistics at City University. I would like to thank the teaching staff and Dick Wiggins in particular for their help. I am also indebted to Mike Boskov at City University for demystifying generalised linear modelling for me.

Finally and most importantly, I would like to thank my family, Mick, Hayley, Jessica and Joseph, who have suffered and supported me for the duration. My mother, Joan Blackwell, has selflessly given the practical support which made this study possible.

This thesis is dedicated to the memory of Sarah Louisa King.

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## ABSTRACT

This thesis investigates the relationship between occupational sex segregation and part-time employment. Occupational segregation describes the tendency for women and men to work in different occupations and it is important. It helps to explain gender inequalities including the persisting pay gap between women and men. Human capital theory, segmented labour market theory and the queuing theory attach different degrees of importance to individual choices and structural constraints in shaping occupational outcomes. They all leave key questions about the role of part-time work unanswered.

The role of part-time work in segregation in France and the UK is compared through an innovative application of segregation indices and curves, using 1991 LFS data. In the UK most women experience part-time work, particularly when they have young children. In France full-time, continuous employment is most common for mothers. In both countries women part-timers are more segregated from men than women full-timers. In the UK women working full-time and part-time are less segregated from men than their counterparts in France. Overall segregation is similar in the two countries because the UK has fewer women full-timers and twice as many part-timers.

The ONS Longitudinal Study reveals how shifts to part-time work affected women's experiences of segregation over the 1970s and 80s. The strongly segmented nature of part-time work meant that these shifts often involved downward mobility into very feminised work. 'Occupational recovery' on resuming full-time employment was limited. Working in 'male' or 'mixed' occupations was associated with employment continuity. Fewer women in later cohorts faced the penalties of part-time work and intermittency, because of their stronger labour force attachment. However segregation remained high because of broader structural changes.

Analysis of the reclassification of occupations in 1980 raises questions about how women's work is represented in official statistics. The continued bunching of women under a few occupational titles partly reflects their past and present subordinate status in society, rather than similarities in their work.

This thesis concludes that theoretical explanations must acknowledge that people make occupational choices within given structural constraints. In contemporary Britain, responsibility for dependent children places particularly severe constraints on women's employment options.

## **CHAPTER 1 HOW DOES PART-TIME WORK FEATURE IN OCCUPATIONAL SEX SEGREGATION THEORY AND MEASUREMENT?**

### **1.1 The importance of occupational sex segregation**

Occupational sex segregation describes the tendency for women and men to work in different occupations. It is universal (Hakim, 1979, Roos, 1985), and has proved resistant to historical change (England, 1981, Reskin and Hartmann, 1985, Jacobs, 1987, Hakim, 1994a). Despite the stability of overall measures of segregation, the sex-typing of particular occupations varies over time and between different cultures. For example clerical work, which was once male-dominated, is now female-typed (Cohn, 1985). Most dentists are women in Denmark, Poland and Russia, while in the US (and Britain) they are mainly men (Reskin and Hartmann, 1985). Rice growing in Gambia is a women's occupation, whilst in parts of Asia, mainly men grow rice (Reskin and Padavic, 1994).

There are two main reasons to be concerned about occupational sex segregation. Firstly, women typically earn less than men and occupational sex segregation accounts for much of this gap (England et al, 1994, Paci, Joshi and Makepeace, 1995). Because women are concentrated in the lowest-paying occupations, gender segregation may facilitate pay discrimination which effectively circumvents the Equal Pay Act. This assumes that women and men are being paid differently for work of equal value.

Secondly, there is the question of occupational choice. If occupational sex segregation persists because women and men are blocked from entering gender-atypical occupations, or are driven out of them, this becomes an equal opportunities issue with broad implications. The choice/constraint debate is often a feature of sex segregation literature and it is contentious because it questions the need for equal opportunities interventions:

'If more than half the population is denied access to 60 per cent of the occupations, being crowded into a few at lower earnings, equality of opportunity does not exist. But if women freely choose to enter only a third of all occupations and those occupations pay less, then women's lower earnings may not be a fundamental social problem. The major issue is whether the dramatic differences in the occupational distributions of the sexes result from different choices made by each, given equal opportunities, or from unequal opportunities to make similar choices' (Beller, 1982, p372, also quoted in Holden and Hansen, 1987, p218)

There is another issue at stake here. Whether women's occupations represent freely-made choices or compromises it is possible that women work in low-paying occupations because occupational pay is determined as much by the sex of job incumbents as by the actual work involved. If so, equal pay may be a more effective equal opportunities strategy for eliminating disadvantage than drives towards occupational integration.

The question about individual choices or structural constraints is just one of a number of broader debates which cut across discussions about gender segregation at work. As Crompton and Sanderson (1990a) point out, theoretical accounts of occupational segregation, some of which are discussed below, are particular instances of more general theories. The tensions within and between those theories are exercised in occupational sex segregation research.

### **1.2 The effect of part-time work on overall occupational segregation measures**

Hakim argues that the persistence of high occupational sex segregation in Britain can be attributed to part-time jobs, or rather, part-time workers and their distinctively low level of work commitment. She asserts that in recent decades the overall measure of segregation is stable only because it conflates two opposing trends: towards the greater integration of women full-timers, and the continued segregation of the growing number of women part-timers (Hakim, 1993a). Additionally, the presence of a large, feminised, low-paid, part-time and 'uncommitted' work force is said to encourage employers' statistical

discrimination against all women, which fuels segregation. Statistical discrimination occurs when women are screened from certain jobs or careers because they are viewed as high-risk workers and potentially wasteful of training resources. Hakim argues that part-timers colour employers' perceptions of all women workers, including those committed to full-time, continuous employment (Hakim, 1991b, p114). Thus, it is argued that part-time work and occupational segregation are positively related.

Cross-national comparisons show that within the European Community the impact of part-time work on occupational segregation varies (Rubery and Fagan, 1993). In nine of the countries studied, part-time work increased the overall level of segregation, but by varying degrees. In Portugal and Greece, part-time work was no more segregated than full-time work. In Japan in contrast, part-time work is found to reduce the overall level of segregation (Shirahase and Ishida, 1994). Part-time workers in Japan, most of whom are married women with children, typically work in manufacturing and labouring occupations which would, in the absence of female part-timers, be very male-dominated<sup>1</sup>.

Rubery and Fagan identify, for Europe, a threefold typology of female labour force participation patterns. There are countries where women typically pursue full-time, continuous careers over motherhood. Maternal employment in France is of this type. In contrast, in 'returner' countries women take breaks over child bearing and tend to return on a part-time basis. Britain falls into this category. Southern European countries have 'opt in- opt out' patterns whereby mothers do tend to withdraw from the labour market over childbearing, but there is growing evidence that women are switching to the full-time, continuous patterns of mothers in countries like France. In 'returner' countries, part-time work is most strongly linked with increased occupational segregation (Fagan and Rubery, 1996, table 5).

Two aspects of part-time work contribute to the overall level of occupational segregation: the relative size of the part-time work force and the extent to which part-timers are more heavily concentrated in segregated occupations than full-timers. These two effects are currently inferred by comparing occupational distributions for full- and part-timers and by

recalculating segregation indices, omitting part-timers (Holden and Hansen, 1987, Fagan and Rubery, 1996). These two effects need to be disentangled and studied more directly. This is implemented in chapter 4, which compares the effect of part-time work on occupational segregation in France and the UK.

### **1.3 Theoretical Perspectives**

The next section describes three theories of occupational sex segregation: human capital theory, segmented labour market theory and the queuing theory. Given its extensive and stable nature, it is not surprising that occupational sex segregation is maintained through a wide variety of processes. Theories of occupational sex segregation are eclectic, recognising all but emphasising only selected processes. They differ in terms of the emphasis placed on demand- and supply- side influences. Human capital theory maintains a strong emphasis on women's choices as determining their position in the occupational structure. Segmented labour market theories began by emphasising employers' strategies. They have gradually shifted towards the considered inclusion of supply-side factors. The queuing theory has the capacity to emphasise different processes in different countries, contexts and eras.

The second objective of this theoretical discussion is to consider how the role of part-time work features in these theories. All three theories under discussion evolved in the United States. America has a longer tradition of segregation research, as a result of prior concerns with race segregation. Importing theories and methodologies which have been developed in the context of the American labour force is recognised as a hazardous exercise (Rubery, 1978, Dex, 1988). In these theories of sex segregation, the role of part-time work has typically been overlooked.

Part-time work is far more extensive in Britain than in the US (Dex and Shaw, 1986, Dale and Glover, 1990). It also has a different meaning. The US conforms to the 'continuous' career-type in Rubery's model (above), and part-time work is much more likely to be done by younger workers and students than has been the case in Britain. American part-timers have a moderate impact on the overall level of segregation (Holden and Hansen, 1987,

table 2). This, together with the fact that they account for less than a third of the female labour force in the US, explains why part-time employment is not a prominent issue in American segregation research.

The following discussion shows that this omission has largely been corrected in segmented labour market theory, but finds the human capital and queuing perspectives still wanting in this respect.

### **1.3.1 Occupational choices: human capital theory**

The aim here is to review research which is specific to human capital theory's account of occupational sex segregation, rather than provide a general explanation and critique of the human capital approach. The human capital approach explains occupational sex segregation as the outcome of rational choices made within the family about the optimal use of women and men's time and energy. Becker's *A Treatise on the Family* emphasises the benefits of gender specialisation within the household (Becker, 1991). The idea is that when women specialise in household-related activities and men specialise in market work, the family benefits from the gains from trade. Becker suggests, somewhat loosely, that this traditional gender division may be rooted in either gender discrimination or be determined by biology. Whichever, the effect is to reduce women's labour force participation and discourage their investment in the skills and training required for paid work. According to this theory, women's household responsibilities encourage occupational segregation because women choose occupations and jobs which are less effort-intensive, and more compatible with their domestically-oriented specialisation. Men's wages exceed women's because in anticipation of their domestic role, women invest less in human capital and devote less energy to their paid work. It is also hypothesised that married women earn less per hour than single women. This reduced level of earnings further rationalises the lower levels of labour market participation and human capital investments of married women. 'Full equilibrium' would be achieved if women devoted all their time and energy to housework and non-market activities (p75). Becker also acknowledges the theoretical possibility of a shift in the sexual division of domestic labour, with some men taking on a bigger share of child-rearing responsibilities. This would increase the relative earnings

of married women and reduce occupational sex segregation. Benefits could still be derived from a household/market work specialisation within the household, though this division of labour need not necessarily be based on sex.

Polachek shows the implications of the division of domestic labour for specialisation within paid work. Adopting a lifetime perspective, he argues that women's occupational choices are based on their anticipated lifetime labour force commitment (Polachek, 1976). Job-related skills get rusty during periods of labour-market withdrawal. Such skills atrophy is higher in professional and white-collar jobs, lower in more menial jobs. Polachek argues that women who anticipate intermittency in their employment careers minimise their human capital losses and maximise lifetime earnings by entering and not attempting to surpass lower-grade jobs. This hypothesis implies that women who anticipate intermittency avoid occupations with high rates of appreciation (and depreciation), as they also tend to have unacceptably low starting salaries.

Before discussing specific criticisms of the human capital account, there are more fundamental concerns to be raised about the theory's emphasis on occupational choice. The assumption that all members' interests are reflected in family-based decision-making is problematic (Walby, 1988). Humphries also attacks the emphasis on choice, which colours the terminology used by human capital theorists. She argues that economists' emphasis on 'specialisation' within the household implies rational, optimising calculation. Rather, she argues, these economists are rationalising traditional gender stereotypes, and in doing so they legitimise the status quo. Their approach discourages proposals to use equal opportunities policies to shift the sexual division of labour, as these would defy the optimising strategies which women and men, according to this theory, beneficially pursue (Humphries, 1995).

More specifically, there is criticism of Polachek's central assumption that women who anticipate intermittent employment maximise their lifetime earnings by choosing occupations with low skill depreciation rates. Women who opt for occupations which carry heavy penalties for intermittency would still earn more if skills appreciation during

employment outweighed depreciation during withdrawal (England, 1982). Polachek's critical assumption is that occupations with high appreciation offer low starting wages. England questions whether these are low enough to offset the effect of appreciation on intermittent workers' wages in these occupations, which is a necessary condition for Polachek's theory to hold.

The assumption that women's occupations penalise intermittency less than men's has also been challenged. England (1982) and Corcoran, Duncan and Ponza (1984) found that the wage penalties for intermittent employment were no greater in male-dominated occupations than in female-dominated ones. Both based their criticisms on empirical analysis of American data.

The significance in women's career decisions of skills atrophy over labour market withdrawal is also questioned by Corcoran, Duncan and Ponza. They emphasise the importance of the 'rebound effect' on the wages of women who return from a break in employment. This distinguishes between the short-term and long-term impacts that intermittency has on earnings. In the short-term, women returners experience a reduction in wages. This may be attributable to returners' lack of complete information about the job market, and employers' incomplete information about the skills and qualities of these re-entrants. Thus there is a temporary mismatch between women's skills and the jobs they hold. However the long-term effect of labour market withdrawal on wages is much smaller, as women 'restore' previously depreciated skills, regain their pre-withdrawal status and experience a sharp (post re-entry) rise in earnings. This further undermines the human capital predictions. If the long-term penalties of labour market withdrawal from male-typed occupations are small, they are less likely to prompt women to opt for female-typed occupations which offer lower wages and a lower return on skills and experience.

This rebound effect is more significant for women in America than in Britain. In a comparative study of British and American women workers, Dex and Shaw (1986) found that British women were much more likely to experience occupational downgrading on their return to work after child bearing. Those who were downwardly mobile over child-

rearing were much less likely to retrieve their original, pre-withdrawal status than American women in the same situation.

The human capital explanation also implies immobility between male and female-typed occupations. The assumption is that occupational choices are based on and suited to either continuous or intermittent employment careers. Women with more continuous careers would be concentrated in male occupations, whilst those with intermittent histories would be concentrated in female-typed occupations. Numerous studies have found high levels of mobility between gender-typical and -atypical occupations (Corcoran, Duncan and Ponza, 1984, Jacobs, 1989a, England, 1982, Rosenfeld, 1984, Rosenfeld and Spenner, 1992, Scott and Burchell, 1994). However the evidence for the human capital proposition that intermittent workers tend towards female-typed occupations is mixed (Polachek, 1976, 1985, England, 1982, 1985, Corcoran, Duncan and Ponza, 1984, Rosenfeld and Spenner, 1992, Blossfeld, 1987, Jacobs, 1995). These conflicting results largely reflect the researchers' different approaches to the question (Reskin and Hartmann, 1986) and none find overwhelming evidence that intermittency is confined to female-typed occupations.

Differences in the patterns of women's labour force participation in Britain and America suggest that it would be more appropriate to test how intermittency and part-time employment together affect segregation patterns in Britain. Whilst American research tends to counterpose full-time work and labour market withdrawal, often with no more than a passing reference to the effect of part-time work, the latter is a central feature of British women's employment after they have children and therefore deserves more attention. Dex and Shaw found that British women are more than twice as likely as American women to work part-time. Whilst full-time employment is much more common than part-time employment for American women of all ages, from their mid-20s onwards British women are more likely to work part-time than full-time. Not only is part-time work more usual for British women, but it has different meaning, being structured differently in the American and British economies (Dex and Shaw, 1986). The concentration of part-time jobs in female-typed occupations in Britain suggests that women experience higher segregation levels when they return to work after childbirth. Whilst downward

occupational mobility amongst returning mothers in Britain is well documented (Dex, 1984 and 1987, Martin and Roberts, 1984, McRae, 1991, Joshi and Hinde, 1993, Brannen, 1989, Joshi and Newell, 1987), and suggests that occupational sex segregation also intensifies at this time (Rubery and Fagan, 1995), the latter proposition needs to be tested more directly.

To investigate whether women with more continuous careers were more likely to opt for predominantly male occupations, Jacobs' analysis of longitudinal data from the Social Change and Economic Life Initiative finds that this prediction is not supported in British data (Jacobs, 1995)<sup>2</sup>. However a more salient question in the British context is whether women who work part-time over child-rearing opt for careers in feminised occupations. Jacobs reports that working full-time or part-time in one's current job strongly influenced the sex-type of their current occupation. However, this does not address the key issue.

Acknowledging the growing trend towards women's employment continuity over child bearing, there is a new emphasis on 'compensating differentials' in guiding women's occupational choices (Filer, 1985). The suggestion is that women forsake occupational status and earnings for jobs which offer conditions which are compatible with child-rearing. This has been challenged empirically (Kilbourne, Farkas, Beron, Weir and England, 1994, Paci, Joshi and Makepeace, 1995). 'Compensating' benefits and earnings have been found to be positively related. Estes and Glass (1996) point out that the principal assumption of the compensating differentials argument is that new mothers make unconstrained occupational choices in a market offering a range of jobs with different mixtures of pay and family-friendly policies. An alternative view, expressed in the dual and segmented labour market theories, emphasises the role of institutions in matching workers and jobs.

Overall, there is little empirical support for human capital explanations in the US. Possibly this approach would find more support in the British context, given higher levels of part-time work concentrated in low-skilled occupations. However even in the British context there is friction between the emphasis on strategic human capital investments and the

reality of substantial occupational mobility, mostly downward, around child-rearing. This is explored more in Chapter 7.

### **1.3.2 Structural constraints: dual and segmented labour market theories.**

Dual labour market theory evolved in response to the insistence of orthodox economics that wages gaps are the outcome of neutral market forces. In the case of the human capital approach, women's low pay is said to reflect the unequal attributes of women and men. Early formulations of dual labour market theory identified a major division within the workforce, between primary and secondary sector workers (Doeringer and Piore, 1971). These groups did not compete with each other in the labour market. It was argued that the primary sector offers workers relatively high wages, good working conditions, chances of promotion and employment stability. These benefits help employers to retain highly skilled workers with organisation-specific skills in jobs which require high skills investments. In contrast, the secondary sector is characterised by low pay, poor working conditions, no prospects for promotion, low skill levels and high turnover rates. Gordon, Edwards and Reich (1982) offer a more radical interpretation which emphasises the fundamental conflict between workers and employers. By dividing the labour force, employers reduce the threat of widespread collective action.

Internal labour markets (ILMs) maintain this duality and are therefore central to the theory. ILMs are described as administrative units in which the pricing and allocation of labour are controlled by organisational rules and procedures. Typically workers proceed up job hierarchies within ILMs, access to which is controlled and regulated by recruitment at established 'ports of entry' at the bottom of the promotion ladder. In addition to helping employers retain highly skilled staff, ILMs encourage loyalty and job commitment from employees and stability for the firm. Primary sector workers are sheltered from the vulnerabilities experienced by those in the secondary sector, for whom pay levels, job allocation and training decisions are influenced by competition in the 'external' market. Stable demand for products and services and mass production are considered a condition for the establishment of ILMs, whilst smaller firms are more likely to rely on staff flexibility to cope with variable demand. Thus secondary sector workers are more likely

to work for small firms relying on high levels of marginal labour, including part-timers and those on temporary and fixed-term contracts.

Barron and Norris (1976) used the dual labour market theory to help explain occupational sex segregation in Britain. They argued that women in Britain were typically confined to the secondary sector because of their disadvantaged status. British women had the following secondary-sector attributes:

- they were more easily dispensable than men. This was partly because of higher voluntary turnover rates around family formation. They were also more easily made redundant, because of their lesser claim to waged labour (reflecting prevailing beliefs about women's roles), their position as secondary earners and their lack of collective organisation.
- their gender acts as a clear social difference which employers use to justify unequal treatment compared to primary sector workers, the majority of whom are men.
- they are less inclined towards acquiring the skills and training which are characteristic of primary sector employment. Women's low expectations in respect of training are attributed to gender role socialisation.
- they place less emphasis on the economic rewards in their work than men. This is related to life cycle variation in orientations towards paid employment and the reality of the types of work they can expect to get.
- they have traditionally been less successful at collective organisation than men.

Although Barron and Norris acknowledged that some men also have some of these attributes, notably youths and older workers, they maintained that labour market duality coincides with the gender divide and that dualism had been overlooked in previous labour market research because it focused on male employment.

This work catalysed a new orientation towards demand-side factors and the structural constraints which women encounter in paid employment. However, it was also criticised for being too simplistic. Rubery (1978) points out that the dual labour market theory was developed in an incremental fashion, borrowing useful elements from other theories and as a result it

‘...is more a rationalisation of the present structure of the American labour market than an explanation of how this was arrived at from the range of development paths open to it’ (p18).

Rubery argues that the theory neglected the role of the unions in mediating the effects of employers’ management strategies (see also Beechey, 1978, Dex, 1988, 1990), possibly because of the relative weaknesses of workers’ organisation in America. To remedy this, Rubery, Craig and others in the ‘Cambridge group’ emphasised the role that organised labour and the state play in creating labour market segments and the conditions operating within them (see for example Craig et al, 1984).

The Cambridge group also challenged the primary/secondary distinction in relation to the skills attributes that workers have. They found that neither small firms nor larger firms with informal pay structures (both of which would typically be classified as secondary sector employers) were less reliant on skilled, stable and experienced employees than firms in the primary sector. ‘Secondary-type’ workers possessed considerable levels of skill and experience which were often job-specific; the interchangeability of workers in the secondary sector assumed by early dual labour market models did not hold under empirical scrutiny. Women are concentrated in the secondary sector not because they are unskilled, but because women’s skills are not recognised or rewarded in the same way as men’s (Craig et al, 1984). This view is endorsed in more recent research by Gallie, who adds that gender differences in the rewards for skilled work, in terms of autonomy on the job, reflect neither the skill contents of women’s and men’s jobs nor a primary/secondary sector divide in terms of workers’ skills attributes. Rather, he identifies employers actions which make gendered assumptions about the capabilities of women and men and which often reflect

traditional organisational philosophies (Gallie, 1996).

Burchell, Elliot and Rubery (1994) argue that employers are able to get skilled work and loyalty (qualities associated with primary workers in ILMs) out of secondary sector workers if they belong to disadvantaged groups. Employee attachment, the pay they are prepared to work for and the conditions (contract, hours, prospects for promotion, autonomy) they will tolerate or even be satisfied with are found to be influenced by the opportunities that workers face in the external labour market. Employers are able to extract from women, and particularly returners with family commitments, the benefits normally associated with the primary sector without having to pay primary sector wages. This is because their alternative employment opportunities are seriously constrained, geographically and in terms of working hours.

Humphries and Rubery (1984) argue that employers are also able to take advantage of women's financial dependence on family income by paying them wages which are below that needed to meet their own consumption needs. In this work Humphries and Rubery shift the original focus on employer actions onto one which recognises the relationship between demand and supply sides. They argue that

‘The demand-side structure of the economy cannot be conceived independently of the supply-side structure. The latter is neither autonomously determined, as under patriarchy, nor does it respond smoothly, predictably or accommodatingly to demand-side impulses.’ (Humphries and Rubery, 1984, p339)

Humphries and Rubery use the concept of social reproduction to refer in particular to the family system within which human beings' physical and mental resources get renewed on a daily and intergenerational basis (p331). Systems of social reproduction are described as 'relatively autonomous' from the system of production. The relationship between the two must be analysed in a way that allows for contextual and historic variations.

The original simple dichotomies between primary and secondary sector workers and

attributes described in the dual labour market theory have been superseded. More sophisticated models replace the duality described above with a growing number of segments, reflecting increasing heterogeneity within the workforce. Crompton and Sanderson's complex model of the occupational structure gives an indication of the degree of detail being incorporated into segmented labour market models (Crompton and Sanderson, 1990a, p.39). These are enriched by longitudinal analyses which acknowledge the dynamic nature of women's employment participation.

For example, Dex (1987) shows how segmentation is both reflected in, and exploits, individuals' 'work-cycle' experiences. During family formation, women who continued to work were most likely to work part-time. Part-time work in particular was found to be very rigidly segmented. Semi-skilled work in retail distribution in particular relied heavily on part-time labour. For women returners, shifts to part-time employment typically involved downward occupational mobility. They often coincided with a transition from manufacturing to service-sector employment. There were exceptions to this pattern. Teachers and nurses were more likely than other occupational groups to move between full-time and part-time status without losing occupational status. The most common employment profiles for women were teacher, nurse, clerical, skilled, semi-skilled factory and semi-skilled.

Dale (1987) describes why, in segmented labour markets, breaks around child-rearing represent a one-way journey into the secondary sector for most women who were previously in the primary sector. Re-entry to the primary sector is prevented by the exclusionary power of ILMs. There are age barriers at the ports of entry to ILMs which bar mature women returners. Re-entry is also typically at the bottom of the jobs ladder, and few of the higher-level jobs are constructed on a part-time basis. Women can avoid this occupational mobility around child-rearing if they are in occupational internal labour markets (OILMs), for which particular qualifications act as passports for entry. Dale identifies teaching, nursing, physiotherapy, speech therapy and occupational therapy as OILMs in which women predominate. She explicitly acknowledges the combined influences of demand- and supply-side factors in determining the nature of part-time work:

'Thus the location of most part-time jobs within a low-paid secondary labour market may be seen to derive, firstly, from the expansion of the service sector which is labour-intensive and provides locally available jobs that can be readily constructed on a part-time basis and, secondly, from the household division of both labour and financial responsibility and the restricted availability of child-care facilities. Also influencing employers' decisions to construct jobs as part-time rather than full-time are the tax and legislative conditions governing part-time work-for example, levels of National Insurance contributions and marginal rates of taxation. Thus it is the interaction of a series of factors both on the supply and the demand side that result in the formulation of a particular segment of the labour market which is dominated by part-time jobs held by married women' (Dale, 1987, p331)

Rubery, Horrell and Burchell describe the characteristics which together suggest that part-time work constitutes a distinct segment of the labour market. These include lower levels of skill and job complexity, poor promotion prospects, lower pay pro-rata to full-timers with similar skills, and the increased requirement by employers for working-time flexibility (Rubery, Horrell and Burchell, 1994). They also raise unresolved questions about the influence of gender on the construction of part-time work:

'Are part-time jobs in fact organised as low-skilled jobs because they are designed to employ women or are they primarily concentrated in areas most conducive to the development of deskilled work? If the latter is the case, is the policy issue primarily one of extending part-time work to higher skilled areas or would part-time jobs within those areas also become relatively deskilled?' (Rubery, Horrell and Burchell, 1994, p230)

Although segmented labour market theory has generated sophisticated empirical research, it has been argued that it is a 'middle-range' theory and as such its scope is limited (Fine, 1987, 1990). It relies on a varying range of abstract explanatory variables, for example the sexual division of labour and social reproduction, to describe women's position in a

particular segment, without explaining why they combine together in such a way as to produce these particular outcomes. Because of the enormity of the task of reconciling these abstract concepts into a coherent theory at the level of societies, Fine argues that the segmented labour market theory proceeds best on the micro-level, using case studies. Based on a review of this empirical research, he concludes:

'...there is found greater or lesser success in identifying labour market segments and the processes that produce them and, given the variety of explanatory factors employed, it is necessary to remain sceptical about the extent to which they contribute to a well-defined theoretical core as opposed to a system of empirical classification' (Fine, forthcoming, p143)

Feminists have also criticised the tendency for segmented labour market theory to take gender differences as a 'given' without explaining how these inequalities came about. Patriarchy predated capitalism and, it is argued, can be used to explain the gendering of labour market segments and occupations (Middleton, 1988). Incorporating a segmented labour market approach, Walby argues that variations in levels of occupational segregation are the result of differences in the relative strength of capitalism and patriarchy at key moments in the development of the area of work in question (Walby, 1988). For example she argues that the greater strength of engineering unions allowed them to resist women's entry where male clerical workers failed (see also Cockburn, 1983).

Fine's identification of segmented labour market theory as 'middle-range' echoes Rubery's initial observation that the incremental development of the theory in the US made it more descriptive than explanatory.

In addition, because it was originally developed to explain the economic structure under monopoly capitalism, which developed in the late 19th and early 20th centuries, the theory faces a major challenge in the face of labour market deregulation in the 1990s ( Rubery, 1996). Primary sector jobs, characterised as stable, protected and high paying, are increasingly elusive. The identification of instability with low skills and pay, essentially

secondary sector attributes, is less salient than it was (Gallie and White, 1994). Occupational identities have been eroded together with the now out-moded concept of having a 'job for life'. The demise of the single earner household is also severing the link between standards of living and employment position or status.

Rubery suggests that to salvage segmented labour market theory in the face of these changes more emphasis should be placed upon the institutions which shape labour supply, some of which have changed in recent years:

'Institutions not only provide protection against the so-called hidden hand of market forces by creating uniform labour market standards, but also act to create a segmented labour supply which facilitates the development of a wide range of employment systems and practices within the labour market' (Rubery, 1996, p31).

Rubery is referring to institutions like the social security system which tops up wages, for example through housing benefit, and enables workers to accept low-paid and part-time work, and the youth training scheme which has encouraged a levelling down of youth wage levels.

So far this section has outlined how segmented labour market theory evolved from an initial focus on employers' recruitment and employment strategies to a more balanced approach, incorporating both supply- and demand-side factors in shaping the labour market segments it describes. This theory has inspired a plethora of empirical studies, a handful of which have been discussed in this section, and some of which incorporate a life-cycle perspective to locate women's work, including part-time work, in the employment structure. These represent a significant advance in our understanding of women's employment, their occupational attainments and how these are influenced by part-time work.

### **1.3.3 Acknowledging the shifting balance of influences: the queuing theory**

Reskin and Roos' queuing theory provides a model for investigating the mechanics of occupational sex segregation, particularly the processes involved in occupational feminisation (Reskin and Roos, 1990). It is compatible with the segmented labour market theory, sharing the same origins (see Doeringer and Piore, 1971) though occupations, not segments, are the unit of analysis. The relationship between the two theories is discussed further in section 8.4. Because it allows the importance of different factors shaping the occupational structure to change over time and place it is eminently flexible, but essentially it provides a framework for analysis rather than an explanatory theory.

Occupational segregation of women and men is seen as the outcome of a dual queuing process. In labour queues, workers are ranked according to their attractiveness to employers. In job queues, jobs are ranked according to workers' preferences. Women and men generally use the same criteria to rank occupations, with rewards and status high on the list. Employers recruit from the top of the labour queue and workers take the best job available to them. The two queues jointly determine labour market outcomes. Patriarchal collaboration between employers and men means that in the model which Reskin and Roos use, men are at the top of most labour queues and they get the first option on the most desirable jobs (Reskin, 1988, Strober, 1984). Other criteria, such as race discrimination, can influence workers' ranking within queues (Model and Lapido, 1996). For Reskin and Roos, labour queues are essentially gender queues and the outcome is high and persisting occupational sex segregation.

Change in the pattern or level of occupational sex segregation arises if either

- the elements within queues are re-ranked.  
This happens if workers' job preferences change or if employers alter their choice of preferred worker characteristics.
- the shape of either queue changes.  
If the absolute or relative numbers of women or men or jobs changes then

segregation patterns are likely to shift.

- rankers' preferences become more or less intense.

For example, discriminating employers may decide to recruit from the least-favoured group if applicants are exceptionally well qualified. Alternatively preferred workers at the top of the labour queue may shun particular specialisations within highly ranked occupations (Reskin and Roos cite the example of physicians in rural communities).

This model is used to explain why a range of occupations feminised over the 1970s in America (Reskin and Roos, 1990). The main reason was the shortage of men, particularly in the expanding services sector. Additionally there was often a sex-specific demand for women, sometimes encouraged by anti-discrimination legislation, and a decline in men's ability or inclination to resist women's entry. Explanations varied between occupations, taking into account not only change in the sex composition of the labour force, but also differences in the way this affected employers' demand for labour. Changes in social attitudes and cultural norms and the institutions that shape labour supply were also explanatory factors.

The research viewed trends towards greater feminisation somewhat sceptically. Through the case studies, the authors concluded that it was important to distinguish between real occupational integration, women's ghettoisation and the possibility of resegregation. The latter happens if apparent integration is in fact an intermediate stage in the process of a reversal in the sex-typing of an occupational group. Ghettoisation occurs when women are clustered by speciality, task and/or firm within occupational groups.

Because of the inherent dynamism in the queuing model, it is flexible enough to accommodate and explain changes over time and place in both the occupational structure and in the various influences on sex segregation. This is illustrated in Rubery and Fagan's cross-national comparison of gender segregation within Europe (Rubery and Fagan, 1993 and 1995). One of their findings which is particularly relevant to this thesis is the major

division between labour markets in the way that women negotiate child-rearing and paid work. The 'returner' type of female labour force participation reflects a matching of employers' demand for flexibility and the use of part-time labour on the one hand and the retention of the male-breadwinner household form on the other. This contrasts with the continuous strategy, when women typically work full-time, continuously, over child-rearing.

Part-time work enters into Reskin and Roos' queuing theory in a minor way. It is raised in the context of women and men's evaluation of occupations in the job queue. Men reject occupations which tend towards part-time and flexible working, in favour of jobs offering full-timers' pay and hours. Women are sometimes attracted to jobs offering part-time hours and flexibility because of the dual demands of work and home, but Reskin and Roos suggest that the evidence to support this thesis is weak (1990, p38). They also note that employers sometimes design jobs to use women's part-time labour (p58).

#### **1.4 Unanswered questions about the relationship between part-time work and occupational sex segregation**

Part-time work is largely missing from human capital explanations of segregation. Most of this research is based on the US labour force, in which part-time work occupies a different place in women's employment experiences, compared to British women. Part-time work is common amongst mothers in Britain. Family responsibilities limit their availability for full-time employment. These constraints make the human capital emphasis on individual career choices problematic. The dual labour market theory shifted the focus from individuals to employers' roles in structuring employment. Different recruitment, pay, promotion and employment contract policies enable employers to structure the labour market into non-competing groups. Original formulations were too simplistic, and segmented labour market theory now recognises heterogeneity within sectors and the interrelationship between employer policies and supply-side factors, such as the family. The queuing theory accommodates a shifting balance between supply- and demand- side influences. However, within both segmented labour market and the queuing theory approaches, there remain important questions about the role of part-time work in

occupational sex segregation which are unanswered.

Whilst part-time work and occupational sex segregation may not be linked in a deterministic way, in Britain, and across most of Europe, part-time jobs are mainly done by women in very feminised occupations and they therefore raise overall segregation levels. Because women in Britain mostly work part-time after they have had children, the amount of part-time employment in cross-sectional statistics understates the number of women whose working lives are touched by the experience of part-time employment. This thesis includes an analysis of longitudinal data for 1971, 81 and 91 from the Office for National Statistics Longitudinal Study (ONS LS). This shows how part-time work affected women's occupational mobility over child rearing and how this impacted on their experiences of occupational sex segregation.

This work was informed by other empirical research using a life-cycle approach. A common and sometimes dramatic feature of occupational transitions over child bearing is occupational downgrading. Women who return to full-time employment after taking maternity leave are least likely to experience downward occupational mobility (Joshi and Newell, 1987, Brannen, 1989, McRae, 1991). Women who delay having children and those with higher qualifications and occupational status are most likely to follow this advantageous path. Downward mobility is strongly associated with taking an extended break from employment and is particularly frequent for those who return to part-time jobs. In these part-time jobs women usually underutilise their prior work experience and skills (Elias, 1988) and working part-time adversely affects current and future earnings (Main, 1988, Joshi, 1990b). The low earnings of 33 year old British mothers has been traced to their concentration in part-time jobs:

‘.....it is not the high concentration of mothers in part-time jobs that causes the low average pay of part-timers. The story appears to be rather the opposite. The fact that a high proportion of mothers earns low part-time wages explains the relatively low average pay of mothers’ (Paci and Joshi, 1996).

Important questions about motherhood, part-time work and occupational segregation, remain as yet unanswered:

1. *Is it motherhood itself or part-time working that affects women's experiences of segregation?*
2. *To what extent do transitions to part-time work lead women into more segregated occupations?*
3. *Are women who work part-time or withdraw completely from the labour force over child-rearing more likely to have worked in feminised occupations prior to having children?*
4. *How does the age at which women become mothers affect these patterns?*
5. *Are these patterns changing over time?*
6. *What influence has change in the industrial structure had on these patterns of occupational mobility?*
7. *How do the patterns of occupational mobility for women compare to those for men?*
8. *To what extent are moves to more feminised occupations also the downward moves?*
9. *How many of these transitions also involve part-time work?*
10. *Do women full-timers who worked continuously through the family formation phase of their lives fare differently, in terms of occupational attainments and segregation, to those full-timers who worked part-time when they had young children?*
11. *How do the experiences of consistent full-time workers and those with both full-time and part-time jobs recorded compare to women who are not observed in any paid work at this time?*

Questions 1 to 4 are dealt with in chapter 6, concerned with horizontal segregation. Chapter 7, on vertical segregation, addresses questions 8 to 11. Questions 5 to 7 are relevant to both chapters.

### **1.5 The structure of this thesis**

Chapter 2 is devoted to methodological issues. Key concepts relating to occupational segregation are defined and there is a discussion about the appropriate level for analyses of sex segregation. The methods for measuring occupational segregation to be used in the following chapters are also described here.

Chapter 3 compares patterns of occupational segregation in France and the UK using the EC Labour Force Survey. Particular attention is paid to the impact of part-time work on overall measures of occupational sex segregation. There is also discussion about how part-time work is constructed and understood in the two countries.

The main aim of Chapter 4 is to contextualise the longitudinal analysis of chapters 6 and 7. The period covered is 1971 to 1991. Over these two decades there was major structural change in the UK economy. An all-age sample of members of the ONS LS has been analysed cross-sectionally to illustrate the impact that these changes had on the work force in England and Wales as a whole, and, in particular, gender distributions in the occupational structure.

Chapter 5 discusses the theoretical implications of occupational classification schemes. It also focuses on changes made in the 1980 reclassification of occupations and how these affect the reliability of observed changes in segregation patterns in 1971/81 comparisons of LS data.

The results of the LS analysis are described in Chapters 6 and 7. The former is devoted to describing the data and showing how child-rearing, part-time and intermittent work feature in the analysis. It also considers the impact that part-time work had women's experiences of segregation. The experiences of one group born in the 1930s and 40s are compared to those of a second group born in the 1940s and 50s. Chapter 7 considers the mobility of these groups up and down the jobs hierarchy. It also investigates the nature of the relationship between sex segregation and vertical mobility in these occupational moves.

Together these chapters provide two perspectives on the relationship between occupational sex segregation and part-time work. The cross-national comparison operates at the macro-level, comparing societal differences in the relationship between part-time work and segregation. At the micro-level, individual experiences of segregation, and the effect that part-time work has on these, are the focus of the LS analysis. Chapter 8 draws together the conclusions from these two approaches.

**notes**

1. Possibly the occupational classification scheme fails to recognise qualitative differences in the nature of the work done by women part-timers in Japan, Portugal and Greece. If so, the apparent occupational integration of women part-timers in these countries would be more artefactual than real (Blackburn, 1997). This would be an interesting avenue for future investigation.
2. Jacobs acknowledges that this finding is based on the occupational distribution of a small sample of women.

## **CHAPTER 2 OCCUPATIONAL SEX SEGREGATION. MEANINGS AND MEASUREMENT**

### **2.1 Focusing on methodology**

This thesis takes several different approaches to the measurement of segregation. Cross-national comparisons of overall national levels of occupational segregation are made for France and the UK. These measures are adapted so that the effect of part-time work on overall segregation can be observed. Time series comparisons are made using all-age samples from the ONS LS for 1971, 81 and 91. Segregation patterns in these occupational distributions are compared to show trends over time.

The longitudinal analysis of LS members' occupational transitions demands a different approach. The aim was to show how an individual's experience of occupational segregation varied at different stages of the life course. This is achieved by categorising occupations as male, mixed and female-typed.

The cross-national, time series and longitudinal analyses proceeded through the implementation and refinement of various summary indices, segregation curves and the three-fold model of 'male', 'mixed' and 'female' occupations. Each approach raises a variety of methodological issues. In the literature on segregation, the suitability of particular segregation measures, and of summary measures in general, is strongly contested. That such debates arise is unsurprising, given the diversity of theories surrounding occupational segregation. Many of the occupational sex segregation measures are derived from race segregation research in the US, which themselves often 'borrowed' techniques from inequality measurement in economics. Whether it is appropriate to adapt these measures for the context of gender segregation, is questionable. Further methodological problems arise because of differences in the way that key concepts are defined and operationalised.

This chapter first establishes the definitions to be used in this thesis (section 2.2). This is followed (in section 2.3) by a discussion about measuring segregation at the level of occupational unit groups. The various measures are then discussed (in section 2.4), prior to their implementation and assessment in the following chapters. Finally, an important new

development in segregation methodology is described. This is the identification and operationalisation of vertical and horizontal segregation components. Taken together, this chapter sets out the methodological approaches adopted in chapters 3 to 7.

## **2.2 Defining key terms: Segregation and Concentration**

There is broad agreement that occupational sex segregation refers to the tendency for women and men to work in different occupations. However segregation and the related concept of occupational concentration are often used loosely and interchangeably. This is not merely the result of different conventions in the use of the key terms. Rather, the apparent confusion reflects theoretical differences which have important implications for segregation measurement.

<b>Table 2.1 Conflicting definitions for segregation and concentration</b>		
Description	<b>Siltanen, Jarman &amp; Blackburn</b>	<b>Rubery &amp; Fagan</b>
The tendency for women and men to be employed in different occupations from each other across the entire spectrum of occupations under analysis	Segregation	Aggregate level segregation
The extent to which one sex is represented in an occupation or group of occupations	Concentration	Disaggregate level segregation
The share of the female workforce in an occupation, showing the extent to which women are confined to a narrower range of occupations compared to men.		Concentration

Sources: Siltanen, Jarman and Blackburn, 1992, 5-6, and Rubery and Fagan, 1993, 21-22.

Table 2.1 summarises two conflicting perspectives. Siltanen, Jarman and Blackburn's conceptualisation of segregation agrees with Rubery and Fagan's 'aggregate level' segregation (Siltanen, Jarman and Blackburn, 1992 and Rubery and Fagan, 1993). In both instances, segregation is seen as an essentially symmetrical concept, so that women and men are segregated from each other to the same extent. The condition of no segregation exists

when the proportions of women and men within occupations correspond to their overall share of the labour force. This situation implies perfect occupational integration. Complete segregation would occur if women and men worked in totally separate occupations. The reality lies somewhere between these extremes and segregation indices attempt to measure the level of occupational segregation so that comparisons can be made over time and place.

Siltanen, Jarman and Blackburn's definition of concentration is the same as what Rubery and Fagan call 'disaggregate level' segregation. Usually the proportion of women or of men in the labour force as a whole is used as a yardstick to determine whether there is over-representation or under-representation of either sex within a particular occupation or group of occupations.

Siltanen, Jarman and Blackburn's work follows the approach adopted by James and Taeuber (1985), in the context of race segregation in the US. This work borrowed concepts from the economics literature on income inequality to establish a set of conventions and principles for segregation and its measurement. James and Taeuber made a crucial distinction between the 'distributional' concept of segregation, which refers to the differences in the distribution of racial groups, and the 'compositional' concept of 'inter-racial exposure (contact)<sup>(1)</sup> which refers to the racial composition of an individual's environment (in James and Taeuber's article, the relevant units of analysis were schools within a school district).

Translated to the context of occupational sex segregation, this distinction is reflected in Siltanen, Jarman and Blackburn's insistence on the essential separation of the concepts of segregation and occupational concentration. They concede that different concentrations in each of the occupations are the 'building blocks' of segregation (Blackburn, Siltanen and Jarman, 1990, p3). However they stress that the two concepts should not be confused and this position has important theoretical and methodological implications for their work on segregation measurement. More precisely, it leads them to reject the 'principle of transfers'<sup>(2)</sup> and therefore guides their choice of segregation index. This is discussed fully in chapter 3.

Rubery and Fagan use the term 'concentration' to describe the tendency for women to be restricted to a smaller range of occupations than men. This is also sometimes referred to as 'crowding' (Siltanen, Jarman and Blackburn, 1992, p7). The concept has to be used very carefully. The proportion of women to be found in a particular occupation, or group of occupations, means little in segregation terms unless the overall size of that occupation or group is also known. Secondly, this concept is particularly strongly influenced by differences in the way that women's and men's occupations are classified.

### **2.3 Occupational crowding and the significance of occupational classification schemes**

It is widely acknowledged that occupational classification schemes distinguish more finely between men's occupations, whilst jobs which tend to be done by women are lumped together under broadly-defined occupational titles. (Chapters 3 and 5 contain a theoretical discussion around this theme, and these concerns are also summarised in Thomas, 1986). This may generate a distorted view of the occupational structure, which Rubery and Fagan's 'concentration' unquestioningly reflects. This is best illustrated by example.

In this example the labour force contains 300 women and 300 men. Table 2.2 shows the occupational structures created by two different, but related, occupational classification schemes. Classification A contains only 3 occupational groups. Men are evenly distributed across these 3 groups. Women appear to be heavily 'concentrated' (Rubery and Fagan's definition) in group 3, since  $\frac{2}{3}$  of women are in this group.

However, for classification B, four new occupational groups replaced the single group 3 from classification A. (Imagine that this was in response to comments from users that the old classification scheme was not affording the same level of detail to women's work as it was to men's). The pattern of 'concentration' (Rubery and Fagan's definition) is reversed. Now men are restricted to just three occupational groups, whilst women are evenly distributed across the occupational structure.

Whilst Siltanen, Jarman and Blackburn's 'concentration' would also be affected by this

reclassification, their concept applies only to a particular occupational group so the implications are not so far-reaching. Rubery and Fagan's 'concentration', however, makes claims about the overall gender structure of employment so the effect of inadequacies in the classification scheme are more profound. <sup>(3)</sup>

<b>Table 2.2 Effect of disaggregating occupational groups</b>						
	<b>CLASSIFICATION A</b>					
	1	2	3			
Women	50	50	200			
Men	100	100	100			
	<b>CLASSIFICATION B</b>					
	1	2	3	4	5	6
Women	50	50	50	50	50	50
Men	100	100	100	0	0	0

In this thesis, the definitions of segregation and concentration advocated by Siltanen, Jarman and Blackburn will be adopted, with one exception. Occasionally, an occupation may be described as 'segregated', if it is disproportionately female or male-dominated. It makes sense on an intuitive level to say that, for example, nursing is a sex segregated occupation. Strictly speaking though, the term 'segregation' should only be applied to either the labour force as a whole, or to groups of occupations. Possibly this digression reflects the view, also expressed in the evaluation of segregation indices in Chapter 3, that the concepts of segregation and concentration can and should be linked. Rubery and Fagan's definition and use of 'concentration' will be avoided.

Comparability of occupational classifications is important in cross-national research. Even when a common classification scheme is used for each country, comparability is undermined by differences in interpretation. This is discussed in more detail in chapter 3.

#### **2.4 Measuring segregation at levels other than the occupational unit group.**

The level at which segregation is measured is critical. More detailed studies, sometimes of a qualitative nature, reveal higher levels of segregation than analyses at the national level dealing with occupations. The tendency for women and men to work in separate occupations is just one of many forms of gender segregation in the labour force. Segregation also exists, both within and across occupations, at the level of industry (Dale and Glover, 1990, Rubery and Fagan, 1993 and Tijdens, 1994), public and private sectors (Millward and Woodland, 1995, Burchell, 1996) and establishment (Martin and Roberts, 1984, Bielby and Baron, 1984, 1986, Scott, 1994, Petersen and Morgan, 1995, Millward and Woodland, 1995). Multi-dimensional analyses such as Millward and Woodland's investigation of occupation/establishment segregation, show more segregation than those which focus on occupations alone. More detailed occupational classification schemes also raise the value of segregation indices. These two observations are illustrated in the following example.

Bielby and Baron (1984) use occupational and establishment data for California to show how the degree of detail in the occupational classification affects measures of segregation. The information, collected between 1964 and 79, included 40000 men and 11000 women. The Index of Dissimilarity (ID, described below) was used to measure occupational segregation, firstly using just seven major occupational groups. This showed that 37 per cent of women (or men) would have to be reclassified to equalise male and female distributions. This rose to 75 per cent when a detailed, 645-title classification was used. This work also shows the effect of ignoring intraoccupational segregation, in this case, by establishment. Using establishment job titles, of which there were some 10000 in total, almost total segregation was revealed. The ID suggested that 96 per cent of women or men would have to change jobs to equalise male and female distributions<sup>(4)</sup>.

The appropriateness of using occupational classifications alone as the basis for measuring segregation has also been questioned in Burchell's more recent analysis of segregation by size of workplace and private/public sector establishment:

'With moves to multi-skilling, retraining and firm-specific training, and the

demise of job demarcation in many industries, the division of work may become much more fluid so that occupations become even further removed from the simple descriptions of types of jobs. Under these circumstances we will need to resist even more strongly the temptation to reify, simplify or objectify the abstract and complex notion of an occupation' (Burchell, 1996, p234).

Case studies reveal other important gender divisions which occupational classification systems do not capture. For example, clerical occupations have different meanings for women and men. Men who begin their careers in clerical work are most likely to be on an upwardly-bound career trajectory, leading to management. For women, clerical work is the main occupational destination, with very few being promoted out of clerical grades (Stewart, Prandy and Blackburn, 1980). Bielby and Baron suggest that, in the US, waiters experience different work arrangements and pay and have different career prospects to waitresses (Bielby and Baron, 1986). Waiters and waitresses rarely work together, yet they are classified together and often appear as an integrated occupation in segregation research.

Reskin and Hartmann point out that the level at which segregation is measured is informed by theoretical considerations. The structuralist perspective favours the inclusion of organisation-level data:

'Theories that focus on workers' choices are concerned with occupational outcomes, but hiring decisions occur at the establishment level and must be explained with data on men's and women's access to jobs' (Reskin and Hartmann 1986 p9).

The explanatory power of occupational choice and other supply-side factors is reduced when segregation within occupational groups is revealed. This type of segregation appears to be better explained by hiring and job allocation decisions and practices on the part of employers.

The level of segregation measurement may also reflect a particular social policy research agenda. Proposals to address occupational segregation may differ from those which deal with workplace segregation.

Because of these limitations in national-level, occupations-based analyses, segregation research has recently shifted towards combining analyses using national occupational statistics with more qualitative case-studies. The latter reveal any additional gender divisions and the processes which create and maintain them (Reskin and Roos, 1990, Crompton and Sanderson, 1990a, Rubery and Fagan, 1993). However statistical analyses at country-level cannot be abandoned because these are the indicators which policy-makers and the media use to monitor change (Reskin and Roos, 1990, and Rubery and Fagan, 1995). They pose a particular challenge:

‘The very deceptiveness of such statistics necessitates that researchers continue to use them .....not as facts but as social constructions, whose validity we must assess in order to determine whether the trends they imply are genuine’ (Reskin and Roos, 1990, p).

Part-time work is another gendered division in the labour force which is frequently overlooked in segregation research (the reasons are discussed in Chapter 1). Part-time work is so heavily feminised in the UK that it is still justifiable to describe the full-time/part-time divide as a gender division, though the proportion of men working part-time is rising (Dex and Mc Culloch, 1995, see also chapter 4). For given education and experience, part-time work is paid less per hour than otherwise identical full-time work (Ermisch and Wright, 1992), offers little opportunity for training (Bruegel and Perrons, 1995) and has traditionally offered worse conditions and promotion prospects than full-time work (Rubery, Horrell and Burchell, 1994, Dale and Joshi, 1992, Holtermann, 1995). However full-time and part-time jobs are undifferentiated in occupational classification systems and segregation indices are, likewise, undifferentiating.

It is appropriate to analyse the relationship between part-time work and segregation at

national level, and make cross-national comparisons, because it is shaped by country-specific factors: structural and sectoral change, the strength of the breadwinner model and tax and legislative conditions, for example. The segregation indices and measures described below have been specifically adapted to provide segregation measures which recognise full-timers and part-timers separately. It is also recognised that these measures understate the extent to which people experience gender segregation in their everyday work.

### **2.5 Measuring segregation: the indices**

This section describes five indices, which have been used in chapters 3 and 4, to compare patterns of occupational segregation between women and men, full-timers and part-timers, in France and the UK. These indices are: Hakim's Sex Ratio Index, the Standardised Sex Ratio Index, the Index of Dissimilarity (sometimes called the 'Duncan' index), the Marginal Matching Index and the Gini Index or coefficient. Interpretation and comparison of the first four of these measures is greatly simplified by relating them to the 'basic segregation table', introduced by Blackburn, Siltanen and Jarman (1990) and shown in table 2.3.

<b>Table 2.3 Basic Segregation Table</b>			
	<b>Men</b>	<b>Women</b>	<b>total</b>
<b>'Male' occupations</b>	$M_m$	$F_m$	$N_m$
<b>'Female' occupations</b>	$M_f$	$F_f$	$N_f$
<b>total</b>	$M$	$F$	$N$

The mathematical proofs which relate the following indices to the basic segregation table are found in Siltanen et al, 1992. The symbols used in the following formulae are defined as follows:

$N$  = total number of workers in the labour force

$F$  = total number of women workers

$M$  = total number of male workers

$N_f$  = total number of workers in 'female' occupations

$N_m$  = total number of workers in 'male' occupations

$M_f$  = total number of men in 'female' occupations

$M_m$ =total number of men in 'male' occupations

$F_f$ =total number of women in 'female' occupations

$F_m$ =total number of women in 'male' occupations

### **2.5.1 Hakim's Sex Ratio Index (SRI)**

The SRI can be calculated as the difference between the ratio of the observed to the expected proportion of the female labour force in 'female' occupations and in 'male' occupations. The expected proportions are equal to women's share of the whole labour force. 'Female' occupations are those in which the proportion of women is greater than the female share of the labour force. 'Male' occupations are those in which the proportion of women is less than in the labour force as a whole.

Formally:

$$\begin{aligned} \text{SRI} &= \frac{E_f/E}{N_f/N} - \frac{E_m/E}{N_m/N} = \frac{N}{F} \left[ \frac{E_f}{N_f} - \frac{E_m}{N_m} \right] \\ &= [N/F] * D_r \end{aligned}$$

where  $D_r$  is the difference of proportions between the rows in the basic segregation table. The SRI has a minimum value of 0 and a maximum value of  $N/F$ .

### **2.5.2 Standardised Sex Ratio Index (SSRI)**

The SSRI was proposed as an improved version of the SRI. The latter was found to be unreliable in cross-national comparisons and in comparisons over time because it lacked gender composition invariance<sup>(5)</sup>, which is discussed and illustrated in the France/UK analysis in chapter 3.

The SSRI is calculated as the ratio of the number of women in 'female' occupations to the total number of workers in female occupations, minus the ratio of the number of women in male occupations to the total number of workers in male occupations. Male and female occupations are defined as for the SRI.

The SSRI has a maximum value of 1 and a minimum of 0. It can be represented as:

$$SSR = \frac{E_f}{N_f} - \frac{E_m}{N_m}$$

$$= D_r$$

In this form, the relationship between SRI and SSRI is clear; the SSRI is an unweighted form of the SRI.

### **2.5.3 The Index of Dissimilarity (ID)**

This index is also known as the 'Duncan Index' and is the most frequently used measure of occupational segregation, being used almost exclusively in North American studies.

It is calculated as equal to half the sum of the absolute differences between the proportions of the female labour force and the proportions of the male labour force in each occupation, and can be represented as:

$$ID = \frac{1}{2} \sum \left| \frac{E_i}{F} - \frac{M_i}{M} \right|$$

with I representing occupations.

This can also be represented as:

$$ID = \frac{E_f}{F} - \frac{M_f}{M}$$

$$= D_c$$

where  $D_c$  is the difference of proportions between the columns in the basic segregation table.

This index has a minimum value of 0, and a maximum value of 1.

### **2.5.4 The WE index**

This index was introduced by the OECD in 1980 and is calculated as the sum of the differences between observed and expected proportions of women in each occupation, with each difference measured positively.

The WE (OECD) index:

$$WE = \frac{\sum |E_i - N_i|}{\frac{F}{N}}$$

With I representing occupations, which can be classified as 'male' or 'female'.

It has also been shown to be represented as:

$$WE = \frac{2M}{N} \left[ \frac{E_f - M_f}{F + M} \right]$$

$$= 2M/N * D_c$$

Thus this is a weighted version of the index of dissimilarity.

This index has a minimum value of 0 and the upper limit is twice the male share of the total labour force.

### **2.5.5 Marginal Matching (MM)**

This index defines male and female occupations differently to those described above. For MM, occupations are ranked according to the proportion of female workers. The labour force is then divided into 'female' occupations, where the number of workers included equals the number of women in the labour force, and 'male' occupations in which the number of workers equals the number of men in the labour force. The effect of this definition is to generate a basic segregation table with matched marginals. Changes in the gender composition or the occupational structure do not affect MM because the relativities of the marginals, expressed as  $F/M : N_f/N_m$ , are held constant (this is fully explained in Siltanen et al, 1992). This feature of MM is shown in chapter 3 to make it more suitable than any of the above indices for cross-national comparison.

MM is calculated as the difference of proportions of all women in female occupations and all men in female occupations:

$$MM = \frac{E_f}{F} - \frac{M_f}{M}$$

This has a minimum value of 0 and a maximum of 1.

### **2.5.6 The Gini Index (G)**

The Gini Index is different from those described above because it takes into account the sex ratio of every occupation, rather than simply dichotomising them. For G, occupations are ranked by percentage female and the calculation uses cumulative proportions of the male and female labour forces. In its simplest form,

$$G = \frac{P-Q}{FM}$$

where P is the number of all pairs of a man and a woman where the occupation of the women has a higher proportion of workers who are women than the man's occupation does, and Q is all pairs where the reverse holds.

Lampard (1994) has shown that MM is an approximation to G. This is illustrated in the French/British comparison in chapter 3.

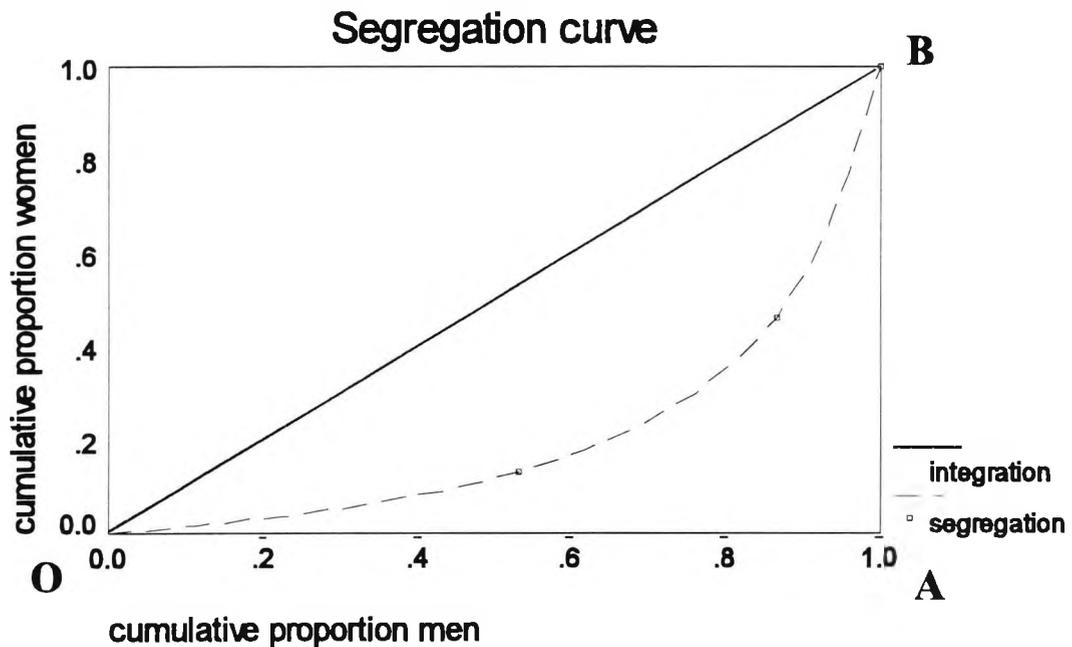
### **2.6 Segregation curves**

The relationship between MM and G is illustrated in Chapter 3 using segregation curves. Segregation curves, first used in 1955 (Duncan and Duncan, 1955), are similar to the Lorenz curves used in economics, where inequality is represented by plotting money against cumulative proportions of the population. In segregation curves, the cumulative proportions of women and men in occupations ranked by sex ratios are plotted against each other. Figure 2.1 shows a hypothetical segregation curve. When curves do not cross, they can be easily compared. The curve closest to the diagonal represents the least segregation. The diagonal represents the 'expected' distribution, if there were complete occupational integration. When curves cross, the levels of segregation cannot be unambiguously ranked. Segregation can be measured as the difference between observed and expected distributions, represented here as the area between the segregation curve and the diagonal as a proportion of the maximum possible area, bounded by the triangle OAB. In fact this is the Gini coefficient, widely used in economics, and described above as the Gini Index<sup>(6)</sup>.

Blackburn, Jarman and Siltanen (1994) show that the Gini Index is a special case of

Somer's D, which can be used to calculate index values<sup>(7)</sup>.

Figure 2.1 Segregation curve



A major benefit of plotting segregation curves is that they permit an immediate comparison between gender distributions in an accessible way. This is much more informative than relying on single summary indices which, though related to the segregation curve, are defined in such a way that interpretation relies more heavily upon abstract and relatively obscure concepts. Segregation curves have elsewhere been used to compare patterns of occupational segregation by race over time (Hutchens, 1991).

### **2.7 Comparing distributions across male, mixed and female-typed occupations: the problems of finding an appropriate model**

Comparing the distributions of women and men in 'female', 'mixed' and 'male' occupations is becoming increasingly popular as a way of measuring change in gender segregation and reflects contemporary theoretical concerns. Typically segregation measures, such as the various segregation indices, have differentiated between 'women's occupations' and 'men's occupations', these dichotomous categories being defined by the over- or under-representation of women and men in the occupations in question. Likewise there has in the past been a theoretical interest in occupational concentration at the two extremes of

the gendered occupations spectrum, so that attention has focused on 'men's work' and 'women's work'. But as Hakim points out, there has been, in recent years, an interest in the growing number of workers who are employed in more integrated occupations (Hakim, 1993b). For this reason it makes sense to define a third, middle band of 'mixed' occupations.

There are several possibilities for locating the boundaries between male, mixed and female occupations and in the first instance the crucial decision is whether to use an empirically-driven model, or one based upon absolute percentages.

Taking empirically-driven models first, the starting point would be to decide upon a pivot about which the boundaries of the mixed band could be declared. This central pivot would normally be the percentage female of the workforce. However this method becomes problematic in comparisons over time or place where two or more labour forces have different female shares. This is illustrated in Hakim's analysis of changes in the pattern of occupational sex segregation over the century between 1891 and 1991 (Hakim, 1994a). For the 1891 data, mixed occupations are defined as 15-45 per cent female ( $30 \pm 15$  per cent). This definition is also used for the 1991 data, together with an additional analysis in which mixed occupations are 25-55 per cent female ( $40 \pm 15$  per cent). The distributions of women, men and all workers across male, female and mixed occupations are calculated using both definitions for 1991 and these are compared with distributions using the single definition for 1891. Both sets of 1991 distributions suggest a common trend, towards desegregation, though on a different scale. In addition to interpretative problems, it is theoretically questionable whether occupations which were 15 per cent female in 1891 should really be defined as gender-integrated, and whether they should be categorized with those which were 55 per cent female in 1991.

The alternative to empirically-driven thresholds is to select absolute percentages. If 50 per cent is adopted as the central pivot about which mixed occupations are defined, comparing different sets of data is simplified. Arguably it is more satisfactory theoretically, and makes interpretation less problematic. Even if it does not reflect statistical reality at the moment,

the representation of women in the labour force is approaching parity with men, so a 50 per cent benchmark represents a sound basis for comparing current and future data.

Jacobs has suggested that the fixing of boundaries between these gender categories should be theoretically grounded (Jacobs, 1989a). In keeping with a segmentation model of the labour market, they should reflect barriers to mobility between types of occupations. Thus these categories become discrete, homogenous categories which display a significant degree of internal mobility, but rather less inter-category movement. The categories which Jacobs made the focus of his segregation analysis were 1-29.9 per cent female for male-dominated occupations, 30-69.9 per cent female for mixed occupations and 70-100 per cent female for female-dominated occupations. His results, based upon American data, confirmed the presence of three distinct segments in the labour force: male, mixed and female-dominated occupations. However the analytical force of the categories he defined was limited by the weakness of the boundaries between them.

This thesis has also adopted the 30 per cent and 70 per cent boundaries between categories. They are used in the France/UK comparison and in the analysis of occupational segregation patterns in the LS. In chapter 4 the reliability of the model is tested by seeing how shifting the boundary impacts on observed trends in LS (used as time series) data. Possibly the most suitable model for analysing British data is different to that for American studies. If the location of the boundaries between female, mixed and male occupations is culturally contingent, this raises interesting and important questions about the reliability of such a model for cross-national comparisons.

Occupations have been labelled 'male' 'female' and 'mixed', or 'integrated', because this convention has been adopted in prominent studies of occupational segregation in Britain, for example by Hakim (1993b) and by Blackburn, Siltanen and Jarman (1990). The terms 'male' and 'female', when applied to occupations, suggest that they are numerically male-dominated and numerically female-dominated, respectively.

## **2.8 Vertical Occupational Segregation**

Whilst occupational sex segregation describes the tendency for women and men to work in separate occupations, they also tend to be concentrated at opposite ends of the occupational hierarchy. Thus, occupational sex segregation is said to have a vertical dimension. Vertical segregation may be measured across all occupations (inter-occupational vertical segregation), or within occupations (intra-occupational vertical sex segregation). Differences in the literature in the way that vertical segregation is defined often arise because they refer to different levels of measurement (see for example Hakim, 1978, Crompton and Sanderson, 1990a).

In most of the existing literature vertical segregation is described using measures of occupational concentration. The latter are inadequate for describing overall levels of vertical segregation, or indeed comparing vertical segregation patterns over time or place. For example Hakim used the changing proportion of women in 19 of the 'top' occupations to comment on trends in vertical segregation over the two decades 1971-90 (Hakim, 1992). Finding that women's representation in the top jobs climbed faster in the 80s than the 70s, she attributes this fall in 'vertical segregation' to the growth of women's full-time employment during this time. However, in the absence of information on women's and men's changing distributions across the whole of the occupational hierarchy it is not technically possible to infer segregation change from this trend in occupational concentration. The increased representation of women in top jobs may coincide with an expansion of female employment in the lowest-paid jobs. Levels of vertical gender segregation may be unchanged by this increased polarisation within the female labour force. Even where there is adequate information from which vertical segregation patterns can be inferred (Schoer, 1987 is an example), in the absence of an overall measure of vertical segregation the data can be very difficult to interpret.

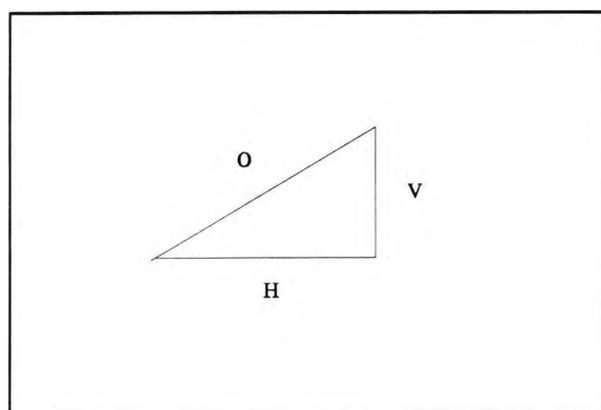
This problem is addressed for the first time in Blackburn and Jarman's recent important reconceptualisation of segregation. This recognises vertical and horizontal components and suggests methods of measurement (Blackburn and Jarman, 1997). Occupational segregation, as it has been described so far in this thesis, is termed 'overall segregation' in

this new approach. This is a departure from the established convention, which used the term 'horizontal segregation' to describe what Blackburn and Jarman now call overall segregation. The relationship between overall, horizontal and vertical segregation can be represented by a right-angle triangle (see figure 2.2). Overall segregation is represented by the hypotenuse, vertical and horizontal segregation by the two respective sides. Overall segregation is expressed as the vector sum of horizontal (H) and vertical (V) segregation;

$$O=H+V$$

Overall, horizontal and vertical segregation are each measured between occupations. Blackburn and Jarman suggest that overall segregation should be measured using the Gini coefficient (described above). To measure the vertical component, they suggest that Somer's D should be used, with occupations ranked using a vertical dimension based on some measure of inequality.

**Figure 2.2 Overall, vertical and horizontal segregation**



They add that

'Horizontal now refers to segregation at the same level; it is the extent to which men and women are in different occupations without this giving an occupational advantage to either sex. There is a single horizontal dimension along which all occupations are located. Occupations may, of course, be at different vertical levels, just as the vertical dimension measures occupations independently of their different horizontal positions.' (Blackburn and Jarman, 1997, p4).

**Figure 2.2a Complete horizontal segregation**

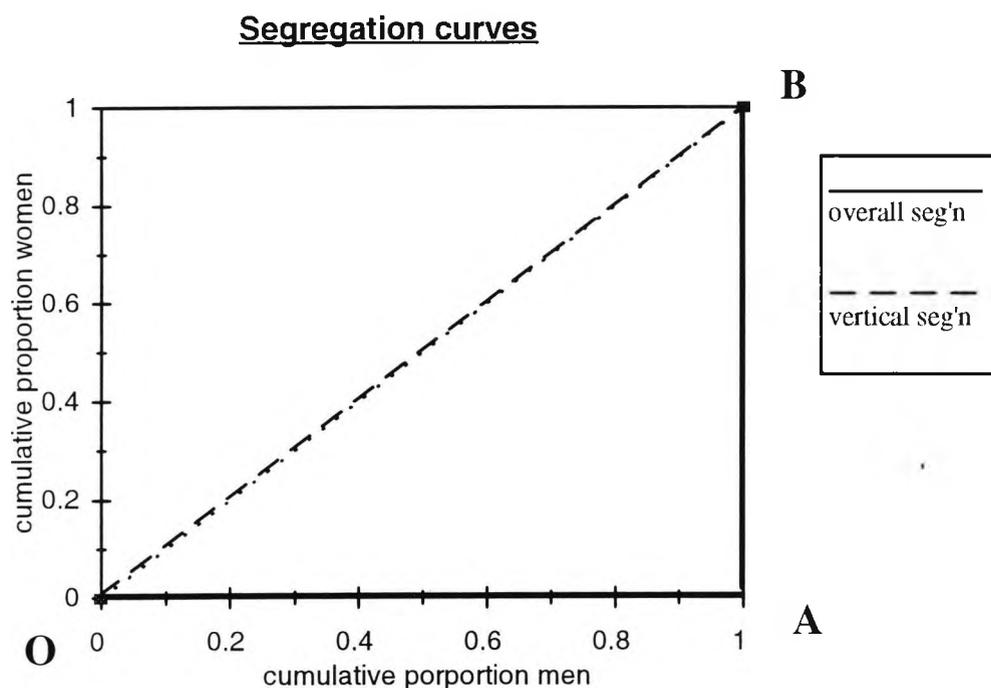
	A	B	C	D
HIGH- LEVEL OCCUPATIONS	75 men	75 men	75 women	75 women
LOW- LEVEL OCCUPATIONS	75 men	75 men	75 women	75 women
	E	F	G	H

To clarify what the terms now mean, hypothetical distributions of the 600-strong (50 per cent female) imaginary labour force used above are instructive. Figure 2.2a represents an occupational structure which contains just eight equally-sized occupations (A to H). There are two levels, or classes, of occupation: high-level occupations (A to D) and low-level occupations (E to H). Workers may be segregated vertically or horizontally within this structure. In figure 2.2a overall segregation is complete as each occupation is exclusive to either women or men. There is no vertical segregation, as there are equal numbers of women and men at high and low levels. In this situation, Blackburn and Jarman's segregation triangle becomes a straight horizontal line. Vertical segregation does not exist and horizontal segregation equals overall segregation.

The overall segregation curve for this distribution is shown in figure 2.2b. Overall segregation is at the maximum level, represented by OAB. (If some women worked in predominantly male occupations or men entered formerly female-typed occupations, overall segregation would decline and the overall segregation curve would shift away from the axes and towards the diagonal.) It is also possible to draw a vertical segregation curve. Here, occupations are ranked according to some measure of inequality, starting with the top occupations. If gender inequality and occupational sex segregation were in a perfect relationship to each other, rankings by sex ratio and by some measure of inequality would generate identical distributions and the overall and vertical segregation curves would coincide. Divergence between the curves happens when rankings based on sex ratios and on inequality create different distributions. This would occur if occupations with a larger

share of women are ranked above those with lower female shares in the vertical hierarchy. Under this condition, the vertical segregation curve approaches or may cross the diagonal. Any area between the curve and the diagonal which is above the diagonal represents female advantage, whilst male advantage is represented by the area between the vertical segregation curve and the diagonal which falls below the diagonal.

**Figure 2.2b Complete horizontal segregation: curves**



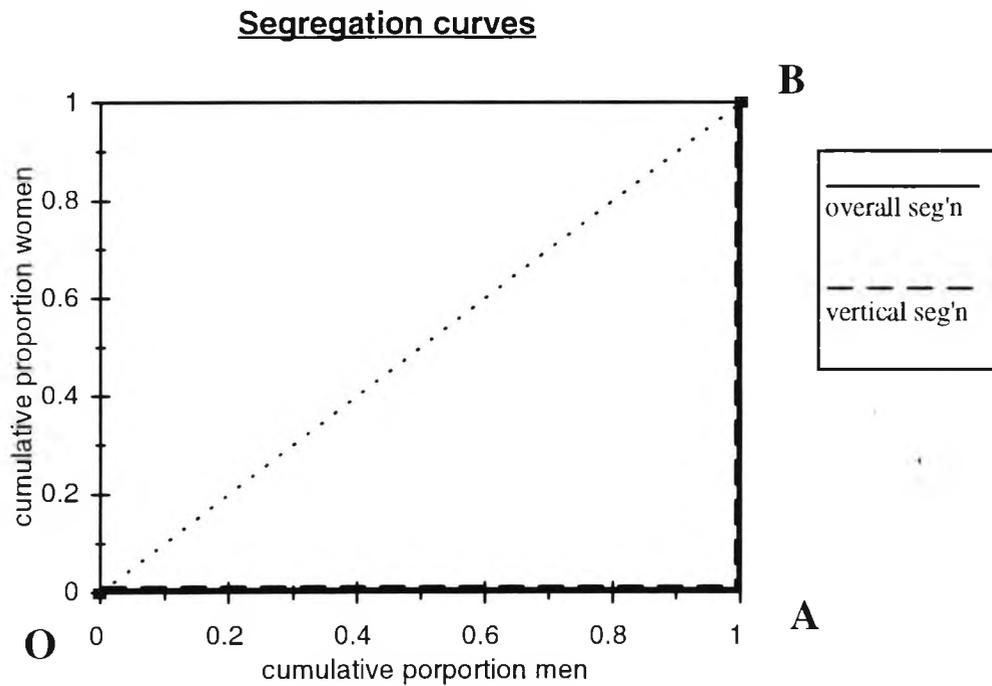
The vertical segregation curve for the distribution shown in figure 2.2b coincides with the diagonal. (Occupations at each level or 'class' are grouped and ranked together). Thus, all of the area between the overall segregation curve and the diagonal is attributable to horizontal segregation. From Blackburn and Jarman's definition, this is occupational segregation which gives an occupational advantage to neither sex.

**Figure 2.3a Complete vertical segregation**

	A	B	C	D
HIGH- LEVEL OCCUPATIONS	75 men	75 men	75 men	75 men
LOW- LEVEL OCCUPATIONS	75 women	75 women	75 women	75 women
	E	F	G	H

Figure 2.3a represents a situation of complete vertical segregation, but here there is none of what Blackburn and Jarman describe as horizontal segregation. How can this be so, when occupations are exclusive to either women or men? Vertical segregation is at a maximum because all the men hold high-level jobs and the women are all in low level jobs. Figure 2.3b shows the overall and vertical segregation curves for this distribution, and they coincide. There is no horizontal (new definition) segregation here because all segregation gives an occupational advantage to men.

**Figure 2.3b Complete vertical segregation: curves**

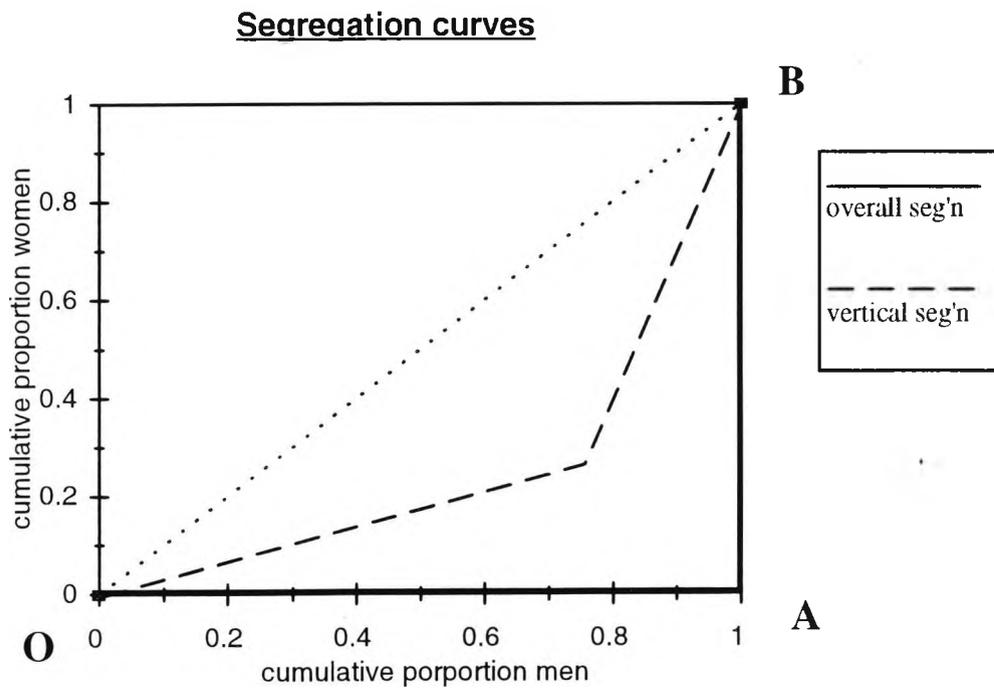


Consider a third scenario. The distribution in figure 2.4a has both vertical and horizontal components. The overall segregation curve, shown in figure 2.4b, is at a maximum as occupations are again either exclusively male or female. However there is less vertical segregation than in figure 2.3b and some horizontal segregation because of the presence of women in high-level jobs. From these examples it becomes clear that 'horizontal' (new definition) segregation exists where overall segregation is not completely accounted for by the vertical dimension.

**Figure 2.4a Vertical and horizontal segregation**

	A	B	C	D
HIGH-LEVEL OCCUPATIONS	75 men	75 men	75 men	75 women
LOW-LEVEL OCCUPATIONS	75 women	75 women	75 women	75 men
	E	F	G	H

**Figure 2.4b Vertical and horizontal segregation; curves**



This new approach opens up interesting possibilities for future research. A dominant theme emerging from numerous studies of sex segregation is the relationship between occupational status, skills and rewards and the degree of occupational feminisation. What is the nature of this relationship between inequality and segregation? Are women

concentrated in low-status occupations because they choose to be there or are they blocked from high-status occupations? Are female-dominated occupations at the bottom of the jobs hierarchy because they are done by women? Disentangling horizontal and vertical segregation is one way to tackle this question. Of particular interest would be any comparisons over time or place which found variation in the ratio of vertical to overall segregation.

This thesis attempts to use Somer's D to measure vertical segregation in 1971, 81 and 91 LS data. Practical difficulties were encountered. There were problems with gaining access to machine-readable earnings data (for ranking occupations) based on the same occupational classifications as the LS. As an alternative, Cambridge scores were used, though these were not entirely satisfactory. The results of this tentative work are attached to chapter 4.

Elsewhere in the thesis, the gender distribution across Registrar-General's social classes is used as an indicator of vertical segregation. The Registrar-General's social classes are based on skill, and derived from occupational group and employment status. The latter distinguishes between managers, foremen/supervisors, self-employed workers employing others, self-employed workers not employing others and other employees. Some occupational groups are more stratified than others, for example 'architects' includes all five employment statuses and 'sales assistants' are only either employees or supervisors. Thus the social classes are used to show vertical segregation both across and within occupations; this may be considered a pan-occupational indicator rather than a measure of vertical occupational segregation.

A collapsed class schema, described in chapter 7, has also been used to indicate the vertical direction of occupational transitions in the LS. The aim is to investigate the relationship between vertical and overall segregation moves, which in turn reflect characteristics of the relationship between overall and vertical segregation in the employment structure.

The new convention proposed by Blackburn and Jarman of re-naming horizontal

segregation 'overall segregation' has not been adopted in the following chapters. Their approach is still being developed and it would be premature to adopt the new definitions in this thesis. However it is recognised that what is called horizontal segregation in chapters 6 and 7 involves a vertical dimension.

## **2.9 Concluding comments**

The various segregation measures described above are implemented and assessed in the following chapters. With the help of segregation curves, chapter 3 evaluates the reliability of the indices in cross-national comparisons by comparing index values for France and the UK. The male/mixed/female model is scrutinised in chapter 4. This chapter uses data from the 1971, 81 and 91 LS to see whether altering the way mixed occupations are defined has any impact on the results. Chapter 5 focuses on the critical methodological issue of occupational classification.

Occupational classification schemes adopt widely varying degrees of detail when they group workers under occupational titles. These differences directly influence the amount of segregation uncovered in empirical work. Chapter 5 describes the theoretical nature of occupational classification schemes, and analyses in detail the impact that the 1980 reclassification of occupations has on the occupational transitions described in chapters 6 and 7.

## **Notes**

1. Inter-racial exposure (contact) was calculated as;

$$E_{bw} = \sum b_i(1-p_i)/B$$

where B=total number of black students in the system

$b_i$ =number of black students in the  $i$ th school in the system

$p_i$ =proportion of black students in the  $i$ th school in the system

This measure aims to describe the average or typical school racial composition encountered by students of a particular race. This index is not used in sex segregation measurement, possibly because the related social policy concerns are different. Occupational concentration, as conceived by Siltanen, Jarman and Blackburn, is a simpler concept which is used to examine the composition of particular occupations.

2. The principle of transfers is concerned with the impact that movement within the male-dominated and female-dominated ends of the occupational distribution have on the segregation index. For example, if a number of women moved from an occupation which was 90 per cent female to one which was 80 per cent female, the principle of transfers stipulates that the index value should fall, even though there was no change in the numbers of women or men in male and female-typed occupations. Thus the principle of transfers links occupational concentration and segregation and is rejected by Blackburn et al as a necessary feature of segregation measures.

3. This example also raises doubts about the claims, often made under the crowding hypothesis in economics literature, that women are restricted to a *narrower* range of occupations than men are (see for example Bruegel and Perrons, 1995, p158 and Millward and Woodland, 1995, p223). Chapter 5 demonstrates that women are more likely to work in very male-dominated jobs than men in very female-dominated jobs. If the occupational classification differentiated women's work as finely as men's work currently is, so that there were roughly equal numbers of male-typed and female-typed occupational groups employing similar numbers of workers, men may appear to be restricted to a narrower range of occupations than women. The point being made here is that women may appear in a small number of occupational groups because the classificatory system fails to recognise the diversity of their work. The question of the *quality*, measured in terms of pay or status, of female-typed jobs, is a separate, but not necessarily unrelated, issue.

4. This includes as segregated, jobs for which there was a single incumbent. However removing these barely reduced the index, from 96.3 to 95.9.

5. James and Taeuber (1985) identified composition invariance as an essential criterion by which segregation indices should be judged. In the context of sex segregation, 'gender composition invariance' demands that index values should not be affected statistically by the relative proportions of women and men (see also Blackburn, Siltanen and Jarman, 1990).
  
6. There are alternative measures. Hutchens (1991) suggests that the Coefficient of variation and Theil's measure, also 'borrowed' from the study of income inequality in economics, are alternatives to the Gini coefficient.
  
7. Siltanen, Jarman and Blackburn (1992) provides guidance on using the Somer's D statistic, in SPSS, to calculate Gini Index values.

## **CHAPTER 3 COMPARING SEGREGATION IN FRANCE AND THE UK**

### **3.1 Introduction**

Chapter 2 highlighted limitations of research based on segregation patterns in occupational-level data. These analyses often overlook important gender differences which occupational classification schemes fail to capture. Case-study research is an alternative or supplementary approach for more detailed exploration. In cross-national research, the two approaches are rarely combined. Rubery and Fagan (1993) is a notable exception, discussed in more detail below. One type of cross-national research provides detailed comparisons of occupations which are of particular interest, for example because they display high levels of segregation, are integrated, or have a rapidly changing gender composition. The other main type makes large-scale comparisons of segregation levels across national labour forces, typically relying on segregation indices. These distinct bodies of research often talk past each other, they address different questions and tend to speak to different audiences. What is missing is a dialogue which can link the detailed discussions to macro-level data, while maintaining and informing the summary measures from which meaningful cross-national comparisons can be made.

Cross-national comparisons of gender segregation are useful because they explore the extent to which theory and methodology developed at a general level can be applied to more than one specific context. This chapter makes a detailed comparison of segregation patterns in France and the UK. These two countries are not only geographically close, but they have increasingly similar industrial and occupational structures, particularly given the post-war decline of the French agricultural sector. Whilst the gender composition of the two labour forces is very similar, there is a major difference in the extent of part-time working, reflecting different attitudes towards maternal employment in the two countries. This analysis contrasts approaches towards employment and family life. Most dual-earner families with young children in France are supported by a range of social policies encouraging maternal employment. The absence of such an approach in the UK encourages the labour market withdrawal of mothers of young children, and part-time work, after children reach school age. Since French women are more likely to follow full-time,

continuous careers which are commonly associated with men in both countries, it is of interest to see whether there is less occupational gender segregation in France than in the UK.

The 1991 results of the Labour Force Survey for France and the UK have been used to develop the methodology and provide substantive results for comparing segregation in the two countries. The first task was to compare the levels of segregation amongst the workforce as a whole in France and the UK. However in order to investigate the specific impact of part-time working on segregation, the data on women was divided and full-timers and part-timers were compared both within and across countries. This revealed quite distinct patterns of gender concentration across the occupational structures. The key questions were firstly whether part-timers in the two countries do similar work, and secondly whether they are equally segregated from men. Thirdly, are there similar levels of segregation between women full-timers and men?

These questions have prompted an adaptation of the segregation measures commonly in use. Segregation levels in different countries are typically compared using one or a combination of several of the segregation indices described in Chapter 2. One of the main problems with summary measures is that unless their construction is fully understood, they can produce conflicting or confusing results (for example Blackburn, Jarman and Siltanen, 1991, Siltanen, 1990a, and Tzannatos, 1990). This chapter comments on the robustness of each index in the cross-national context. A further problem with segregation indices is that they make no distinctions between full-time and part-time workers, simply taking gender as the key variable. To overcome this, the most suitable measures, the MM index and the Gini index, were recalculated using data separating women in full-time and part-time jobs. When the marginal matching method was used, counter-intuitive results were obtained. Neither index by itself was able to provide a summary measure of the level of gender segregation in each country which adequately acknowledged the full-time/ part-time distinction.

The methodological problems encountered here reflect a tension between the desire to

generate and use a summary statistic which is easy to interpret, understand and compare cross-nationally, and the awkward reality of qualitative differences. In this case the extent and nature of part-time working in France and the UK, as this chapter shows, should not be overlooked. This is a common problem in cross-national research, and is related both to the conflict between perspectives emphasising either convergence or divergence, and the incompatibility of quantitative and qualitative methods. Because these issues provide a theoretical context for the measurement difficulties encountered in this comparative analysis, they deserve some further discussion.

The next section discusses contrasting theoretical and methodological perspectives in cross-national research. This is followed by a description of the data used for the following France/UK comparison. Section 3.2 contains background information which contextualises the data analysis, helps to inform the choice of method used and is useful in the interpretation of results. To address the question of whether women full-timers and part-timers in France are more or less segregated from men than they are in the UK demands the use of statistical techniques, despite the difficulties of using them in a comparative context, and in addressing differences other than gender. Section 3.3 compares patterns of occupational concentration and segregation. This analysis makes an important distinction between women full-timers and part-timers.

### **3.1.1 Conflicting perspectives in cross-national research.**

The opposition between perspectives which emphasise either convergence or divergence between countries is currently most visible in research into the various member states of the European Union (see for example Hakim, 1995). No doubt in Europe this debate is fuelled by concerns about the extent to which harmonisation of social policy within the European Union will reduce cross-national variation. However these alternative perspectives are also part of an established debate within social science about how similarities and differences should be interpreted, and the implications they have for sociological theory.

Ragin (1981) argues that in sociology there is a traditional preference for general theories, whose universality is proven through broad empirical generalisations. Observed similarities

between countries tend to suggest the universality of theory and globalization of economic, political and cultural factors. Differences, however, when they are found, often force the researcher to review and revise their generalisations. However the convergence/divergence divide depends not only on the finding of similarities and differences, but also on their interpretation.

Sztompka, for example, sees increasing globalization of society, evidenced in ways of life and social conditions which are becoming increasingly alike (Sztompka, 1988). Even where differences in individuals' lived reality remain, there is a growing awareness of how others live, so that what was a disparate and heterogenous social world has become, it is argued, more like a 'global village' (p211). In parallel with this growing uniformity is the increasing internationalisation of sociology which is creating an homogenisation of concepts and theory. Sztompka argues that the modern task of social research is to use more qualitative approaches to tease out the differences between countries so that the anomaly of persistent country-specific peculiarities within this growing uniformity can be explained. Thus despite what Sztompka describes as a paradigmatic shift in cross-national research methodology to reflect growing geographical uniformity, country-specific differences are acknowledged and accommodated.

Kohn (1987) does not argue from either a convergence or a divergence perspective, but suggests that the orientation should be empirically-driven. Similarities and differences should be interpreted differently; 'Apparent similarities can mask profound differences; what seems to call for a unitary interpretation may actually require entirely different explanations' (Kohn, 1987, p716). His argument is that very diverse histories may produce social structures which have the same social and psychological consequences. Like Ragin, though, he argues that the interpretation of differences is far more challenging, for it is necessary to search through historical, cultural, economic and political differences to find the key to explaining critical differences in social structures, or indeed in the way that these impact on people's lives.

Connell's theory of gender relations also emphasises the careful historical analysis of the

actions of individuals, institutions and the relations between them to explain cross-national differences in social structures (Connell, 1987). Connell's approach is of interest here because it has been used to explain in particular the French/UK differences in women's labour force participation patterns (see for example Dex, Walters and Alden, 1993 and Lane, 1993, also discussed in more detail below). The attraction of Connell's approach for these studies was that it could explain the reality of differences, over time and over place, in the gender relations of employment, within a universal context of women's subordination. Connell emphasised that whilst social structures are constituted by human practice, that practice is also constrained by existing structures and the circumstances they represent. Existing structures can either be reaffirmed through practice, or challenged and reconstructed. The state is identified as playing an important role in defining and maintaining the existing gender order. Thus cross-national differences can be viewed as the result of historically contingent political struggle in country-specific contexts.

Cross-national differences are more visible in qualitative research. This is because cross-national analyses which rely on statistical methods often achieve comparability in the data by adopting broad categories which can accommodate country-specific differences, or by doctoring the data in some other way so that like is being compared with like. In these circumstances, statistical necessity can be transformed into a theoretical virtue. For example in the French/ UK comparison, agricultural workers may be omitted from the analysis because of the disparity in the size of the two agricultural sectors. This can be justified on the grounds that the comparison then becomes one of workers in modern industrialised sectors. Alternatively, the impetus to compromise may come from limitations in the data. For example, the LFS uses self-definition of employment status to categorise part-time workers, which helps to overcome the problem of cross-national differences in hours that are considered to be 'part-time'. For example, many 'part-time' jobs in Sweden would be considered 'full-time' in Britain (Hakim, 1991a, p111). Using self-definition encourages the view that part-timers are an homogenous category. Conversely, it has also been argued that it generates artificial differences in the levels of 'true' part-time work in EU member states (Blossfeld and Hakim, 1997; see also section 3.1.2 below).

These examples illustrate how the more profound qualitative/quantitative divide has important implications for the convergence/divergence divide. Cross-national research incorporates the whole spectrum of methodological approaches, ranging from detailed qualitative analyses of a phenomenon in two countries to larger-scale studies in which countries are classified according to key variables. Not only are qualitative studies more likely to expose country-specific differences, but they are better equipped to theorise from them. This is because in qualitative research it is not always possible or desirable to meet the stringent demands of the statistical method; the choice of countries which are being compared is usually theoretically determined and so may be very limited, and the aim is often to produce explanations which account for all instances of the phenomenon under scrutiny, rather than a probabilistic account. Such comprehensive treatment would not be possible for a study which involved many aspects of lots of different countries. The complexity of the results could generate more confusion than clarity. It has been argued that the cross-national method is not necessarily a statistical one, but a logical one (see for example Ragin, 1981). However one of the problems associated with detailed, case-study type research is the extent to which its theoretical insights can be applied to other national contexts. A pertinent example is Maurice's work, on manufacturing units in France, West Germany and Great Britain, which emphasised the centrality of historical and ecological context in cross-national comparisons. This is essentially a focus on differences, which stresses that any given aspect of a particular country should be analysed in relation to all other aspects. This holistic perspective has been termed the 'societal approach'.

The choice between these different perspectives and methods may be conceptualised as a tension between qualitative, smaller-scale studies, offering the benefits of sensitivity to country-specific history and complexities, though limited in their generalisability, and quantitative statistically-orientated accounts using well-established statistical techniques but often obscuring real and important cross-national differences. Kohn's synthesising approach signals a route out of this impasse. Kohn suggests a four-fold typology of cross-national research, the choice of type of research and methodology being dependent upon the intentions of the researcher and the nature of the questions being asked:

1. The nation is the object of the study; countries are selected because they are of intrinsic interest.
2. The nation is the context of the study; the country serves as a vehicle for investigating the contexts in which social institutions operate.
3. The nation is the unit of analysis; the aim is to establish relationships between characteristics of nations.
4. Transnational studies; nations are treated as components of larger, international systems.

Just as theoretical questions should adopt the appropriate level of analysis, so similarities and differences between countries should not be over-generalised to make inappropriate theoretical conclusions. Jenson warns of the danger of 'slippage' if the limitations of the dialogue between theory and data is not observed (Jenson, 1986, p13-14).

The European Commission's Report of the Network of Experts on Women in the Labour Market (Rubery and Fagan, 1993) bridged the divide between qualitative and quantitative, convergence and divergence approaches. This work synthesised the results of research into segregation in eleven countries of the EC. The authors were committed to the societal approach, emphasising the need for qualitative input for each country on issues such as labour force participation patterns, training systems and social policy. They also used Reskin and Roos' job queue model (Reskin and Roos, 1990) to analyse changes in gender segregation patterns. The report included summary segregation measures for each country. Their findings reinforce the points made above. The summary statistics indicated similarities in the degree and persistence of segregation in all countries. However the contextual, qualitative work exposed important differences. Similar levels and patterns of segregation were produced by quite different processes and had different outcomes in terms of pay, status and career opportunities. The authors argue that the contextual work was more fruitful than the statistical comparisons because it gave new meaning to the summary results.

However, Kohn's arguments apply here because the two approaches were, essentially,

addressing very different questions and it is inappropriate to argue for the merits of one over the other. The summary measures reported on the relative levels of segregation, whilst the qualitative analyses addressed the question of how those levels of segregation came about, and were maintained. Segregation research presupposes the use of statistical techniques. Segregation is defined as the tendency for women and men to work in separate occupations. Any discussion of the process of segregation has to be accompanied by an assessment of the extent to which it exists, requiring some method of measurement. Unreliable measures can misinform subsequent research. The recent academic debate about the reliability of summary segregation measures is central to all research into occupational segregation.

### **3.1.2 The 1991 EC Labour Force Survey**

This chapter uses the 1991 results of the European Community Labour Force Survey (LFS). The LFS provides comprehensive and comparable statistics on employment and unemployment for all countries of the EC. Although the survey work itself is conducted by national statistical offices within each member country, the Statistical Office of the European Communities attempts to achieve consistency through the setting of uniform definitions, timing, sample size and classifications.

From interviews conducted in each country the survey shows the labour force characteristics of individuals in private households during the 'reference week', normally the week immediately prior to the survey interview, held in spring and excluding bank holidays. As the survey takes place over a period of time in most countries, the LFS aggregates results from a number of different 'reference weeks'. For the UK, individuals in 63,292 private households were interviewed. For France, 67,073 households participated.

The LFS defines persons in employment as those who worked for at least one hour for pay or for profit (including self-employed). The results used in this analysis distinguish between full-timers and part-timers on the basis of self-definition by the survey respondents. This leaves scope for differences both within and between countries in the way that workers

define themselves. Most problematic in this respect would be occupations which vary in the standard length of the working week. Teaching and occupations involving shiftwork are typical examples where discrepancies between what is described as 'part-time work' are most likely to occur.

Also, the LFS aggregates all part-timers regardless of the number of hours worked, and so combines part-timers in 'short' part-time work (less than 10 or 15 hours per week) and those in 'long' part-time work. It has been argued that these are two distinct categories of employment, employing different types of worker and that the UK saw a sharper rise in 'short' part-time employment between 1983 and 1988 than was the case in France (OECD, 1994). This distinction has now been extended to describe three types of part-time work:

- reduced hours work (30-39 hours per week, organised at the employee's request)
- half-time jobs (15-29 hours per week)
- marginal jobs (<15 hours per week)

Hakim (1997) suggests that when reduced hours work is classified as full-time, and marginal workers are removed from the analysis, much of the variation in levels of part-time work amongst women in different European member states disappears. The rationale for excluding women in marginal jobs from the analysis is that they are a qualitatively different group from those with half-time jobs. This distinction is not adopted in the LFS, or in the following analysis.

### **3.1.3 Comparability and occupational classification schemes**

The LFS results use the 1968 International Standard Classification of Occupations (ISCO 68), which divides the labour force into seven major occupational groups, which are further subdivided to produce 81 minor groups. The results for women and men, full-timers and part-timers have been used. The minor and major groups of ISCO68 are listed in Appendix A3.1.

One of the main difficulties in the use of occupational classification schemes is that they change over time to reflect changes in the employment structure. In cross-national

comparisons the problem becomes one of comparability between different schemes. Although the French and UK LFS results share a common classification scheme, Glover (1989) identifies two reasons why the data are not really comparable. Real differences in the economies of each country generate different occupational structures. Whilst it may be more appropriate to provide many occupational unit groups (OUGs) to describe a particular type of work in one country, in the other country that work may be of minimal importance and therefore the same degree of detail is not required. In practice, the classification scheme adopts a compromise position, generating a number of sub-classifications which are perfectly suited to neither country. In this analysis the problem is illustrated by the OUGs listed in Appendix A3.2 for which there are no UK workers. Secondly, there are inter-country differences in coding practices which generate artefactual differences in the data. This problem arises in the allocation of workers to administrative and managerial occupations, as described below. Glover advocates the open discussion of these anomalies as and when they arise, and this practice has been followed below.

Segregation measurement depends crucially upon the system used to classify occupations. The cross-national dimension of this study makes the issue of comparability particularly pertinent. The extent to which workers are aggregated within OUGs affects the measured level of segregation; high levels of aggregation will tend to reduce the measured levels of concentration and segregation. Typically classification schemes aggregate large numbers of women workers into relatively few OUGs. This occupational crowding of women into 'umbrella' occupations may be exacerbated by the impetus to make compromises in the interests of cross-national applicability (as described above). For example, child minding, which could be considered a significant occupation for women in the UK, is invisible in the ISCO. This may be because of the widespread tendency for women's occupations to be inadequately differentiated, or it may be the result a classificatory compromise. The concern is that women's occupations, already inadequately described, are particularly vulnerable to being aggregated together in the interests of cross-national consistency. The following analysis discusses the issue of occupational aggregation in the French and UK data.

## **3.2 France and the UK- background information.**

### **3.2.1 Labour force characteristics**

In France and the UK women's labour force participation rates have grown significantly since the second world war. In both countries the increase reflects the rise in economic activity levels of married women; in the UK between 1951 and 1985, the rise in women's labour market activity can almost completely be accounted for by an increase in the number of married women workers aged between 30 and 55, most of whom work part-time (Dale & Joshi, 1992), whilst in France since 1968 married women accounted for over 80 per cent of the increase in female participation rates (Rubery, 1988, p165). Women have a similar share of the work force in the two countries, at 45 per cent in France and 43 per cent in the UK in 1991 (source: LFS 1991). Women's participation rates, calculated as the total number of women in the labour force aged 14-64 years as a percentage of the female population aged 14-64 years, are 57 per cent in France and 66 per cent in the UK (LFS 1991).

Figure 3.1 illustrates the gender profiles of the French and UK work forces. Despite the similarities outlined above, this chart highlights an important difference between the two countries. There is a big variation in the extent of women's part-time employment. In the UK 44 per cent of the female work force worked part-time in 1991, compared to only 24 per cent in France.

### **3.2.2 Part-time work in women's lives in France and the UK**

In the UK, women's employment has followed a bi-modal pattern whereby there is a fall in participation rates over the prime child-bearing years. In France, continuous working over child rearing has been more common. Since 1975, the bi-modal participation pattern has been replaced by a smooth, inverted U-shaped curve similar to that for men (Bouillaguet-Bernard and Gauvin, in Rubery, 1988 and Dale and Glover, 1988). In France, continuous working is largely dependent upon family size and social class. The bi-modal employment profile continues to be most common for women with three or more children, whilst middle-class wives have the highest participation rates (Bouillaguet-Bernard and

Gauvin, in Rubery, 1988). Similarly in the UK, continuous working over child-rearing is becoming increasingly common among higher-status women workers, though this is a minority pattern when all women are considered (Dale & Joshi, 1992, see also below). In the UK the age of the youngest child, rather than the number of children, determines whether a woman does paid work (Joshi, 1984). Women in the UK are twice as likely to leave their jobs after childbirth than French women. In the UK, broken career histories are associated with downward occupational mobility. Returning to work after maternity leave, which is the most common pattern for French mothers, enhances career status and reduces the risk of labour force marginalisation (Arber & Gilbert, 1992, 99-100).

Mothers of young children in the UK tend to opt for part-time employment as a way of combining paid employment with their domestic responsibilities. It is important not to over-generalise, though. Higher-waged women in the UK for example are increasingly likely to pursue continuous careers in full-time jobs and in France, part-time work and labour force withdrawal are common for women with larger families. In France in 1991, 18 per cent of women working full-time had 3 or more children compared to 33 per cent of women working part-time (Coutrot, Kieffer and Lelievre, 1993).

Labour-force participation was strongly influenced by educational levels in France. Amongst mothers with two children, 86 per cent of those with higher education were employed compared to 57 per cent of those without such qualifications. Women with higher education were more likely to work part-time than be out of the labour force, whilst the reverse applied to women without higher education (Coutrot, Fournier, Kieffer and Lelievre, 1997).

Similarly continuous employment is highest amongst French women in higher-status jobs. For example Dex, Walters and Alden (1993) found that 63 per cent of professionals and 60 per cent of teachers were continuous workers, compared with 22 per cent of women in semi- and unskilled jobs. This contrasts with women in Britain, where 7 per cent of professionals and 9 per cent of teachers worked continuously, compared to just 3 per cent of semi- and unskilled workers (p83-6).

Part-time work fits into women's working lives in different ways in the two countries. Women with children in the UK typically work part-time while they have young children, fitting their work in around school hours and/or relying on informal arrangements, often their partner, for additional childcare whilst they work. Part-time work is strongly associated with occupational downgrading (Martin and Roberts, 1984).

In France, part-timers fall into two distinct groups. The first is higher paid, educated women who elect to work part-time, retaining the same hourly pay and conditions as they did in full-time jobs. Dex, Walters and Alden (1993) suggest that in working part-time, these women avoid paying top rates of household tax. The second group is more like the UK part-timer. The work is typically low-grade and poorly paid. While the age of the youngest child does not typically influence French mothers to work part-time, part-time employment is sensitive to family size. The odds of working part-time rather than full-time increase for mothers with three or more children. Amongst part-timers, young people aged 15-24 are also over-represented. It is argued that part-time jobs have been used as a strategy by the French government over the 1980s to mask under-employment (Coutrot, Kieffer and Lelievre, 1993)

In the UK part-time work has a detrimental effect on women's employment careers when associated with occupational downgrading. Time spent in part-time employment reduces lifetime earnings more than in proportion to hours worked (Ermisch, Joshi and Wright, 1990). This negative part-time wage premium affects more women in the UK than in France. Coutrot, Fournier, Kieffer and Lelievre (1997) suggest that if one in four French women works part-time, then approximately one in two will have experienced part-time work at some time in their career. Chapter 6 shows that in the UK this figure is around two out of three. Because not all part-time employment in France is associated with occupational downgrading, possibly less than half of French women will suffer the disproportionate wage cost of having worked part-time. In the UK only the very small, though growing, minority of full-time, continuous workers avoid these costs.

### **3.2.3 Explaining the different levels of part-time work in France and the UK.**

Chapter 1 described how theories of occupational segregation have been formulated in terms of either individual choices or structural constraints. A major problem with choice-based theories is that they assume autonomy for the actors concerned. This is particularly problematic in the context of maternal employment. Given the dominant ideology of women's role as principal nurturer and home-maker, women's employment decisions are contingent upon their caring responsibilities. Through childcare, education and welfare policies the state has an important role in shaping the options available to mothers who want to do paid work. Thus a simple dichotomy between choice or constraint is unhelpful in the context of women's employment. As O'Reilly points out, structural factors and individual choices are strongly linked (O'Reilly, 1994). Women's choices are constrained by structural factors, which in turn may be interpreted as an articulation of existing social relations. Women's employment participation patterns and their involvement in part-time work have to be understood in their societal context. Supply-side factors are relevant, but so too are employers' policies and the role of the state and social policies. Human capital considerations alone cannot account for cross-national variations.

Differences in social policy in France and Britain have been traced to a range of historical developments. Rubery (1988), from the standpoint of segmented labour markets, emphasises the strength of levels of collective bargaining and administrative law in determining the nature of the employment contract in the two countries. The employment contract is protected through judicial law in France, while it is more reliant on collective bargaining at local level in Britain. Thus in France, a major segmenting division between standard and non-standard employment is between permanent and temporary contracts, whilst in Britain it is between full-time and part-time work. In Britain the distinction is supported by a range of state policies, whilst no distinction on the basis of hours worked is made in France.

Using discourse theory, Jenson (1986, 1988) and Lane (1993) focus on the construction of gendered employment policies. In Britain, women's employment was structured in

political discourse in exclusionary terms, whilst in France, women's inclusion in paid labour was hegemonic. Rubery, Jenson and Lane emphasise the role of organised labour, through its struggle with capital, in establishing these two contrasting philosophical approaches to maternal employment (see also Crompton, Hantrais and Walters, 1990). They also acknowledge the dynamic nature of the relationship between agency, attitudes and social structure.

### **The effects of social policy**

A very broad range of social policies impinge on the ability of women with children to take up paid work: for example shop and bank trading hours and benefits rules for single parents. The following section highlights policies which have the greatest impact on employment participation levels for mothers in France and the UK, rather than providing a comprehensive list.

#### Childcare

In France there is almost comprehensive state quasi-educational provision for pre-school children aged three to six years. In the UK children enter the state education system at around four and a half years. It is estimated that 20 per cent of 0-2 year-olds and 95 per cent of 3-4 year-olds in France are in public day care, compared with 3 per cent of 0-2 year-olds and 40 per cent of 3-4 year-olds in the UK (Eurostat, 1992). Whilst French day nursery care has deliberately been expanded to meet the needs of working mothers, in the UK state provision goes to those parents with multiple social problems, with no preferences for working mothers (Dex, Walters and Alden, 1993).

#### Education

Whilst pre-school care in France facilitates continuous employment for mothers, there is also extensive provision for school-age children which makes child-rearing and full-time employment less problematic than in the UK. As well as care facilities, often run by associations of parents, which bridge the childcare gap between the end of the school day and the end of the working day, there are networks of activity centres to accommodate childcare needs during school holidays. Although the French school day facilitates maternal

employment because it is longer, there is no school on Wednesdays and this often poses problems for mothers, and employers. Some women get around this by working 'reduced hours schedules', of 80 per cent of the full workload. For employers, the high demand for Wednesday absences amongst mothers working part-time poses production and organisational problems and fuels employers' reluctance to employ on a part-time basis.

#### Family Allowances

Family allowances can act as a disincentive for mothers' employment because they compensate to some degree for the loss of a second income. In France, non income-related family allowances are greater for larger families, and for those with older children, than they are in the UK. There is a higher rate of benefit for a first child, followed by a flat-rate for subsequent children in the UK. In France, however, the rate of benefit rises sharply for the birth of a third and subsequent children. The effect of this policy is to encourage women with three or more children to stay at home, and can account for the persistence of the bi-modal work profile for women who go on to have larger families, described above.

#### National Insurance

In the UK neither employers nor employees pay National Insurance contributions for employees whose earnings do not exceed a threshold which is below the earnings level of full-time workers. Above this, contributions are pro-rata to gross earnings (correct at time of writing). This generates cost savings for employers who substitute part-time for full-time jobs. There is no similar advantage for French employers.

#### Income Tax

There are major differences in the systems of income tax in the two countries, producing quite different effects for dual-earner families. It is argued that the French system further encourages the full-time employment of mothers. In the UK, married women have been entitled to their own earned income allowance which permits tax-free earnings up to a level below that which would normally be earned in full-time employment. In France, a married couple's incomes are aggregated and allowances are set by the 'quotient familial'. This divides income into taxable parts, the rate payable on each part being dependent upon the

number and ages of family members. By comparing the tax payable by dual-earner and single-breadwinner families in various countries, Bradshaw and Pichaud (1980, cited in Dex, Walters and Alden, 1993, p37) show that the French tax system provides a greater incentive for higher-paid French women to work when they have children than the British system does. French working mothers can also claim tax allowances against their childcare costs, whilst parents in the UK cannot claim a subsidy for their privately-arranged childcare costs.

These social policy differences have been attributed to contrasting ideologies surrounding maternal employment, the sources of which have been traced to common governmental concern with infant mortality in the early twentieth century. Then the ageing population and falling birth rate in both countries were threatening the size and health of the labour force and the future availability of troops (Tilly and Scott, 1987, and Jenson, 1986). In an attempt to improve infant mortality rates, attention turned to maternal employment and its effect on child welfare. Faced with identical concerns, the French and British states reached quite different solutions. In France, the state facilitated the employment of married women with children through a range of family-friendly social policies. For example maternity leave and allowances, to replace lost earnings, for eight weeks before and after childbirth, were made available to working women after 1913:

'The emphasis on leave clearly reflected a widely-shared assumption that women's participation in the labour force, even after marriage and during childbearing years, was widespread, inevitable, and even desirable.' (Jenson, 1986, p18.)

In contrast, the British state disapproved of maternal employment and although it adopted a liberal, non-interventionist stance, it effectively discouraged the employment of mothers by not providing the services and conditions which they needed in order to work. Legislation for statutory maternity leave and pay was introduced in Britain as late as 1975. In contrast with the French approach, and, arguably, following a eugenic perspective, there was an emphasis on training women in public health and encouraging their withdrawal from the labour force:

'The British state opposed paid maternity leaves.....As one policy maker argued then, such provisions would be wrong because they would usurp the father's responsibility for supporting the family and thus encourage family disintegration. Many policy-makers made the further assumption that women's waged work was in and of itself detrimental to their infant's health.' (Jenson, 1986, p21).

While French social policy has made provision for women to pursue full-time, continuous employment over child-rearing, in the UK, the absence of such policies encouraged women with young children to work part-time. Employment law has made part-time jobs an attractive option for employers too.

### **Employers' use of part-time labour**

Part-time work has grown across Europe in the post-war period and one reason is that it can offer important advantages for employers. However these advantages depend upon the national system of employment regulation. In France more rigid control of working time, enforced through the legislative process, discouraged employers' use of part-timers until the 1980s when government policy reversed in favour of flexible hours (Gregory and O'Reilly, 1996).

Part-time work permits flexibility in meeting fluctuations in demand, and can reduce operational costs by increasing the use of capital equipment without the need to pay overtime or shift work premiums to keep machinery in constant use. Part-time workers also tend to raise productivity by working more intensively and having lower rates of absenteeism and typically have more skills than are required for the job they do (OECD 1994). The restructuring of the labour force after the major recession at the end of the 1970s to achieve greater flexibility provides the context in which the growth of part-time work accelerated, but to explain why most part-timers are women demands an understanding of the gender-specific strategies which employers adopt to achieve flexibility. These strategies vary across countries, but in both France and the UK, marginalised groups of workers are disproportionately female. Beechey's analysis of part-time work in the UK

(Beechey, 1987) found that in female-dominated work, employers achieved flexibility through the creation of part-time jobs. In male-dominated work shiftwork or overtime is used.

Employment law and social policy in the UK has made part-time employment attractive to employers, so that for example many part-timers have been exempt from employment protection provisions and the scheme for National Insurance, generating cost savings for employers. Since 1995 however, under EU directives, part-timers' rights have been extended so that they have the same protection on rights such as unfair dismissal, redundancy pay and maternity leave. In France no distinction has been made between workers on the basis of hours worked. A more important device which enabled French employers to achieve greater flexibility and which disproportionately affected and effectively marginalised women, is the use of fixed-term contracts (Bouillaguet-Bernard and Gauvin, 1988). However part-time employment is rapidly growing in France. Between 1983 and 1992 the growth of part-time jobs relative to full-time jobs was higher in France than in any other EC country.

McRae suggests that employers typically introduce part-time work either as a 'corporate strategy', for economic or organisational reasons, or in response to the requests of individual employees who want to reduce their working hours (McRae, 1995). This second approach describes 'individual strategy' workplaces and each strategy has important consequences for women's experience of part-time work. 'Corporate strategy' employers were more likely to advertise externally for their part-timers, whilst 'individual strategy' employers recruited mainly from the existing full-time workforce. Part-timers in individual strategy workplaces were more likely to enjoy the same pay and conditions as full-timers, but this advantage did not tend to extend to promotion prospects. These categorisations are useful because they distinguish between demand-side and supply-side influences. In France there appear to be more individual strategy part-time jobs than in the UK, which may explain why there are more high-grade part-time workers in France, as shown below. The growing core of lower-grade part-time jobs may be of greater benefit to employers than to workers, which would suggest that the extent of part-time work represents a reluctant

accommodation by women to demand-side and supply-side structures. The concepts of 'voluntary' and 'involuntary' part-time work have some relevance here.

### **Voluntary and imposed part-time work**

In the French literature there is a clear distinction between workers who choose to work part-time and those who do so in the absence of full-time jobs. Coutrot, Kieffer and Lelievre (1993) suggest that the distinction between voluntary and imposed part-time work largely coincides with the public/private sector divide. They argue that in the private sector, part-time work is often in unskilled, low-grade jobs and 'a convenience for employers who can employ a flexible labour force' (p4). They contrast this with part-time jobs in larger firms, in the public sector and some highly skilled occupations, where part-time working arrangements are made to suit individuals.

Nicole-Drancourt (1989) highlights the distinction between voluntary and imposed part-time work from the supply-side perspective. She argues that for most French women part-time work is accidental, occurring at the points of entry to and exit from the labour market. Only in a minority of cases is it the chosen route, mainly taken by 'those who are most committed to and dependent on the family relationships which have disrupted their work history over a long period of time'. These are described as the 'most 'fragile' socially '(p70). This is in stark contrast to the position in Britain where she views part time work as a means of 'collective survival for women with family responsibilities'. Gregory's analysis of part-time workers in grocery retailing (Gregory, 1989) underlines the relative unpopularity of part-time work for women in France, suggesting that women's dissatisfaction has made French employers reluctant to use part-time labour, whilst in the UK it is extensively used and favoured.

The greater degree of imposed part-time work in France may reflect a mis-match between those who want part-time jobs, and those who actually do them. In France many school-leavers and unskilled unemployed end up taking part-time jobs because they cannot get suitable full-time ones. Conversely many women with young children who work full-time express a desire for fewer hours. Surveys conducted in the 1970s and 80s found that one

third of women aged 20-50 working full-time and not working said they would like to work part-time if the contracts were durable and if they were paid pro-rata to full-time rates (Dex, Walters and Alden, 1993, p101) Preferences for part-time work were higher amongst women with children under three, educated women, women in high-income households and middle-managers and clerical workers. These are not groups who typically work part-time in France. This disagreement between the proportions of women who express a desire for part-time work and the proportion who actively seek it has been explained by the lack of part-time jobs in France; women adjust their job-search strategies in the light of labour market realities. As part-time employment grew in the 1980s, so there was a corresponding rise in the proportion of women who sought part-time employment.

In a comparison of women working full-time and part-time in the banking industry in the two countries, O'Reilly found higher levels of job satisfaction amongst full-timers in France than amongst full-timers in Britain. There was less satisfaction amongst French part-timers than amongst British part-timers. However closer questioning on specific aspects of their jobs revealed that satisfaction amongst part-timers in both countries was related more to hours worked (though French part-timers were also very satisfied, more so than full-timers, with their job security). In both countries, part-timers were much less satisfied with their promotion prospects, the scope to use their initiative in their work and their access to bonus payments (O'Reilly, 1994, 193-5).

Perhaps the most relevant point for this analysis is that part-time work has different meanings in France and the UK. In France, the relationship between motherhood and paid work is not as problematic as in the UK, largely as a result of family-centred social policies which support continuous employment through child-rearing.

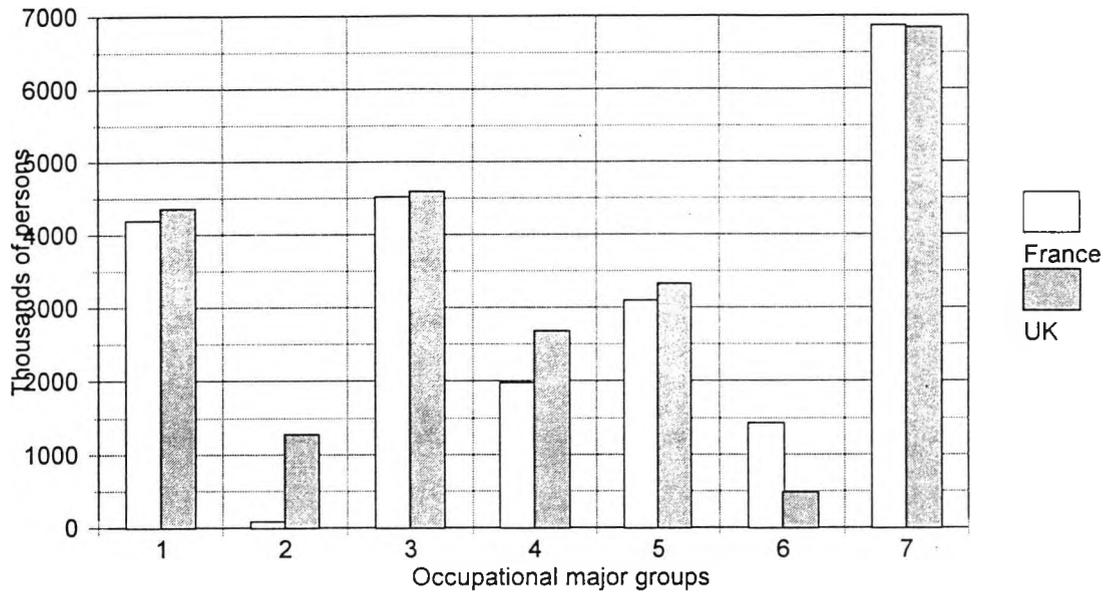
### **3.3 Results of the Labour Force Survey analysis**

#### **3.3.1 The Occupational structures of France and the UK compared**

Before looking at the various segregation indices for France and the UK, it is useful to compare their occupational structures, to note the similarities and differences in the way

Figure 3.2

### Occupational structures France and UK



Source: 1991 Labour Force Survey

KEY

No.	ISCO Major Group
1	Professional, technical & related
2	Administrative & Managerial
3	Clerical & related
4	Sales
5	Service Workers
6	Agricultural, animal & forestry workers
7	Production & related

that women and men in the two countries are distributed across the seven ISCO major groups.

The following analysis includes all 'persons in employment', defined in the LFS as

'Those who during the reference week did any work for pay or profit; or were working but had jobs from which they were temporarily absent. Family workers are included but not persons on lay-off' (Eurostat, 1991)

This includes the self-employed. Figure 3.2 shows that the occupational structures of the two countries are very similar, with the exceptions of group 2, Administrative and Managerial workers, and group 6, Agricultural workers. The group 2 differences are more artefactual than real. In France, only the managers of firms with more than 50 employees are allocated to group 2, managers of smaller firms being allocated to their respective (other) major groups. In the UK the classification does not distinguish between managers of large and smaller concerns and puts them all in group 2 (Dale and Glover, 1990). This artefactual difference is problematic when the ISCO major and minor groups are being compared, but tends to be less important in the calculation of segregation indices, as the focus shifts away from individual groups to the aggregate picture.

The differences in group 6, agricultural workers, reflects a real difference in the size of the agricultural sector in the two countries. Often in French/British comparisons agricultural workers are excluded to compare workers in the modern, industrialised sector (see for example Dale and Glover, 1990 and Dex, Walters and Alden, 1993). The concern is usually that the inclusion of this diminishing section of the labour force will distort the picture of the majority. In this analysis agricultural workers have been left in. The analysis of concentration patterns is sufficiently detailed to monitor the impact of the agricultural sector. When segregation indices were recalculated without agricultural workers, the effect on the measures was negligible.

ISCO Major group	France		UK	
	women (%)	men (%)	women (%)	men (%)
1 Professional & technical	18.8	19.1	19.8	17.4
2 Administrative & managerial	0.1	0.6	4.3	6.4
3 Clerical	32.7	11.1	30.6	10.3
4 Sales	10.2	8.0	12.6	10.4
5 Services	22.6	7.4	21.5	8.0
6 Agricultural	5.0	7.6	0.7	3.2
7 Production	10.7	46.4	10.5	44.4
Total no. Workers (thousands)	9540	12614	10671	12892

Source: 1991 LFS, grossed up survey estimates

Table 3.1 shows that the gender composition of these major groups is strikingly similar in the two countries, notwithstanding the differences already noted in relation to groups 2 and 6. Women are over-represented in group 3, clerical and related occupations, and group 5, services, whilst men heavily outnumber women in production occupations in both countries. In professional and technical occupations in the UK women outnumber men, whereas in France men are in the majority.

It has been argued above that one of the main reasons that France and the UK provide an interesting comparison is the different levels of part-time work in the two countries. In each country the part-time labour force is characteristically different to the full-time labour force, and these differences become apparent when gender concentration patterns in the occupational structure are examined.

Full-timers and part-timers are now compared within and between countries. French distributions of full-time and part-time workers across the ISCO major groups, shown in table 3.2, suggest that the main difference between women full-timers and women part-

timers is that part-timers were almost twice as likely to work in services. They also had a higher share of jobs in agriculture, and were much less likely to work in production. Men who worked part-time were also twice as likely as male full-timers to work in services, though they were also more likely than male full-timers to work in professional and technical occupations, whilst being less likely to work in production. The table therefore suggests that in France there were a significant number of highly-qualified men in the part-time labour force. The occupational structure of male part-timers was quite different to that for women part-timers. Women part-timers typically worked in services and clerical occupations, whilst male part-timers were typically in production and the professional and technical occupations.

ISCO Major group	France			
	FULL-TIME		PART-TIME	
	women (%)	men (%)	women (%)	men (%)
1 Professional & technical	19.9	18.9	15.1	24.8
2 Administrative & managerial	0.2	0.6	0.0	0.5
3 Clerical	33.9	11.2	28.9	8.1
4 Sales	10.2	8.0	10.2	5.8
5 Services	18.7	7.2	35.2	15.3
6 Agricultural	4.6	7.3	6.2	16.0
7 Production	12.6	47.0	4.5	29.5
Total no. Workers (000s)	7298 (100%)	12183 (100%)	2242 (100%)	431 (100%)

Source: 1991 LFS

In the UK, both women and men part-timers were less likely than full-timers to work in professional and technical occupations. Table 3.3 shows that women part-timers and male part-timers in the UK were much less likely to be in administrative and managerial and in production occupations. Whilst there were fewer women part-timers than women full-

timers in clerical occupations, male part-timers were more likely than male full-timers to be in this major group. In the UK, part-timers of both sexes were more commonly found in services and in sales occupations than full-timers.

<b>Table 3.3. UK full-timers and part-timers, women and men, in the ISCO major groups.</b>				
<b>ISCO Major group</b>	<b>UK</b>			
	<b>FULL-TIME</b>		<b>PART-TIME</b>	
	<b>women (%)</b>	<b>men (%)</b>	<b>women (%)</b>	<b>men (%)</b>
<b>1 Professional &amp; technical</b>	<b>23.0</b>	<b>17.6</b>	<b>15.8</b>	<b>14.5</b>
<b>2 Administrative &amp; managerial</b>	<b>6.2</b>	<b>6.6</b>	<b>1.8</b>	<b>2.6</b>
<b>3 Clerical</b>	<b>35.5</b>	<b>9.9</b>	<b>24.6</b>	<b>16.2</b>
<b>4 Sales</b>	<b>9.4</b>	<b>9.7</b>	<b>16.6</b>	<b>20.8</b>
<b>5 Services</b>	<b>12.5</b>	<b>7.2</b>	<b>32.9</b>	<b>20.4</b>
<b>6 Agricultural</b>	<b>0.7</b>	<b>3.2</b>	<b>0.6</b>	<b>4.2</b>
<b>7 Production</b>	<b>12.6</b>	<b>45.8</b>	<b>7.8</b>	<b>21.4</b>
<b>Total no. Workers (000s)</b>	<b>5941</b> <b>(100%)</b>	<b>12152</b> <b>(100%)</b>	<b>4730</b> <b>(100%)</b>	<b>740</b> <b>(100%)</b>

Source: 1991 LFS

The main difference between the two countries was that UK women full-timers had a bigger share of professional, administrative and managerial and clerical occupations relative to part-timers than in France, whilst there were fewer women full-timers in the UK engaged in sales and services. This is consistent with Dex, Walters and Alden's (1993) finding that French part-timers had a bigger share of higher-grade jobs than UK part-timers. In the UK part-timers of both sexes were over-represented in sales work, whilst in France, part-timers were no more likely to work in sales than full-timers. This reflects both women's preference for full-time work in France, and employers' reluctance to employ part-timers (Gregory, 1989).

There was a bigger gap between the representation of full-timers and part-timers in clerical occupations in France than in the UK. In France, 34 per cent of women full-timers worked in clerical occupations, compared to 29 per cent of women part-timers. In the UK, 35 per cent of women full-timers compared to 25 per cent of women part-timers were in clerical occupations. There is an interesting contrast too between men in clerical occupations in the two countries. In France, male part-timers were less likely than male full-timers to be in clerical occupations (11 % full-time, compared to 8 per cent part-time) whereas the reverse was true in the UK (10 per cent full-time, 16 per cent part-time).

### **3.3.2 Patterns of occupational concentration**

When occupational unit groups are grouped into ISCO major groups very different levels of occupational concentration are combined, so that the effect is to understate the true degree to which women and men work in separate occupations. To examine the patterns of gender concentration within unit groups, the 81 OUGs have been organised into ratio groups, or ten per cent bands based on the percentages of women in each group. The key to interpreting the following tables is found in table 3.4, which also shows the distributions of OUGs across ratio groups in the two countries.

Ratio group	Percentage of women	No. OUGs	
		France	UK
1	Less than or equal to 10	15	16
2	Greater than 10, less than or equal to 20	12	13
3	Greater than 20, less than or equal to 30	18	9
4	Greater than 30, less than or equal to 40	9	9
5	Greater than 40, less than or equal to 50	7	12
6	Greater than 50, less than or equal to 60	8	1
7	Greater than 60, less than or equal to 70	2	3
8	Greater than 70, less than or equal to 80	5	9
9	Greater than 80, less than or equal to 90	2	3
10	Greater than 90.	3	2
Total		81	77*

\* There are no female bookkeepers, economists, miscellaneous sales workers or stonecutters in the UK sample; see Appendix A3.2 for details.

Source: 1991 LFS

Occupational classification schemes tend to describe men's occupations more finely than women's, and this is reflected in the tendency for there to be disproportionately more OUGs which are male-dominated than female-dominated. The concept of ratio groups can be used to illustrate this. For example, table 3.4 shows that in France there were 15 OUGs in the most male-dominated ratio group, 1, whilst only 3 OUGs were in the most female-dominated ratio group, 10. 21 per cent of the French work force were represented in ratio group 1, and 7 per cent in ratio group 10. In the UK 16 OUGs were in ratio group 1, and 2 OUGs in ratio group 10. Here 17 per cent of the work force were in ratio group 1, and 5 per cent were in ratio group 10. There were roughly twice as many workers per unit group in ratio group 10 as in ratio group 1. This is not simply an issue of occupational concentration. Not only are women heavily concentrated in female-typed occupations, but the very female-dominated occupations are much larger than male-dominated ones. This disparity raises questions about the gender-neutrality of occupational classification schemes.

Arguably this grouping of disproportionate numbers of women in a few highly-feminised OUGs reflects the reality of lots of women doing similar work, but it also arises because of the aggregation of lots of different feminised jobs under few occupational titles. There is a linkage between how occupations are classified and women's real employment experiences, expressed here by the OECD in respect of career mobility:

'Compared to male occupations, traditional female occupations are broadly defined and offer flatter career paths. To some extent women appear concentrated in a narrow range of occupations precisely because the definitions of those occupations are so broad. For example, "secretary" covers a multiplicity of different tasks, functions and levels of seniority. Mobility within the occupation can be high, but intra-occupational vertical mobility is severely constrained. Disaggregating broad occupational categories would reveal paths for career progression within occupations. Female occupations are also "closed" occupations, with few possibilities for inter-occupational mobility. Identifying specific levels at which links could be established with other occupational categories would be easier if female occupations were less broadly defined.' (OECD, 1994, p29).

Returning to the 1991 LFS results, in France 57 per cent of the work force are in male-dominated occupations, and they are described by 61 OUGs. The remaining 43 per cent work in female-dominated occupations, described by just 20 OUGs. A similar pattern exists for the UK; 55 per cent of the work force are in 59 male-dominated OUGs, 45 per cent are in 18 female-dominated OUGs. The LFS results therefore suggest a similar level of occupational aggregation in both countries.

Table 3.5 shows that the most male-dominated, ratio group 1, contains 35 per cent of French men; the equivalent figure for the UK is 29 per cent. Ratio groups 1 to 5 contain the male-dominated occupations. The concentration of men in male-dominated occupations was equal, with 80 per cent in these five ratio groups in both countries. In both countries there were proportionally more women in male-dominated occupations than there were men in female-dominated occupations. Just under 17 per cent of French women and 10 per cent

of British women were in ratio group 10 (occupations over 90 per cent female). The occupations falling into this most feminised group in France were maids, typists and sales workers not classified elsewhere. The difference in the proportion of women in ratio group 10 in the two countries is mainly accounted for by the greater numbers classified as typists and maids in France; there were relatively few women in the miscellaneous sales occupational category. In both France and the UK there were high concentrations of women workers in teaching, sales and clerical occupations which, whilst female-dominated in both countries, found mainly in ratio groups 7 and 8, were not at the extremely feminised end of the occupations spectrum. There were similar concentrations of women in female-dominated occupations, with 74 per cent of women in ratio groups 6 to 10 in France and 75 per cent in the UK.

Ratio Group	France				UK			
	women (%)	cum. %	men (%)	cum. %	women (%)	cum. %	men (%)	cum. %
<b>1</b>	2.8	(2.8)	35.0	(35.0)	1.8	(1.8)	29.2	(29.2)
<b>2</b>	3.9	(6.7)	15.5	(50.5)	4.4	(6.2)	22.6	(51.8)
<b>3</b>	6.3	(13.0)	15.1	(65.6)	1.6	(7.8)	4.4	(56.2)
<b>4</b>	5.8	(18.8)	7.3	(72.9)	10.4	(18.2)	17.0	(73.2)
<b>5</b>	7.3	(26.1)	6.7	(79.6)	6.4	(24.5)	6.3	(79.5)
<b>6</b>	7.5	(33.6)	4.4	(84.0)	0.0	(24.5)	0.0	(79.5)
<b>7</b>	23.0	(56.5)	10.1	(94.1)	11.2	(35.7)	5.5	(85.1)
<b>8</b>	25.1	(81.6)	5.3	(94.4)	44.4	(80.1)	13.1	(98.2)
<b>9</b>	1.8	(83.3)	0.3	(99.7)	9.9	(90.0)	1.7	(99.9)
<b>10</b>	16.7	(100)	0.3	(100)	10.0	(100)	0.1	(100)
Total no (000s).	9540		12614		10671		12892	

Source: 1991 LFS

Comparing the ratio group categories to which particular OUGs were allocated in France and in the UK highlights similarities and differences in the sex-typing of occupations. There was more variation between the two countries in the occupations which were at the very male-dominated end of the spectrum (see Appendix 3.2). Rubery and Fagan (1993) attribute such cross-national variation to three distinct causes. First, some production-related jobs are not common to all countries, reflecting real historical, economic and cultural differences. Second, because male-dominated jobs are more highly differentiated than feminised ones, there is more scope for cross-national variation. Third, there is the possibility of inaccuracies at this level of detail, which are particularly problematic for the smaller OUGs.

Table 3.6 shows the distributions of French part-timers and full-timers, women and men, across the ten ratio groups. The ratio groups were defined in the same way as before, using the percentages of women workers in OUGs, counting both full-timers and part-timers. Women full-timers were not as heavily concentrated in female-dominated occupations as women part-timers. However, the degree of segregation between women full-timers and men full-timers remained high. Only 3 per cent of French women full-timers were in the most male-dominated occupations (ratio group 1), compared to 2 per cent of French women part-timers. At the other extreme, 15 per cent of women full-timers were in the most feminised occupations (ratio group 10), compared to 22 per cent of women part-timers. There were also proportionally more women part-timers in ratio group 8 (31 per cent) than there were women full-timers (23 per cent). Less than 1 per cent of both male full-timers and male part-timers were in highly feminised occupations (ratio group 10). Conversely proportionally fewer male part-timers than male full-timers were in ratio groups 1 to 3.

Table 3.6. French full-timers and part-timers, women and men, in ratio groups.								
Ratio Group	France							
	Full-timers				Part-timers			
	women (%)	cum. %	men (%)	cum. %	women (%)	cum. %	men (%)	cum. %
1	3.1	(3.1)	35.4	(35.4)	1.9	(1.9)	22.0	(22.0)
2	4.5	(7.6)	15.6	(51.0)	1.7	(3.6)	10.9	(33.0)
3	7.2	(14.7)	15.1	(66.1)	3.7	(7.3)	13.2	(46.2)
4	5.8	(20.6)	7.1	(73.2)	5.8	(13.1)	13.2	(59.4)
5	8.0	(28.6)	6.7	(79.8)	5.0	(18.1)	8.4	(67.8)
6	7.7	(36.3)	4.6	(84.4)	6.5	(24.6)	5.6	(73.3)
7	23.4	(59.7)	9.9	(94.3)	21.5	(46.1)	14.9	(88.2)
8	23.1	(82.9)	5.1	(99.5)	31.3	(77.4)	10.4	(98.6)
9	2.0	(84.9)	0.3	(99.7)	0.9	(78.3)	0.5	(99.1)
10	15.1	(100)	0.3	(100)	21.7	(100)	0.9	(100)
Total no (000s)	7298		12183		2242		431	

Source:1991 LFS

Table 3.7 for the UK displays a similar pattern of gender concentration for full-timers and part-timers. Again, there were proportionally more women part-timers than full-timers in ratio groups 8 and 10. In the UK the overall level of concentration of women part-timers in these highly feminised occupations was higher than in France, with over half (57.8 per cent) of all women part-timers in ratio group 8. Amongst men, the main difference between the two countries is the larger share of male part-timers in the UK in female-dominated occupations (53 per cent compared to 32 per cent in France).

<b>Table 3.7. UK full-timers and part-timers, women and men, in ratio groups.</b>								
Ratio Group	UK							
	Full-timers				Part-timers			
	women (%)	cum. %	men (%)	cum. %	women (%)	cum. %	men (%)	cum. %
<b>1</b>	2.3	(2.3)	30.3	(30.3)	1.1	(1.1)	11.6	(11.6)
<b>2</b>	5.6	(7.9)	23.1	(53.4)	3.0	(4.1)	14.9	(26.5)
<b>3</b>	2.3	(10.1)	4.6	(57.9)	0.7	(4.8)	1.6	(28.1)
<b>4</b>	13.5	(23.6)	17.2	(75.1)	6.5	(11.4)	13.7	(41.8)
<b>5</b>	8.3	(31.9)	6.4	(81.5)	4.0	(15.4)	5.1	(46.9)
<b>6</b>	0	(31.9)	0	(81.5)	0	(15.4)	0	(46.9)
<b>7</b>	15.0	(46.8)	5.5	(87.0)	6.4	(21.7)	6.5	(53.4)
<b>8</b>	33.8	(80.6)	11.3	(98.2)	57.8	(79.6)	43.7	(97.0)
<b>9</b>	10.5	(91.0)	1.6	(99.9)	9.1	(88.7)	2.7	(99.7)
<b>10</b>	9.0	(100)	0.1	(100)	11.3	(100)	0.3	(100)
Total no (000s)	5941		12152		4730		740	

Source: 1991 LFS

Table 3.8 combines the information provided by tables 3.6 and 3.7 to compare directly the representation of part-timers in ratio groups, by sex, in the two countries. It uses ratios of observed : expected numbers of part-timers in each ratio group. The expected value is equal to the number of part-time workers who would be in the ratio group if the ratio of full-timers to part-timers was equal to the ratio of full-timers to part-timers across the whole labour force. A value of 1, as for French women in ratio group 4, suggests that the proportion of part-timers reflected the share of part-timers across the labour force as a whole. Values above 1 indicate over-representation of part-timers, whilst values below 1, under-representation. This table highlights the difference in the gender concentration levels

experienced by male part-timers in the two countries. The high concentration of male part-timers in ratio group 8 in the UK is due to salesmen and shop assistants (38 per cent of men in this group worked part-time), building caretakers and cleaners (27 per cent of men part-time) and cooks, waiters, bartenders (37 per cent part-time). Thus, French men who work part-time are not only more likely to work in higher-grade occupations, but they are also more likely to be working in 'masculine' occupations than male part-timers in the UK.

<b>Table 3.8. Observed:Expected proportions of part-timers in Ratio groups; women, men, France and the UK</b>				
	<b>France</b>		<b>UK</b>	
<b>Ratio Group</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>	<b>Men</b>
<b>1</b>	0.7	0.6	0.6	0.4
<b>2</b>	0.5	0.7	0.7	0.7
<b>3</b>	0.6	0.9	0.5	0.4
<b>4</b>	1.0	1.8	0.6	0.8
<b>5</b>	0.7	1.2	0.6	0.8
<b>6</b>	0.9	1.3	-----	-----
<b>7</b>	0.9	1.5	0.6	1.2
<b>8</b>	1.3	2.0	1.3	3.3
<b>9</b>	0.5	1.8	0.9	1.6
<b>10</b>	1.3	3.1	1.1	1.9

Source: 1991 LFS

This analysis of full-time and part-time workers supports the view above, that part-time jobs are characterised by lower levels of pay and worse conditions than full-time jobs in the UK, whereas in France there are two types of part-timer (see section 3.2.3). There is a growing core of French part-timers who occupy a similar position in the occupational structure to part-timers in the UK. But there are also part-timers who occupy higher-level jobs, for whom part-time work is not associated with occupational downgrading and who are more likely to enjoy the same pay and conditions as their full-time equivalents. These would correspond to McRae's 'individual strategy' part-timers (McRae, 1995). This group are

most clearly visible among male part-timers in France, but also account for the relatively enhanced occupational profiles of women part-timers in France. To fully appreciate the meaning that part-time employment has for employment careers in the two countries, and its impact on vertical mobility patterns, further research is required. These cross-sectional analyses are merely 'snapshots' of the 1991 occupational structures which illustrate the extent to which the French and UK labour forces are characteristically lower-grade and feminised compared to the full-time labour force. To establish the relationship between part-time work, occupational downgrading and maternal employment would require parallel longitudinal analyses for the two countries

Focusing on occupational concentration reveals cross-national similarities and differences which are important at a theoretical level. However occupational segregation of women and men across the labour force *as a whole* is crucial for evaluating the effect of various social policies. A summary measure of aggregate gender segregation is required. The next section begins by calculating index values for the total number of employees, that is with part-timers and full-timers combined in OUGs. It then considers the different contributions that women's full-time and part-time work make to these patterns.

### **3.3.3 Segregation Index values**

The segregation indices described in chapter 2 were calculated for France and the UK using the 1991 LFS. At this stage, both full-time and part-time workers are counted together, and the results are presented in table 3.9.

The striking feature of these results is that each index reports very similar levels of segregation in the two countries. There is some disagreement between the indices as to which country is most segregated, though the differences between index values for each country are very small.

<b>Table 3.9 Index values for France and the UK, with full-time and part-time workers combined in OUGs.</b>		
INDEX	FRANCE	UK
Sex Ratio Index	1.23	1.21
Standardised Sex Ratio Index	0.53	0.55
WE Index	0.62	0.61
Index of Dissimilarity	0.54	0.55
Marginal Matching	0.53	0.55
Gini Index	0.70	0.69

Source: 1991 LFS

The Sex Ratio Index, the WE index and the Gini Index find that France has a slightly higher level of segregation, whilst the Standardised Sex Ratio Index, the Index of Dissimilarity and Marginal Matching suggest that the UK is most segregated. This disagreement reflects the different principles behind the mathematical forms of the indices, and in the case of the Sex Ratio Index and the WE Index relates to the problem of 'composition invariance' (Duncan and Duncan, 1955, James and Taueber, 1985, and Blackburn, Siltanen and Jarman, 1990). The SRI and the WE Index were seen, in Chapter 2, to be weighted by the factors  $N/F$  and  $2M/N$ , respectively, both of which vary with the female share of the labour force. Thus weightings in the SRI and WE Index for these two countries are;

	France	UK
N/F	$22154/9540=2.32$	$23563/10671=2.21$
2M/N	$2(12614/22154)=1.14$	$2(12892/23563)=1.09$

The difference in the gender composition of the work force in each country generates, in the SRI and the WE Index, higher index values for France. The gender composition of the work force is very likely to vary over time and place, so 'sex composition invariance' is an important criterion that segregation measures should satisfy; the Standardised Sex Ratio Index and the Index of Dissimilarity can be shown to be *unweighted* versions of the SRI and the WE index.

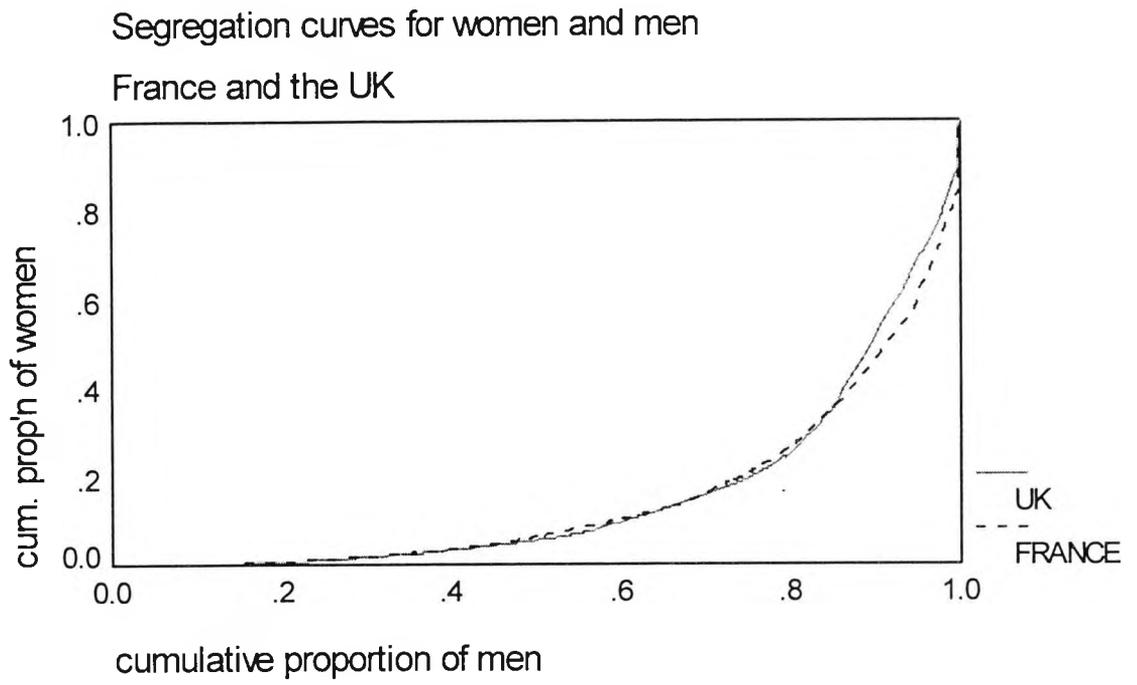
However the Index of Dissimilarity and the Standardised Sex Ratio Index are also influenced by changes in the sex composition of the work force. Blackburn, Siltanen and Jarman (1990, 1992, 1993a, 1993b) have illustrated these problems with the aid of their 'basic segregation table', shown in table 3.10. (Siltanen,1990a, addresses the same issue, though focusing on the Standardised Sex Ratio Index). The relationship between each of these indices and the basic segregation table were described in chapter 2. Each index is influenced by the relative numbers of women and men, F and M in the table, and so are problematic for use in comparisons where the sex composition of the work force varies. This absence of sex composition invariance in the ID and the SSRI has limited effect in this comparison because the proportions of women in the French and British work forces are similar. Reverting to the basic segregation table, changes in  $N_m$  and  $N_f$  also influence these indices. These marginals represent the numbers of workers in 'male' and 'female' categories which reflect changes in the occupational structure. The criterion associated with  $N_m$  and  $N_f$  has been termed 'organisation invariance' (Blackburn, Siltanen and Jarman, 1990 p24). The practice of matching the marginals in the basic segregation table, described in Chapter 2, creates an index which satisfies the requirements of both sex composition and organisation invariance.

<b>Table 3.10 The Basic Segregation Table.</b>			
	<b>Men</b>	<b>Women</b>	
<b>'Male' occupations</b>	$M_m$	$F_m$	$N_m$
<b>'Female' occupations</b>	$M_f$	$F_f$	$N_f$
	<b>M</b>	<b>F</b>	<b>N</b>

The Gini index is also affected by differences in the occupational structure. The construction of the segregation curve relies heavily upon the relative sizes of occupational groups. Very different structures would influence the shape of the curve, regardless of the pattern of segregation within them. However the more detailed the occupational classification, the less problematic this becomes.

One reason why the Gini Index shows a higher degree of segregation in France than in the UK is that it weights occupations with different degrees of occupational concentration.

Figure 3.3



This is illustrated by the segregation curves shown in Figure 3.3. These curves plot the cumulative proportions of women and men against each other to preserve gender composition invariance, enabling cross-national comparison <sup>(1)</sup>. Chapter 2 described how the Gini Index compares the area between the segregation curve and the diagonal and the area under the diagonal to provide a measure of gender segregation. Because occupations are ranked by percentage female before cumulative proportions of women and men are calculated, the left side of this graph runs from male-dominated occupations towards more feminised occupations on the right. The French and UK curves separate on the right-hand side of the graph because there was a larger proportion of French women in highly feminised occupations than in the UK, as described above. The resultant increased area between the French curve and the diagonal produces a higher Gini Index value for France.

A major difference between the Gini Index and the other segregation indices is that the former takes account of the gender composition of every occupational group, whilst the other indices aggregate occupations into 'male' and 'female' categories in the basic segregation table and then manipulate these gender categories. Because the Gini index retains this disaggregated data it records a distinction such as that between French highly feminised occupations and less feminised UK occupations. The other indices are not as sensitive to such distinctions, unless they cross the boundary between 'male' and 'female' occupations.

The curves cross: but the French curve is slightly closer to the diagonal where more integrated occupations are represented. This suggests that there were more women in integrated occupations in France. It also highlights one of the main criticisms of segregation curves and the Lorenz curves upon which they are based (see for example Blackburn, Siltanen and Jarman, 1990 and James and Taeuber, 1985). When two curves do not cross, the curve closest to the diagonal represents less segregation. Crossed curves are more difficult to interpret and can generate conflicting index values.

Blackburn, Jarman and Siltanen (1993b, 1994) also argue that because it is sensitive to transfers the Gini Index confuses the concepts of concentration and segregation. They

maintain that, unlike inequalities in income distribution, for which the Gini index was devised, it is inappropriate to talk of occupations with high and low gender ratios making different contributions to segregation:

‘Is the difference between 90% and 75% [that is, percentage female within occupations] more important than that between 75% and 60% because concentration levels are more extreme, as implied by the Gini coefficient, or is 75% so high a concentration that any further increase is of declining importance?’ (Blackburn, Jarman and Siltanen, 1994, p417, my comment in brackets).

This is a debatable point, though it is important to be aware that the Gini Index is sensitive to different patterns of gender concentration, which the other indices largely ignore. This distinguishing feature may make the Gini Index more difficult to interpret. However in this analysis it will be retained, in conjunction with the segregation curve on which it is based, because together they illustrate important French/UK differences in occupational segregation when the statistics are disaggregated into full-time and part-time components. This measure alone is sensitive to the sorts of differences that do exist between France and the UK.

#### **3.3.4 Full-time work, part-time work and segregation indices**

Although section 3.3.2 showed that full-timers and part-timers have distinct patterns of gender concentration, distinguishing between full-timers and part-timers has no effect on the summary segregation indices when the gender composition of aggregate OUGs is retained. All of the indices involve ordering occupations by the percentage of women workers. Index values are unchanged despite the distinction between full-timers and part-timers because they occupy adjacent positions in this ordered distribution. However, the level of segregation between women full-timers and all men and between women part-timers and all men has been calculated for the two countries. Including women part-timers and then women full-timers in turn in the calculations involved major changes in the gender composition of the resultant ‘work forces’; for this reason the Gini Index and Marginal Matching methods were used, as these two measures have been shown to cope better with such changes.

Figure 3.4

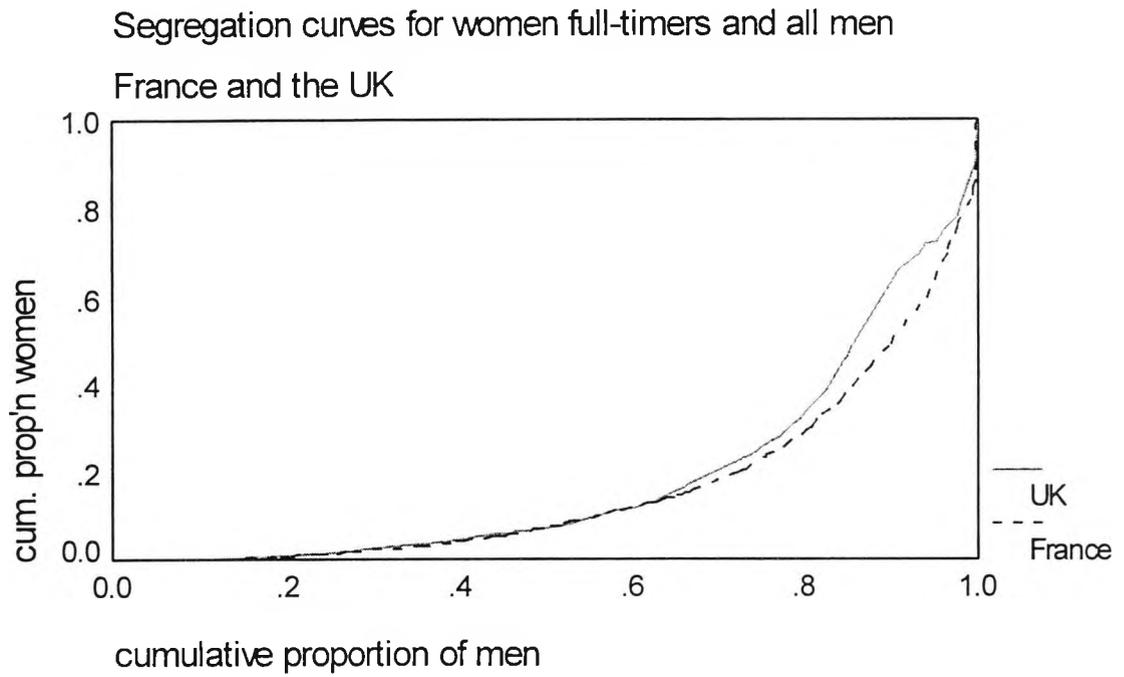


Figure 3.5

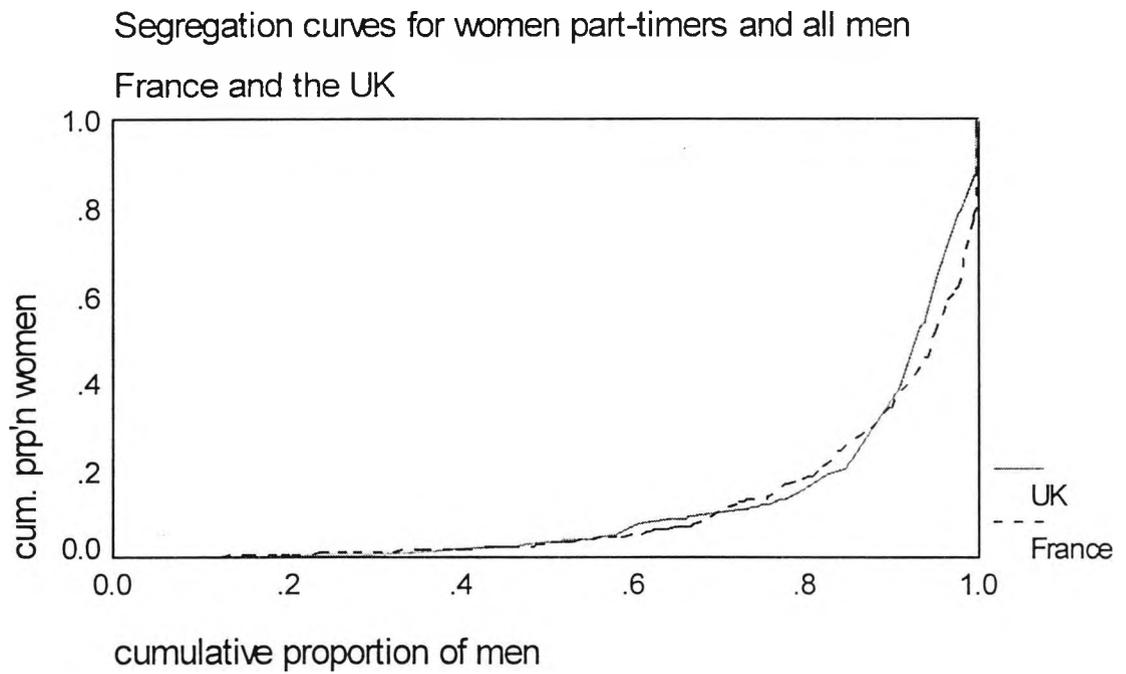


Figure 3.4 shows the segregation curves for men and women full-timers. Again, the ranking of occupations runs from male-dominated on the left to female-dominated on the right. The UK curve lies closer to the diagonal, suggesting that women full-timers in the UK are less segregated from all men than French women full-timers were. The Gini index values are correspondingly higher for France, as shown in table 3.11 below. Similarly the MM index also reports a higher level of segregation for France.

<b>Table 3.11. Index values for French and UK women full-timers and all men and for women part-timers and all men</b>			
		<b>FRANCE</b>	<b>UK</b>
women full-timers and all men	Gini index	0.67	0.63
	Marginal Matching	0.50	0.44
women part-timers and all men	Gini index	0.78	0.76
	Marginal Matching	0.51	0.57

Source: 1991 LFS

The segregation curves for women part-timers and all men are shown in figure 3.5. The French curve comes close to the right-hand y-axis, reflecting the higher proportion of French part-timers in highly feminised occupations. The Gini index suggests a slightly higher level of segregation between women part-timers and all men in France, at 0.78, compared to 0.76 in the UK, but the curves cross, indicating that this was not the pattern throughout the occupational distribution.

There is disagreement here with the MM index, which shows a higher value for the UK, at 0.57, whilst the French index remained close to the value for women full-timers and all men, at 0.51. This is a counter-intuitive result because it suggests that segregation between French men and women part-timers was lower than between French men and all women, which was 0.53 (table 3.9). In fact all other indices suggest that women part-timers are more segregated from men than women full-timers, except for this counter-intuitive MM result for France. The occupational concentration patterns of French part-timers described above show that part-time women workers in France were, as in the UK, less likely than full-timers to be in gender-atypical occupations, so on an intuitive level the removal of

women full-timers from the analysis would imply higher segregation. This unexpected MM result is explained in appendix 3.3.

Despite this methodological problem, the substantive results based on disaggregated data suggest that the larger, feminised part-time labour force in the UK has not had the effect of encouraging statistical discrimination against all women workers, as Hakim (1991b) has suggested, since women full-timers in the UK are better integrated occupationally with men than French women full-timers.

### **3.4 CONCLUSIONS**

This chapter has shown that the explanation for different patterns of female employment participation in France and the UK lie beyond individual choices. Maternal employment in France is facilitated by a broad range of social policies. These make full-time, continuous employment over child-rearing the commonest pattern amongst mothers. Part-time work tends to be considered an unattractive option, both by women and by employers. It is often a makeshift solution for women really seeking full-time posts. This contrasts with part-time work in the UK, which is the commonest means by which mothers reconcile the conflicting demands paid and unpaid work. Whilst part-time jobs tend to be very feminised and found at the bottom of the jobs hierarchy in both countries, there are exceptions. There are more higher-grade part-time jobs in France for both women and men than in the UK. These are likely to reflect 'individual strategy' part-time work, negotiated by employees with their current employer. This sort of part-time work tends not to be associated with occupational downgrading, though reduced hours may impair future career progression.

Overall, levels of occupational sex segregation are the same in the two countries. However there are variations in patterns of occupational concentration. In both countries, women part-timers are more likely to work in female-dominated occupations than women full-timers. The distributions of male part-timers in the two countries were quite different. Men working part-time in the UK were most likely to work in female-typed jobs, whilst French men working part-time had occupational distributions closer to those of male full-timers. The association between part-time work and the secondary sector, characterised by low

pay, low skills and poor promotion prospects, is stronger in the UK than France.

Segregation curves and the Gini index were the most useful tools for comparing segregation patterns between women and men, women full-timers and men and women part-timers and men in the two countries. These suggest less segregation between women full-timers and men in the UK than in France. Overall women part-timers were a little less segregated from men in the UK compared to France. Whilst there were more women part-timers in male and integrated occupations in France, these patterns were offset by their higher concentration in occupations which were over 90 per cent female.

Overall segregation levels are the same for the two countries. Women part-timers are more gender segregated than women full-timers in both countries. Despite there being twice as many part-timers in the UK, this brings the indices together, because of the higher gender segregation of French women full-timers.

#### Notes

1. If cumulative proportions or totals of workers had been plotted against cumulative proportions or totals of women, the curves would be skewed to reflect the gender composition of the labour force. The effect on the current curve would be minimal, because of the similarity in the gender composition of the French and UK work forces. However the curves presented later in this chapter compare segregation patterns within work forces with quite different proportions of women. To facilitate the comparison, this version of the curve, which exhibits gender composition invariance, is retained.

## **CHAPTER 4 BRITISH EMPLOYMENT TRENDS OVER THE 70s AND 80s**

### **4.1 Introduction**

“The world is not neatly divided into the employed and the unemployed; moreover, jobs, employment statuses and activity statuses do not remain tattooed for life on people’s forearms. Large numbers of people suffer casual, irregular employment, interspersed with spells of unemployment....People follow patterned trajectories through both the occupational structure and through the activity structure of society, though not always on the professional model of an upwardly mobile ‘career’” (Marsh, 1988, p350).

Marsh distinguished between the stock of unemployed people and the flow, onto and off the unemployment register. She argued that only this dynamic approach could reveal the nature of unemployment and how it impacts on people’s lives.

So it is with part-time work. To understand the nature of part-time work and its relationship to occupational segregation, a series of cross-sectional snapshots revealing the changing composition of the labour force over time is not enough. Longitudinal data in the ONS Longitudinal Study (LS) has been used in this thesis to reveal the degree and nature of individual exposure to part-time work. Chapter 6 describes two cohorts, one of which includes women members of the LS who were aged 20-39 in 1971. At the 1971 Census, 15 per cent of these women worked part-time. At the 1981 and 1991 censuses, 32 per cent worked part-time. However by 1991, 55 per cent of this cohort had worked part-time on at least one of these dates and, because of ‘hidden’ part-time spells in the inter-censal periods, this is certainly an underestimate of the proportion whose working lives included the experience of part-time working.

Part-time work is strongly associated with ‘working mothers’. In Chapters 6 and 7 the relationships between motherhood, part-time work and occupational mobility are compared. If part-time working, precipitated by motherhood, is fuelling the overall levels of vertical and horizontal occupational segregation, then the aim of the longitudinal analysis is to

explore whether this process changed over time.

However the period under review, between 1971 and 1991, was a time of major structural upheaval in the UK economy. This chapter describes the main changes in the structure of the labour force over these two decades, to place in their historical context the more focused longitudinal cohort analyses which follow. This descriptive account uses cross-sectional data for Longitudinal Study members in England and Wales (see section 4.2 below) in employment in 1971, 81 and 91.

Comparing occupational data over time is complicated by changes in the way that occupations are classified. Occupational reclassification in both 1980 and 1990 affects the comparability of 1971, 81 and 91 LS data. Chapter 5 discusses the theoretical and empirical implications of occupational reclassification. For 1971/81 longitudinal comparisons, adjustment tables have been created so that artefactual changes arising from the 1980 reclassification can be filtered out from longitudinal cross-tabulations of segregation patterns for women and men. No adjustment has been made for the effects of the 1980 reclassification in this chapter because in cross-sectional tables the changes tend to cancel each other out (see Chapter 5). There is a simpler solution for analysing 1981/91 comparisons. The 1991 LS occupational data was double-coded to both the 1990 and the 1980 occupational classification schemes. The 1980 coding has been used for the analyses of 1991 data in this chapter and in chapters 6 and 7.

#### **4.2 The ONS Longitudinal Study**

The ONS Longitudinal Study is a set of records relating to 1 per cent of the population of England and Wales; it includes about 500,000 people at any census. The records include information given on the 1971, 1981 and 1991 census forms, together with certain vital events for each LS member such as live and still births to women, death, death of a spouse and cancer registrations. Individuals are selected for the LS on the basis of their birthday, using four given dates each year. Information for these individuals is linked and provides the opportunity for longitudinal analysis. Confidentiality of the data is maintained in a number of ways. The dates of birth used to select the sample are not publicly known.

Access to the LS is tightly controlled, and data is only released as tabulations and statistical summaries. Individual records are not released.

In this chapter the tables relating to 1971 are based upon LS members over the age of 15 in 1971. In 1973 the school-leaving age was raised to 16 and tables for 1981 and 1991 are based on over-16 year-olds.

### **4.3 The changing labour force, 1971-91**

#### **4.3.1 Economic restructuring and feminisation of the labour force**

Since the second world war, there has been a significant shift in the labour force in favour of service sector employment and the relative importance of manufacturing industry has fallen. In the UK in the mid 1960s, absolute employment in manufacturing also began to fall. In 1971, 36.5 per cent of employees worked in manufacturing industries. By 1981, this had fallen to 28.6 per cent, dropping to 21.6 per cent by 1991. In contrast to this, employees in service industries rose from 52.6 per cent of the total in 1971, to 61.3 per cent in 1981 and 70.6 per cent in 1991 (Table 1.2, Employment Gazette Historical Supplement No.4, October 1994).

In this context of economic restructuring the labour force became increasingly feminised. Women's share of the labour force grew from 36.7 per cent in 1971 to 41.7 per cent in 1981 and 44 per cent in 1991 (Census 10 per cent published tables for Great Britain). Most of the new jobs in the expanding service sector were filled by women, whilst manufacturing became defeminised (Rubery & Tarling, 1988 p110).

To understand why this feminisation did not herald a new era of gender equality, it is important to remember that whilst women were being brought into the labour market in ever-increasing numbers, the governments of the 1980s were pursuing policies which aimed to enhance employers' competitiveness through the deregulation of employment. There were cost savings for employers who used part-time rather than full-time labour (see sections 3.2.3 and 4.3.2 below) and the growth of part-time work was particularly rapid in

the expanding services sector. In this political climate, non-standard employment grew, as did inequality, between the low-paid and the highly-paid, between 'work-rich' and 'work-poor' households, and between full-timers and part-timers (Hills, 1995).

The following section uses LS data cross-sectionally to show how part-time work evolved through the two decades to 1991. The changing shape of the LS labour force is explained with reference to the broader trends of deindustrialization, labour market deregulation and increasing inequality within the male and female labour forces. One outcome has been the divergence of wage levels between women full-timers and part-timers, which is discussed in section 4.3.4 below. The final section considers trends in occupational segregation between 1971 and 1991, focusing on the contributions that women's full-time and part-time employment made to the aggregate picture.

#### **4.3.2 The growth of part-time work**

Women's labour force participation has risen steadily since the 1950s. This growth in women's labour market activity was largely due to the increased participation of married women doing part-time work. The trend was for mothers to take diminishing breaks around childbearing (Joshi & Hinde, 1993) and part-time work enabled mothers to combine paid employment and family responsibilities.

Since the mid-1960s the proportion of women having children fell and the age at which women had their first child went up. As a result, the share of the female labour force that had dependent children went down and this trend contributed to the growth in women's full-time work rates in the late 80s (Harkness, 1996).

There were key advantages for employers in using part-time workers. These were discussed in section 3.2.3. Not only were part-timers' terms of employment favourable to employers, but the use of part-time labour afforded some labour flexibility which further enhanced competitiveness.

Changes in the 1971, 1981 and 1991 employment profiles of LS members demonstrate how

part-time work evolved over the 1970s and 80s. Table 4.1 represents LS members who were in employment and it illustrates how the composition of the work force changed between 1971 and 1991. The way that part-time work was defined varied in each census. In 1971 information was collected on hours worked. Part-timers were defined as those working 30 hours or less each week, except for teachers who are classified as part-timers if they worked less than 25 hours each week. In the 1981 and 1991 Censuses workers were classified as part-time on the basis of self-definition. Classification based on hours worked probably counts more marginal cases as part-time workers than self-definition (see Joshi and Owen, 1987). In the 1971 data students were classified as a separate group in the occupational classification and as there was no meaningful way to analyse their occupations if they also had paid jobs, they were excluded from these tables. However, they were included in 1981 and 1991. In the absence of information on hours worked, students in 1981 who also did paid work were classified as part-timers. By 1991 there was more information on this growing section of the labour force, and most were classified as part-time on the basis of self-definition.

<b>Table 4.1 Trends in full-time and part-time employment for women and men LS members in 1971, 81 &amp; 91</b>			
	<b>1971</b>	<b>1981</b>	<b>1991</b>
<b>Male f/t</b>	145873	135254	123716
(% of all male workers)	96.9	97.2	95.1
<b>Male p/t</b>	4632	3865	6314
(% of all male workers)	3.1	2.8	4.9
<b>Male workers</b>	150505	139119	130030
(% of all workers)	63.5	60.2	56.0
<b>Female f/t</b>	56524	56260	61752
(% of all female workers)	65.2	61.2	60.5
<b>Female p/t</b>	30152	35601	40234
(% of all female workers)	34.8	38.8	39.5
<b>Female workers</b>	86676	91861	101986
(% of all workers)	36.5	39.8	44.0
<b>All workers</b>	237181	230980	232016

Source: ONS Longitudinal Study

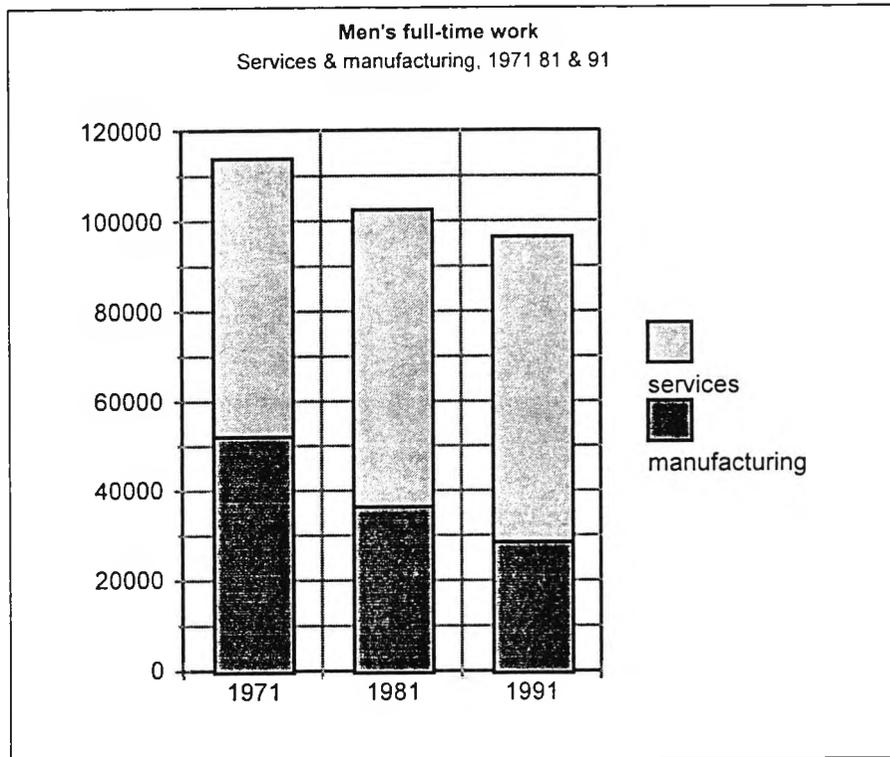
Table 4.1 shows that whilst the number of male full-timers fell, there was a net 1971/91 rise in women's full-time employment, after a small drop in 1981. Male part-time work also increased between 1971 and 91, after a fall in 1981, a year of recession. The number of women part-timers grew steadily, rising by a third between 1971 and 1991. These different patterns can be explained with reference to sectoral differences and changes in employers' incentives for using part-time labour.

Before the mid-1970s, part-timers were typically used to generate further supplies of labour when there was a shortage of full-time workers, particularly when the economy was booming. In the expanding service sector, many jobs were constructed on a part-time basis. There is little evidence that full-timers were actually displaced in favour of part-timers. Only in 1971-74 have part-timers been found to have substituted for full-time workers, and this was very limited, in manufacturing industries (Rubery & Tarling, 1988). Between 1971 and 1986 there was a drop in the number of both full-timers and part-timers in manufacturing; the substitution of part-timers for full-timers took place in the context of a fall in both types of employment, the fall in part-time jobs being lower than in full-time jobs.

The reality was that full-time jobs lost between 1971 and 1991 were in different occupations and industries to the part-time jobs which were newly created. Before the 1980s full-time and part-time employment tended to rise and fall cyclically, together. By the 1980s, part-time working was increasingly recognised by employers as a means of cutting costs in more competitive markets conditions.

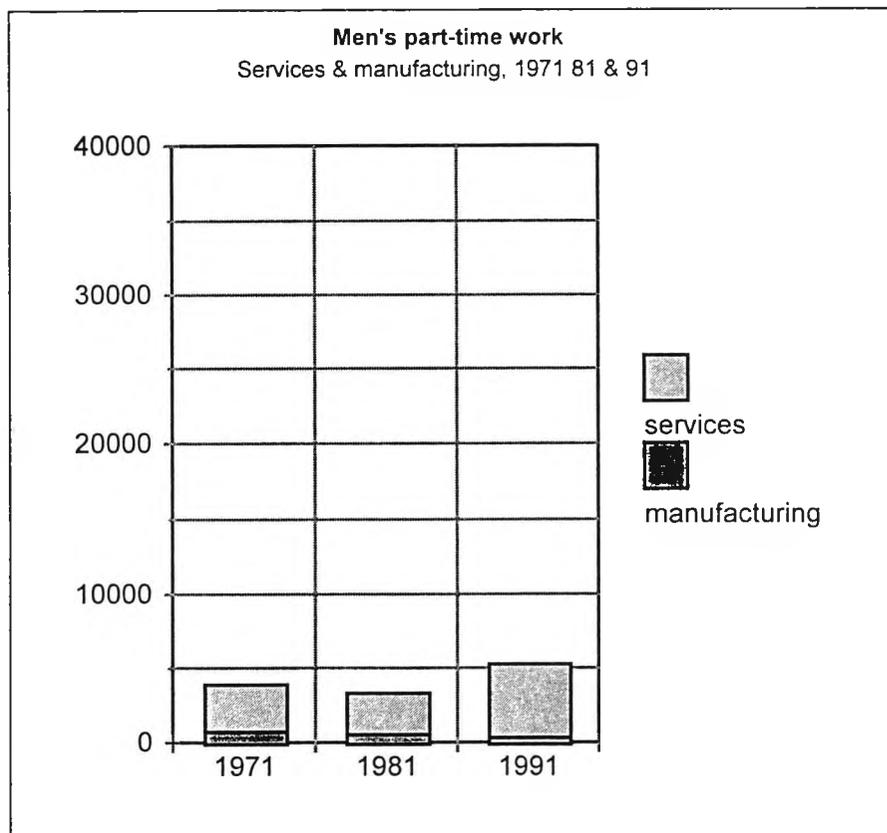
The scope for using part-time workers varied by sector, and was constrained by gender segregation at work. For example in manufacturing, employers sought flexibility to accommodate peaks and troughs in production, and to maximise the use of capital equipment. However the design of working-time has been found to be highly gendered, so that in male-dominated jobs this flexibility was typically achieved through shift working and overtime, whilst part-time working was restricted to female-dominated areas (Beechey, 1987, Horrell and Rubery, 1991). The growth of part-time employment in manufacturing was constrained by prevailing patterns of gender concentration.

Figure 4.1



Source: ONS Longitudinal Study

Figure 4.2



Source: ONS Longitudinal Study

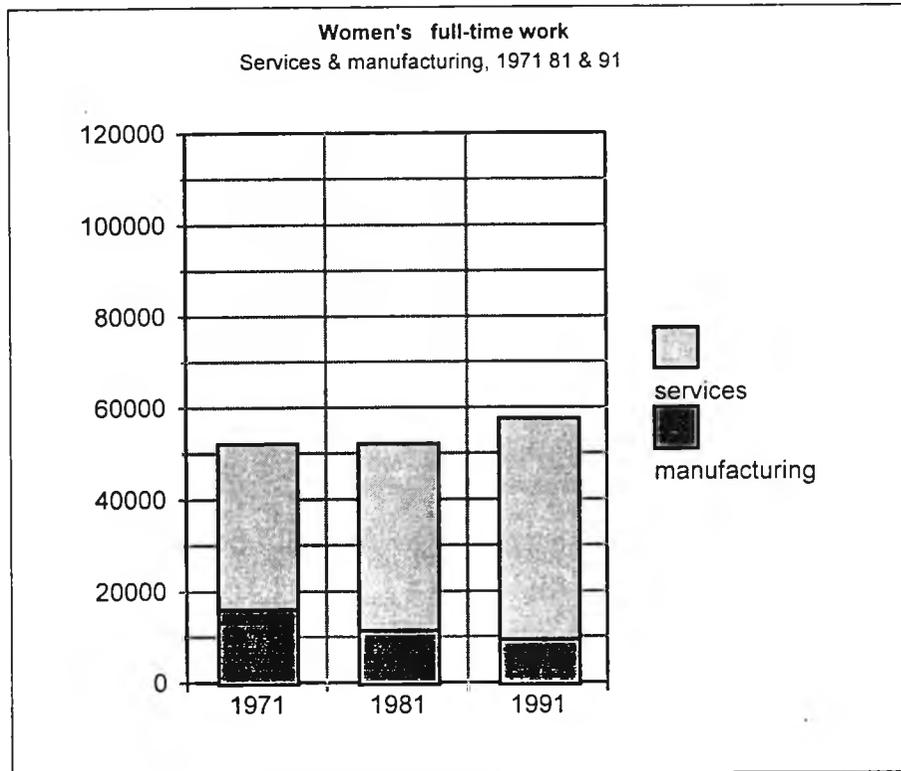
In contrast to manufacturing, the appeal of flexible working time in the service sector is that services can be modelled around variability in demand. In some areas, for example caring, there is an inherent imperative for non-standard working time. The scope for introducing part-time working was less constrained than in manufacturing, because service-sector employment was, and still is, female-dominated. In the 1970s, the growth of part-time employment was higher in public services, whilst in the 1980s private sector services dominated as a source of part-time employment growth (Elias, 1991).

Table 4.1 can be interpreted in the light of these sectoral differences in the use of part-time labour. The severe recession which began in 1979 led to falls in manufacturing output and high unemployment. The 1981 fall in male employment and female full-time employment in table 4.1 can be interpreted in the context of this recession. Women's part-time employment was very strongly associated with the general expansion of services and continued through this recession. The robustness of part-time employment growth was further demonstrated by changes in the structure of employment through the recession of 1990-93. By the end of that recession, women's and men's employment participation levels had fallen as unemployment rose, but the growth of part-time employment continued (Hunter & Rimmer, 1995, p252-3). The increase in women's full-time employment in 1991, shown in table 4.1, reflected growth in the late-1980s, in service-sector employment.

Figures 4.1 to 4.4 show how manufacturing fell relative to service employment for women and men, full-timers and part-timers. The growth of women's part-time employment throughout the period was due to the growth of service sector employment. The 1991 recovery of women's full-time employment and men's part-time employment following the falls in 1981 are also attributable to growth in service-sector employment. This growth was not matched for men working full-time and their total employment continued to fall.

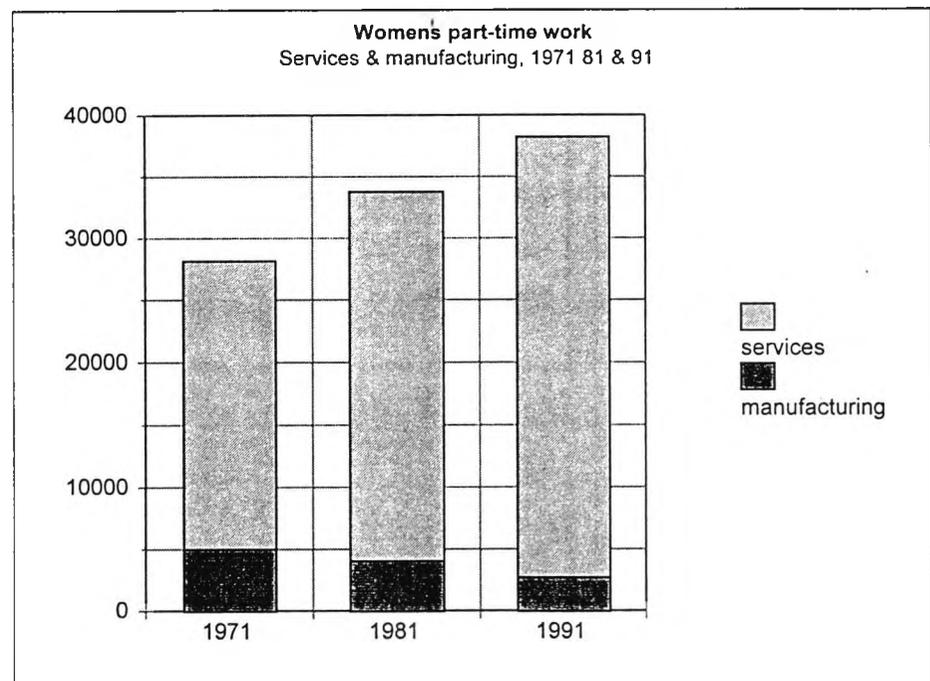
Table 4.2 shows how the composition of occupational social classes changed between 1971 and 1991. This schema is based upon the Registrar General's social classification, the difference being that people working as sales workers (non-managerial) have been placed in the sixth category with unskilled workers, reflecting both women's mobility patterns and

Figure 4.3



Source: ONS Longitudinal Study

Figure 4.4



Source: ONS Longitudinal Study

evaluations (Dex, 1987) and earnings levels in sales jobs (Joshi 1984).

The most prominent feature of the aggregate table, for all workers, is growth at the top of the hierarchy, in professional and intermediate occupations, and the fall amongst skilled manual workers, semi-skilled and unskilled and sales workers. This can be accounted for by the upgrading of job-related skills over the period (Gallie, 1991).

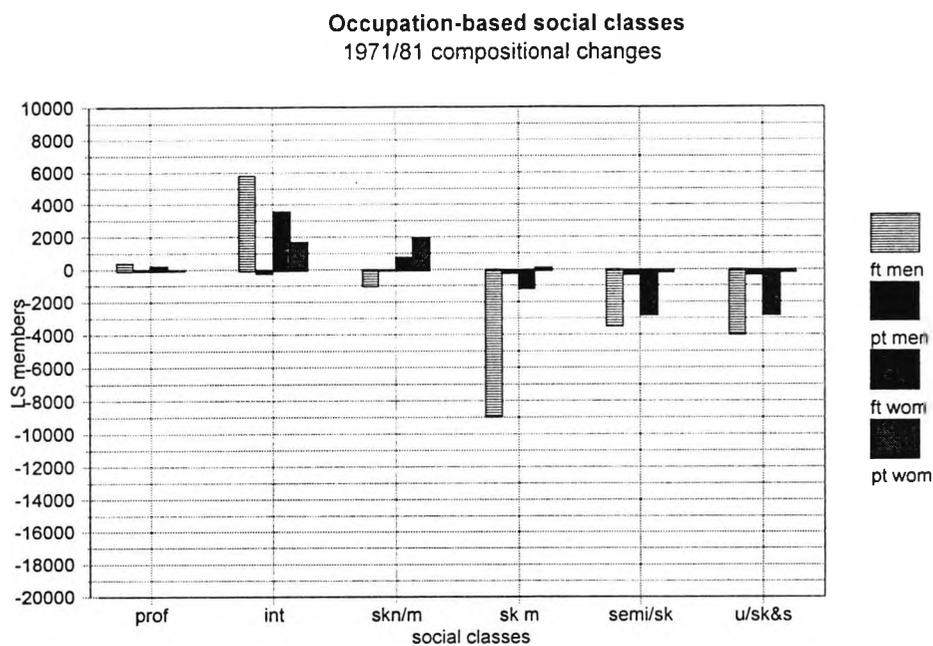
<b>Table 4.2. The changing composition of social classes in 1971, 81 &amp; 91.</b>			
<b>All employees</b>	<b>1971</b>	<b>1981</b>	<b>1991</b>
Professional (%)	3.8	4.2	4.8
Intermediate (%)	17.5	22.8	28.5
Skilled n/m (%)	18.2	19.6	19.3
Skilled manual (%)	28.2	24.6	21.2
Semi-skilled (%)	21.0	18.7	16.0
U/sk & sales (%)	11.2	10.1	10.2
<b>total</b>	<b>232920</b>	<b>226183</b>	<b>227712</b>
total (%)	100.0	100.0	100.0

Source: ONS Longitudinal Study

However tables for full- and part-timers, women and men, reveal different trends. Table 4.3 shows that in 1971, part-timers were much more heavily concentrated than full-timers in semi- and unskilled jobs. By 1991, full-time employment at the bottom of the jobs hierarchy had declined further, whilst part-timers became more heavily concentrated in the lowest-skilled jobs.

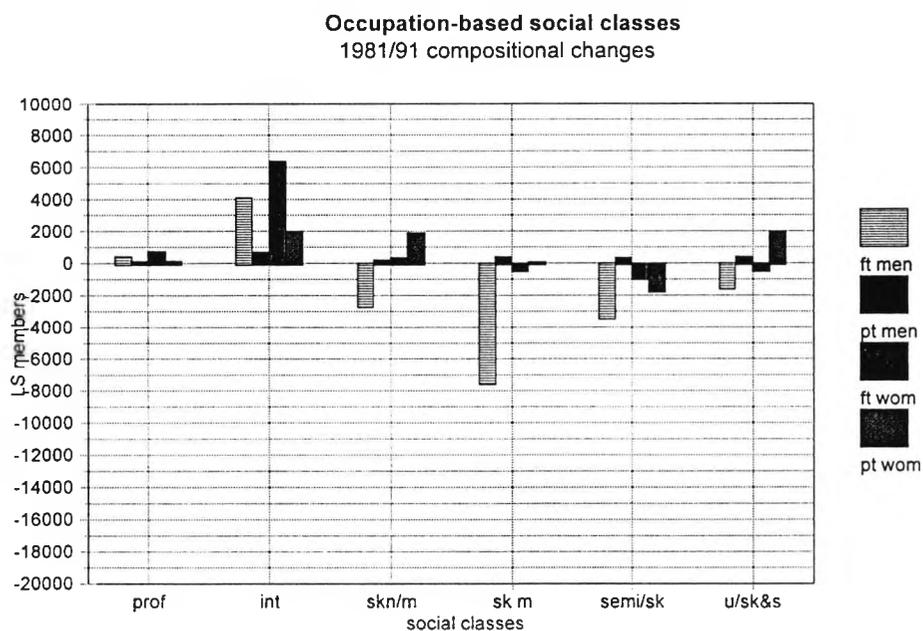
The changes are summarised in figures 4.5, 4.6 and 4.7. Figure 4.5 shows compositional changes in the occupational classes between 1971 and 1981. This was a time of falling employment for all groups except part-time women workers, who were protected by their prominence in the expanding service sector. For these women part-timers, representation in semi-skilled and unskilled and sales classes fell, whilst their representation in intermediate and skilled non-manual classes rose. Figure 4.6 shows the 1981/91 changes and demonstrates that this trend continued into the 1980s, though by 1991 there was also an increase in part-timers in unskilled and sales work.

Figure 4.5



Source: ONS Longitudinal Study

Figure 4.6



Source: ONS Longitudinal Study

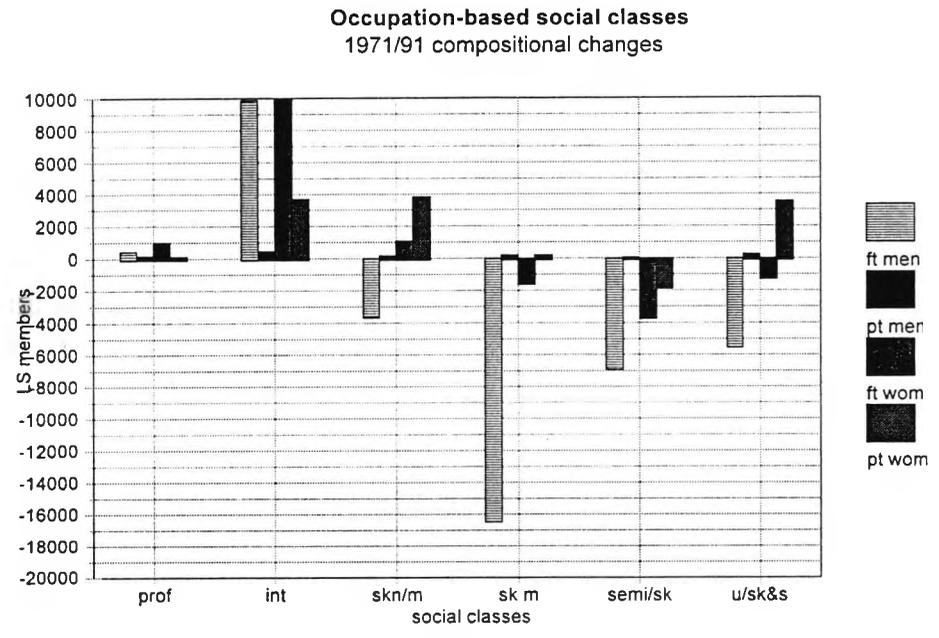
<b>Table 4.3 The vertical structure in LS women's and men's full-time and part-time employment in 1971, 81 &amp; 91.</b>							
<b>Male f/t</b>	<b>1971</b>	<b>1981</b>	<b>1991</b>	<b>Male p/t</b>	<b>1971</b>	<b>1981</b>	<b>1991</b>
	(%)	(%)	(%)		(%)	(%)	(%)
Professional	5.5	6.3	7.2	Professional	3.9	5.5	5.7
Intermediate	18.1	24.0	29.5	Intermediate	9.3	17.2	22.8
Skilled n/m	10.9	11.1	9.9	Skilled n/m	11.8	13.7	12.2
Skilled man.	39.5	36.1	33.0	Skilled man.	18.5	17.7	17.9
Semi-skilled	17.6	16.4	15.1	Semi-skilled	25.6	24.1	20.9
U/sk & sales	8.3	6.0	5.3	U/sk & sales	21.0	21.9	20.5
<b>total</b>	<b>142806</b>	<b>131769</b>	<b>121112</b>	<b>total</b>	<b>4584</b>	<b>3770</b>	<b>5964</b>
total(%)	100	100	100	total(%)	100	100	100
<b>Female f/t</b>	<b>1971</b>	<b>1981</b>	<b>1991</b>	<b>Female p/t</b>	<b>1971</b>	<b>1981</b>	<b>1991</b>
Professional	1.1	1.5	2.6	Professional	0.7	0.6	0.9
Intermediate	19.7	26.2	34.2	Intermediate	10.4	13.6	17.2
Skilled n/m	36.6	38.0	35.1	Skilled n/m	20.1	22.7	24.9
Skilled man.	11.5	9.5	7.9	Skilled man.	6.9	6.3	5.8
Semi-skilled	22.2	17.3	14.1	Semi-skilled	34.1	28.8	21.3
U/sk & sales	8.9	7.5	6.1	U/sk & sales	27.7	28.1	30.0
<b>total</b>	<b>55501</b>	<b>55404</b>	<b>61007</b>	<b>total</b>	<b>30029</b>	<b>35240</b>	<b>39629</b>
total(%)	100	100	100	total(%)	100	100	100

Source: ONS Longitudinal Study

The 1971/91 changes in figure 4.7 suggest that it is inappropriate to characterise the *growth* in women's part-time employment as low-skilled. Certainly, women part-timers and, to a lesser degree, male part-timers were the only groups to increase their share of unskilled and sales occupations between 1971 and 1991. Growth at the upper end of the hierarchy was dominated by male and female full-timers. However whilst the number of women part-timers in unskilled and sales work grew by 3,600 between 1971 and 91, there were more than twice as many new part-time jobs created in skilled non-manual, intermediate and professional occupations. The vertical gap between full-time and part-time workers is discussed further in the context of relative pay below.

Vertical occupational segregation is concerned with the tendency for women and men to occupy different ends of the occupations hierarchy. From table 4.3 it appears that men are

Figure 4.7



Source: ONS Longitudinal Study

better represented in professional occupations, whilst women are more heavily concentrated in unskilled and sales occupations. However in the absence of a summary measure to establish and compare levels of vertical segregation, this data is difficult to interpret. Chapter 2 discussed a new way of conceptualising and measuring vertical segregation. Some tentative and not very successful attempts were made to apply this new methodology to the cross-sectional LS data in this chapter, and the results are presented in Appendix A4.1.

### **4.3.3 Deregulation and non-standard employment**

The growth of part-time employment between 1971 and 1991 can be viewed as part of a more general rise in employers' use of non-standard employment. There is disagreement about the reasons for this trend. Rather than reflecting a generalised strategy by employers to increase flexibility (Atkinson, 1984), non-standard employment may be more closely linked to the sectoral changes described above (Pollert, 1988, Rubery & Tarling, 1988, Penn, 1992). However both perspectives acknowledge that non-standard employment mushroomed in the 1980s and apart from the growth in part-time jobs, there was also a significant increase in self-employment, fixed-term contract work, multiple job-holding and short-term working (Dex & McCulloch, 1995). Whilst most of the transformation from standard to non-standard employment took place in women's employment, there were significant rises in all these forms of non-standard work for men too. Men in the youngest and oldest age groups were most likely to participate on a non-standard basis. Part-time work in particular has increasingly been associated with students and transitions into retirement.

The strategy of labour market deregulation which was actively pursued by the Thatcher governments of 1979 onwards created the political climate in which non-standard working grew. The aim was to generate a legislative environment in which employers could increase their competitiveness through higher productivity and reduced labour costs.

A key plank of their strategy was to disarm the trade union movement. This was pursued through outlawing the closed shop, requirements for secret balloting before strike action

and controls on picketing, particularly outlawing secondary picketing. The role of the trade unions in settling wages was undermined by withdrawing collective bargaining rights for some public sector workers (teachers and nurses, both heavily female-dominated) and by generally encouraging a shift away from centralised pay negotiations and towards productivity-related pay (Hunter & Rimmer, 1995). The number of workplaces covered by collective bargaining arrangements fell by 20 per cent in the 1980s, mirrored by a 17 per cent fall in the proportion of workers covered. De-unionisation was particularly high in new enterprises (Disney, Gosling & Machin, 1995).

Other government policies indirectly undermined trade union influence in setting pay and conditions. The introduction of Compulsory Competitive Tendering (CCT) for example shifted workers from the umbrella of centralised pay bargaining in the public sector to two-tier or local bargaining in the private sector (Hunter & Rimmer, 1995). Although more men than women were directly affected by CCT, the effect was to widen pay differentials and thus contribute to increased inequality. It also encouraged the casualisation of previously directly-employed, permanent labour.

Legislative measures affecting non-standard workers included various Employment Acts which limited the statutory regulation of employment conditions, together with the progressive undermining and eventual abolition of Wages Councils, which had protected wage levels for the lowest-paid workers, mostly women (Hunter & Rimmer, 1995, document the legislative changes of this period).

Thus deregulation of the labour market not only established the conditions in which non-standard employment grew, but also helps to explain developments in women's pay over the period.

#### **4.3.4. Polarisation and the full-time/ part-time wages gap for women.**

There were two major developments in women's pay between 1971 and 1991. The first was the narrowing of the male/female wage gap in the mid-1970s, which has largely been attributed to the impact of specific equal opportunities legislation. Secondly, the gap

Figure 4.8

1971 SEX SEGREGATION CURVES

Women and men, f/t women and men & p/t women and men

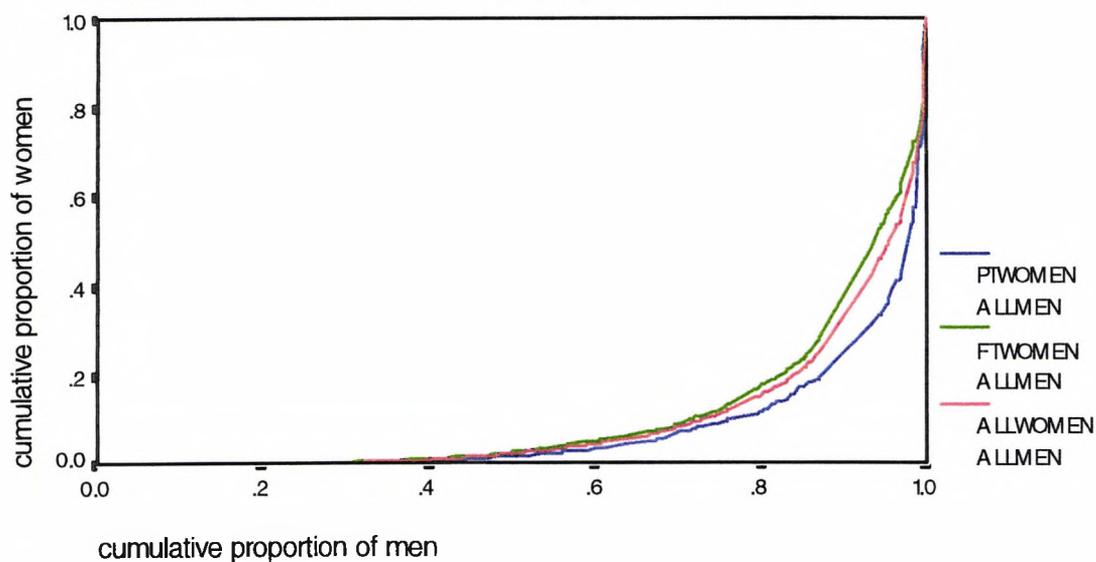
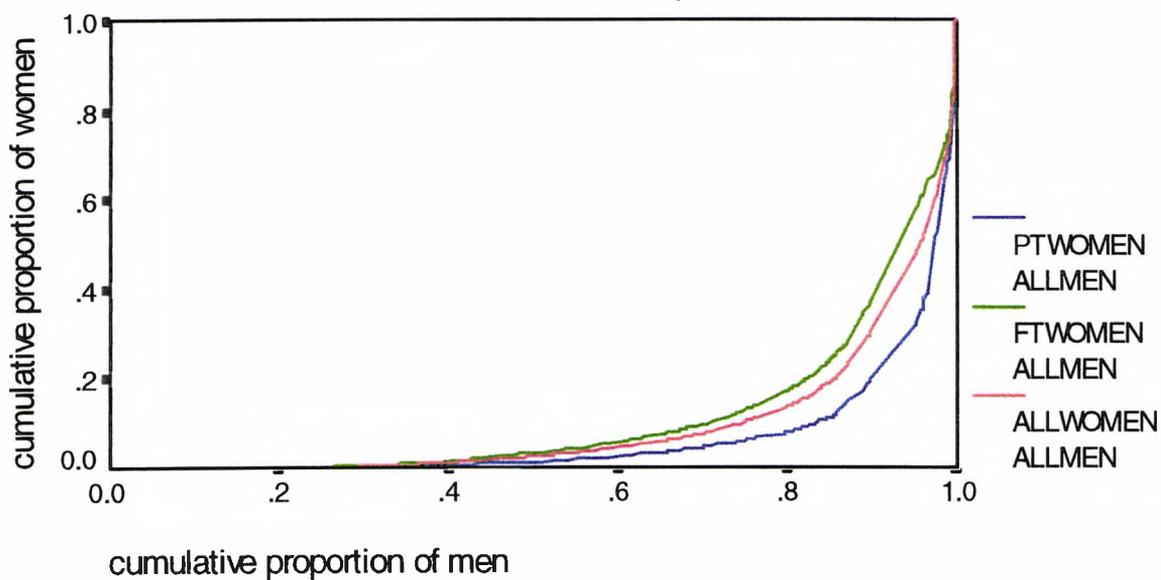


Figure 4.9

1981 SEX SEGREGATION CURVES

Women and men, f/t women and men & p/t women and men



between high and low-paid workers of the same sex widened in the 1980s. One manifestation of this was the divergence of wage levels for women full-timers and part-timers.

The 1970 Equal Pay Act, which was fully implemented in 1975, led to a significant increase in women's hourly earnings. In 1973 women full-timers' and part-timers' average hourly pay was 59 per cent of men's. By 1977, this had risen to 70 per cent for women full-timers and 67 per cent for women part-timers.

However, rising wage inequality over the 1980s had diverse effects on women full-timers' and part-timers' pay. These divergent trends may be linked to the growing skills gap between women full-timers and part-timers. Over this period, the qualifications gap between women full-timers and men closed. In the early 1970s there was little difference in the qualifications held by full-timers and part-timers, but by the 1990s women part-timers lagged considerably behind women full-timers (Gallie, 1991). Skills, like pay, polarised for women full-timers and part-timers over the 1980s. By 1993, the pay gap between women full-timers and men closed further as women's full-time average hourly wage rose to 77 per cent of men's. Women part-timers saw their previous gains reversed, as average hourly wages slipped back to 63 per cent of men's (Harkness, 1996).

In addition to pay, women part-timers suffered additional losses relative to full-timers. These include the loss of non-wage benefits, career advancement opportunities, on-the-job training and unionisation and the employment protection that goes with it (Gornick and Jacobs, 1996).

#### **4.4 Trends in occupational segregation, 1971-91**

##### **4.4.1 Segregation curves**

How did these structural changes affect occupational sex segregation between 1971 and 1991? This is a key question for the cohort analysis in chapters 6 and 7. In what way did women full-timers and part-timers contribute to overall segregation levels? Segregation

Figure 4.10

### 1991 SEX SEGREGATION CURVES

Women and men, f/t women and men & p/t women and men

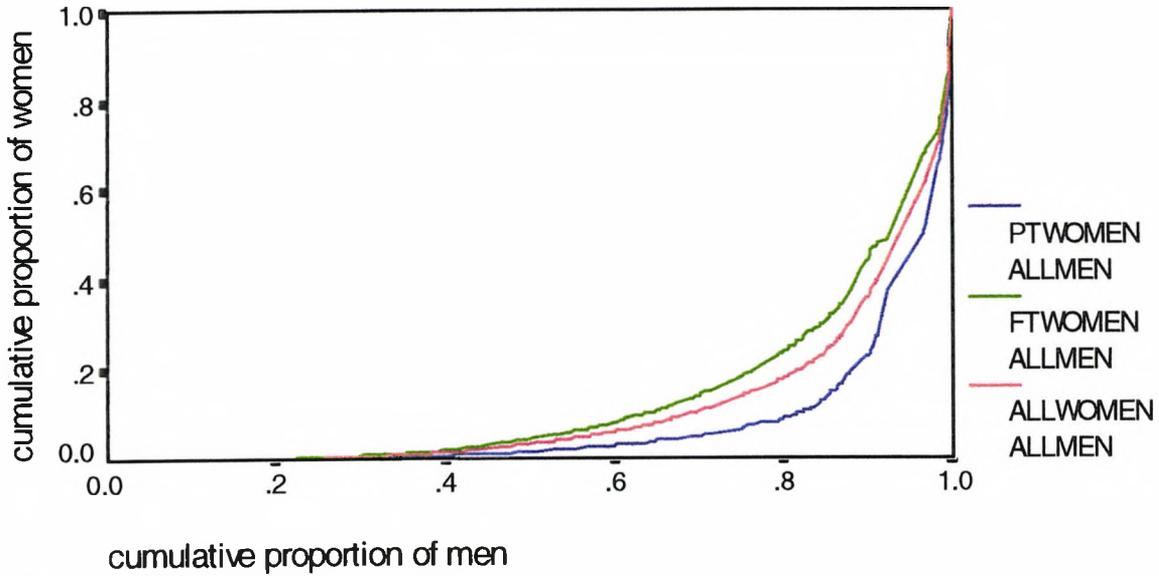
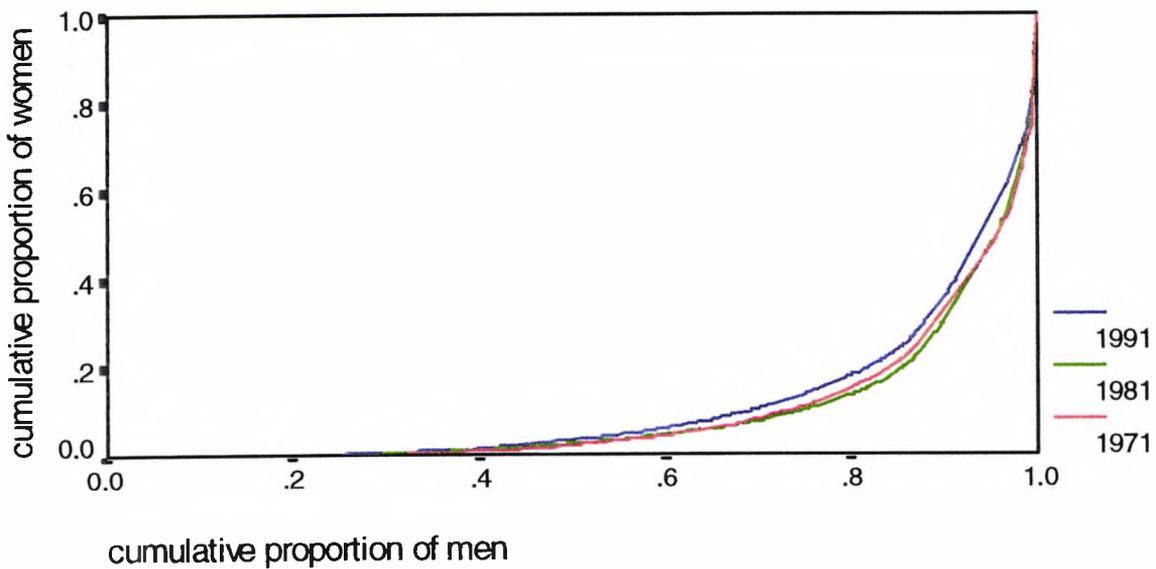


Figure 4.11

### 1971, 81 & 91 SEX SEGREGATION CURVES

All women and all men



curves based on LS data have been constructed for 1971, 81 & 91. These are shown in figures 4.8 to 4.10. Three curves are plotted for each year. The cumulative proportions of women, of women full-timers and of women part-timers are each plotted against the cumulative proportions of men in occupations ranked by percentage female. These percentages are drawn from the 10 per cent published tables for 1971 and 81, and from the LS for 1991 (see Appendix A4.2). All graphs show that women full-timers were less segregated than women part-timers, as the women full-timers' curve was closer to the diagonal in each year. These results are compared with those based on the Labour Force Survey (described in chapter 3) in section 4.4.2 below.

Figures 4.11 to 4.13 show trends over time. Figure 4.11, for all women and men, suggests that overall segregation levels fell in 1991. It is difficult to interpret 1971/81 change because the curves cross. The curves for women full-timers and men, shown in figure 4.12, suggest that women full-timers became progressively less segregated between 1971 and 91, though the 1971/81 fall in segregation was marginal, compared to a bigger drop in 1991. The trend in segregation patterns between women part-timers and men is difficult to interpret from figure 4.13 because of multiple curve crossings.

#### **4.4.2 Segregation indices**

Gini index values, based upon these curves, are given in table 4.4 (the relationship between segregation curves and the Gini index is described in section 2.2.6.). These suggest that the aggregate level of segregation, for all women and all men, was stable at 0.81 from 1971 to 1981, but fell to 0.77 in 1991. For women full-timers and men, there was a small 71/81 drop in segregation from 0.78 to 0.77, followed by a larger fall to 0.73 in 1991. There was a rise in segregation between women part-timers and men between 1971 and 81, followed by a fall in 1991. Overall from 1971 to 1991 there was a marginal fall from 0.85 to 0.84.

Segregation curves and Gini index values are affected by the degree of detail used to classify occupations. The 1971 curves and Gini Index values are based on the 1970 classification of occupations which involved 223 occupational titles. Curves and index values for 1981 and 1991 are based on the 1980 Classification (condensed version),

Figure 4.12

### 1971,81&91 SEX SEGREGATION CURVES

Full-time women and all men

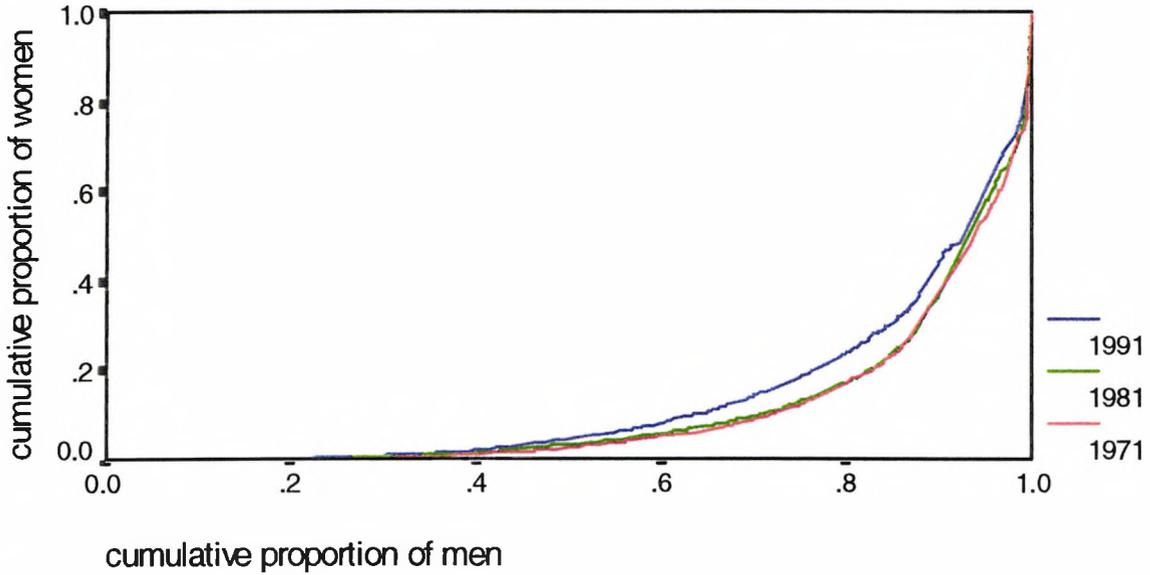
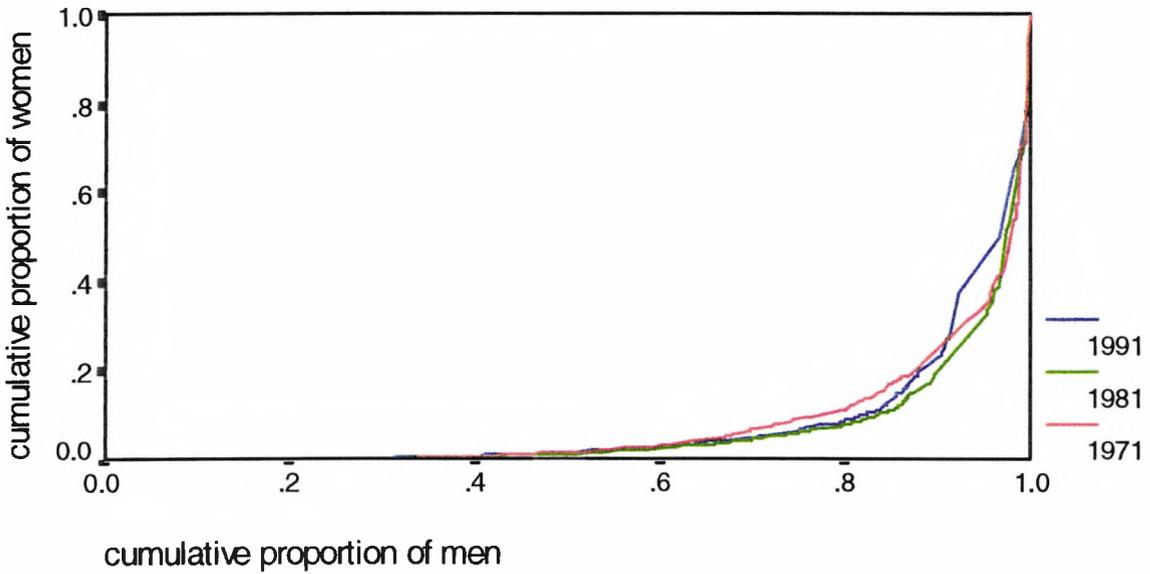


Figure 4.13

### 1971 , 81&91 SEX SEGREGATION CURVES

Part-time women and all men



involving 351 titles. The more detailed the classification, the more segregation it is likely to reveal. This is because more extreme levels of occupational concentration are often 'averaged out' when occupations are combined in less detailed classifications. The implications here are that the 1971/81 rise in segregation between women part-timers and men may be artefactual, reflecting the change to a more detailed occupational classification. The 1991 index values may understate the extent to which segregation fell, compared to 1971 levels.

Similarly disagreement between the 1991 Gini index values in table 4.4 and those based on the Labour Force Survey in tables 3.9 and 3.11 are largely attributable to classificatory differences. The LFS data used the broader 81-group ISCO occupational classification and Gini index values are correspondingly lower: 0.69 for the total workforce (table 3.9), 0.63 for women full-timers and men and 0.76 for women part-timers and men (table 3.11). Both sets of indices agree that occupational sex segregation was higher for women part-timers than for women full-timers.

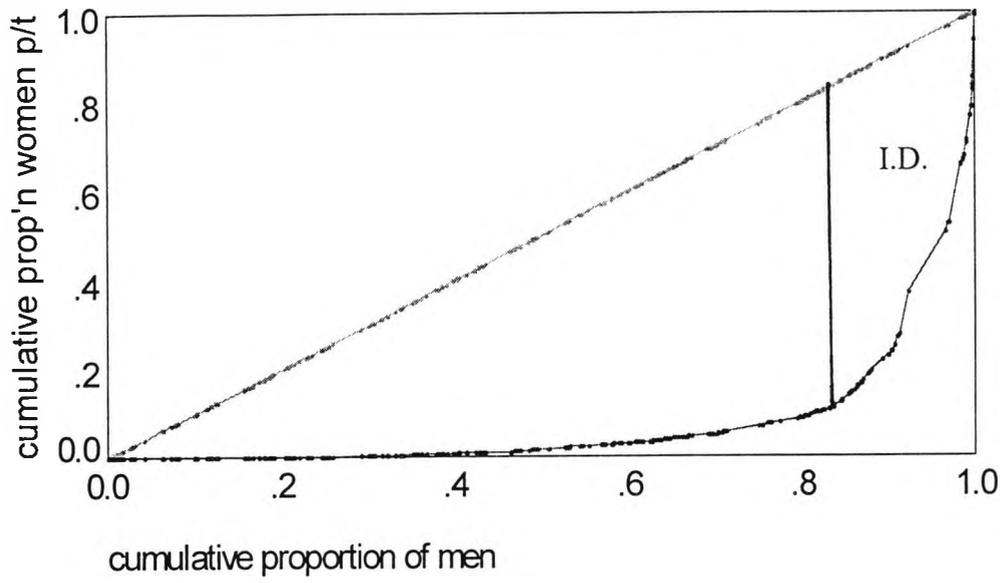
<b>Table 4.4 Gini index for LS data in 1971, 81 &amp; 91</b>			
	1971	1981	1991
total workforce	0.81	0.81	0.77
F/t women & men	0.78	0.77	0.73
P/t women & men	0.85	0.87	0.84
No. Occupations	223	350	350

Source: ONS Longitudinal Study

Dissimilarity Index values for the 1971, 81 and 91 LS data are given in table 4.5. (There is a 0.02 divergence between these and Hakim's results for the total workforce in 1981 shown in Table 1, Hakim 1993b, p293. Segregation is higher in Hakim's analysis because of classificatory differences; she uses a 547-fold occupational classification scheme for 1981 data). Again, segregation between women full-timers and men and women part-timers and men has been measured so that the contributions that women full-timers and part-timers make to overall segregation can be compared. Trends are consistent between the two

Figure 4.14

1991 SEGREGATION CURVES, Men and p/t women  
ID and Gini compared



indices, except for the crucial disagreement between these and Gini index values for segregation between women part-timers and all men. The reason for this divergence is illustrated by figure 4.14.

<b>Table 4.5 Dissimilarity Index for LS data, 1971, 81 and 91</b>			
	1971	1981	1991
total workforce	0.65	0.66	0.62
F/t women & men	0.63	0.63	0.56
P/t women & men	0.69	0.73	0.72
No. Occupations	223	350	350

Source: ONS Longitudinal Study

The Gini coefficient is related to the segregation curve in that it represents the area between the curve and the diagonal as a proportion of the total area under the diagonal (see chapter 2). The ID is also related to the segregation curve, and is equal to the maximum vertical distance between the diagonal and the curve (James and Taeuber, 1985). Figure 4.14 demonstrates how these measures can generate conflicting results. The curve is not smooth in the way that a standard segregation curve would be, because occupations are ranked by the percentage of women in the whole labour force in each occupation rather than the ratio of women part-timers to men. As in the curves for France and the UK, the rationale for this is that the distribution of women part-timers across gendered occupations can be compared with that for men by extracting the women full-timers from the aggregate distribution. Disagreement between the percentage of women part-timers and the percentage of all women within the ranked occupations causes irregularities in the curve. Such an irregularity occurs at the upper end of the curve in figure 4.14. Because this curve slopes towards the diagonal at its upper end, the Gini Index registers a drop in segregation, whilst the ID is unchanged.

The slight fall in segregation between women part-timers and men reported by the Gini index conflicts with Hakim's investigation of the relative influences of full- and part-time employment on segregation between 1971 and 1991:

'The net national level of occupational segregation is the product of a lower and falling level of segregation in the full-time work-force which is counterbalanced by a high and rising level of occupational segregation in the part-time workforce.' (Hakim 1993b, p308)

However, Hakim's methodology was somewhat different. Hakim rejected the single-figure index method for the 1971/91 analysis on the grounds that it was uninformative for disaggregated trends. In addition to calculating index values for all women and all men, she also generated index values for the full-time workforce and the part-time workforce. These showed lower levels of sex segregation for part-timers than for full-timers, and a larger decline over time in segregation between women and men part-timers. What these results demonstrated was that women and men in part-time work are more similar occupationally than women and men in full-time work. These results did not disentangle or clarify the relative impacts that full- and part-time work had on overall segregation, so Hakim rejected this methodology as well in favour of a trichotomous division of the labour force into 'female', 'mixed' and 'male'-typed sectors as a way of analysing change in segregation over time. Jacobs' analysis of longitudinal data from the Social Change and Economic Life Initiative also looked at segregation in full-time and part-time employment (Jacobs, 1995). This work supported Hakim's findings, and covered the years 1970 to 1986.

#### **4.4.3 The 'male', 'mixed' and 'female' occupations model of gender segregation**

Occupations are classified as 'male', 'mixed' or 'female' on the basis of the percentage of women workers employed (see Appendix A4.2). Mixed occupations are those in which the percentage of women workers falls within a predefined range. 'Male' and 'female' occupations fall on either side of this range. The way that mixed occupations are defined varies. Hakim and Jacobs defined mixed occupations as those within a 30 per cent band around a mid-point of 40 per cent, so mixed occupations were 25 to 55 per cent female. This is described as a 'policy-relevant baseline', given that women's share of the labour force, averaged between 1971, 81 and 91, was 40 per cent.

For this analysis of LS data mixed occupations were defined as those falling within a 40 per

cent band around a 50 per cent mid-point. Male occupations were thus less than 30 per cent female, and female occupations were more than 70 per cent female. The 50 per cent mid-point avoids the contingency of using the female share of the work force. As part of a measurement strategy the hope is that defining partitions in this way should enhance the comparability between this and other analyses. The different approaches in this and the other two studies provide an opportunity to test the 'robustness' of the trichotomous model.

Jacobs and Hakim argue that differences in the mid-point chosen and the width of the middle band have little impact on the results because of the strongly structured nature of occupational segregation. However, the trends suggested by this method based on LS data and using a 30-70 per cent middle band differ significantly with those in Hakim's work and the disagreement is entirely attributable to partitioning differences. Contrary to expectations, Jacobs' trend graphs fit the shifts in LS members' employment across male, mixed and female categories better than they do Hakim's data.

Table 4.6 shows how LS workers were distributed across male, mixed and female occupations in 1971, 81 and 91. Changes in the size of categories arise because the number of individuals and occupations within them vary over time. There was a bigger shift in segregation patterns for all workers in 1981/91 than in 1971/81. Between 1971 and 1991 the most significant change for all groups was towards female-typed occupations; both male and mixed occupations suffered a net fall in their share of employment over the 20-year period. This trend is consistent with the feminisation process described above. However it contrasts with Hakim's model, in which only women part-timers increased their share of female-typed jobs. Hakim also found a 1971/91 growth of 6-7 per cent in the proportion of workers in integrated occupations.

<b>Table 4.6 Feminisation in the work force: 'male', 'mixed' and 'female' occupations in 1971,81 &amp; 91.</b>				
<b>1971</b>	<b>'male' (%)</b>	<b>'mixed' (%)</b>	<b>'female' (%)</b>	<b>total</b>
male FT	75.2	20.5	4.3	145873
male PT	60.1	25.9	14.0	4632
<b>All men</b>	<b>74.7</b>	<b>20.7</b>	<b>4.6</b>	<b>150505</b>
female FT	12.1	43.6	44.3	56524
female PT	9.2	26.3	64.5	30152
<b>All women</b>	<b>11.1</b>	<b>37.5</b>	<b>51.4</b>	<b>86676</b>
<b>All workers</b>	<b>51.5</b>	<b>26.8</b>	<b>21.7</b>	<b>237181</b>
<b>1981</b>	<b>'male' (%)</b>	<b>'mixed' (%)</b>	<b>'female' (%)</b>	<b>total</b>
male FT	75.9	19.7	4.4	135354
male PT	52.9	29.0	18.1	3656
<b>All men</b>	<b>75.3</b>	<b>20.0</b>	<b>4.7</b>	<b>139010</b>
female FT	13.3	44.9	41.8	56274
female PT	6.4	25.9	67.7	35285
<b>All women</b>	<b>10.7</b>	<b>37.5</b>	<b>51.8</b>	<b>91559</b>
<b>All workers</b>	<b>49.6</b>	<b>27.0</b>	<b>23.4</b>	<b>230569</b>
<b>1991</b>	<b>'male' (%)</b>	<b>'mixed' (%)</b>	<b>'female' (%)</b>	<b>total</b>
male FT	71.0	20.9	8.1	123423
male PT	43.5	30.0	26.1	6035
<b>All men</b>	<b>69.7</b>	<b>21.4</b>	<b>8.9</b>	<b>129458</b>
female FT	14.1	33.1	52.8	61197
female PT	5.1	22.1	72.8	39746
<b>All women</b>	<b>10.6</b>	<b>28.7</b>	<b>60.7</b>	<b>100943</b>
<b>All workers</b>	<b>43.8</b>	<b>24.6</b>	<b>31.6</b>	<b>230401</b>

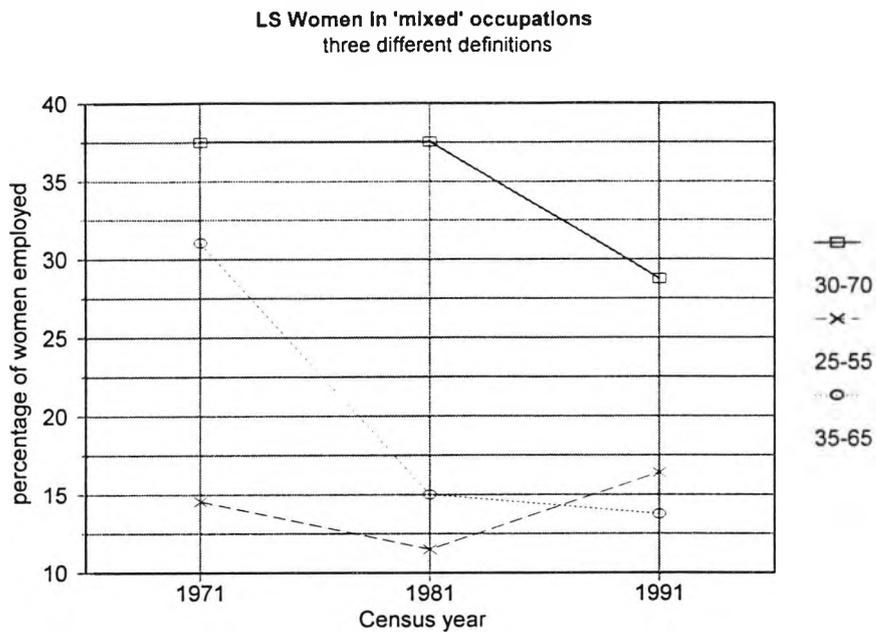
Source: ONS Longitudinal Study

note

In this table 'mixed' occupations are 30-70 per cent female. Table based on LS members aged over 15/16 years.

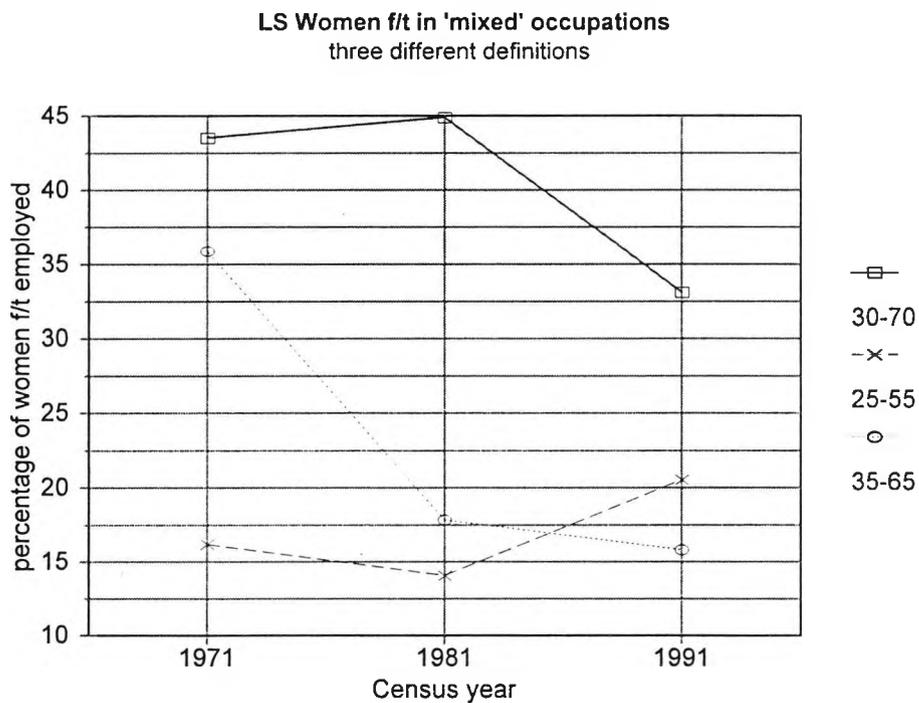
The gender profile of jobs held by male part-timers changed most significantly. The proportion in male occupations fell from 60.1 to 43.5 per cent from 1971 to 1991. There

Figure 4.15



Source: ONS Longitudinal Study

Figure 4.16



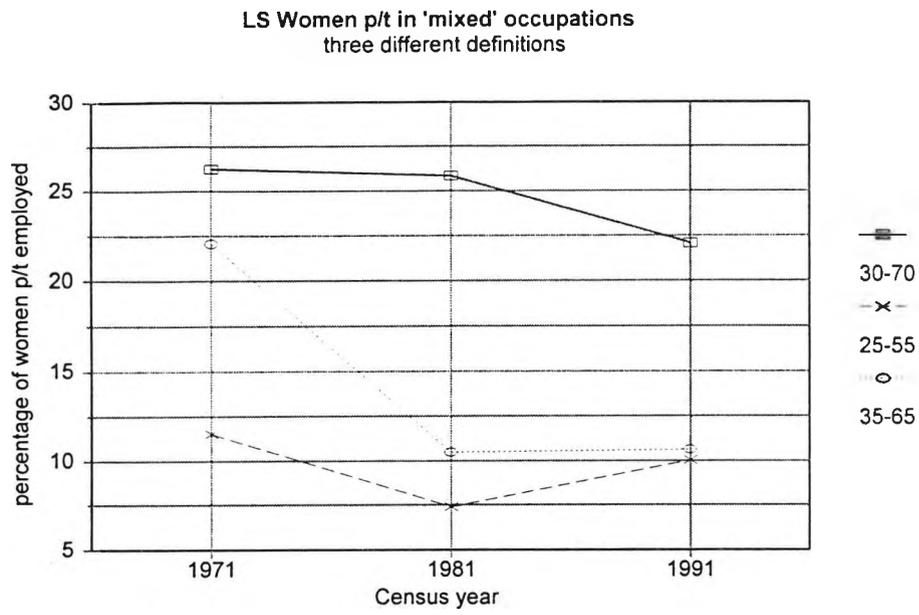
Source: ONS Longitudinal Study

was a moderate 1971/91 rise in the percentage of male part-timers in integrated occupations, of 4.1 per cent. Employment in female-typed jobs rose from 14.0 to 26.1 per cent. These 1971/91 shifts, which were consistent through 1981, suggest a transformation in the nature of men's part-time work over the period.

The 1971/81 LS comparisons are consistent with the direction of change to 1981 shown on Jacobs' trend graphs for male, mixed and female occupations. For integrated occupations, Jacobs reports a 1971/81 rise for women full-timers, which is consistent with the rise reported in table 4.6 for LS members. Over this period Hakim reported a fall from 17 to 13 per cent of women full-timers in integrated occupations. Jacobs' graph goes beyond 1981 to show a continuing rise until 1985; by 1991, Hakim is reporting a 1971/91 rise in integrated jobs for women full-timers, in contrast to the fall reported here for the LS. It is plausible that the decline in integrated jobs shown in the LS data began in the second half of the 1980s so these and Jacobs' results do not necessarily disagree. The more significant changes in segregation patterns between 1981 and 91 would possibly have highlighted other differences between the LS and the SCEL data, had the coverage of the latter continued to 1991. Differences between the two data sets may also arise because of the more limited nature of the SCEL survey, in terms of geographical coverage and respondents' ages, and there may be some sampling error effects.

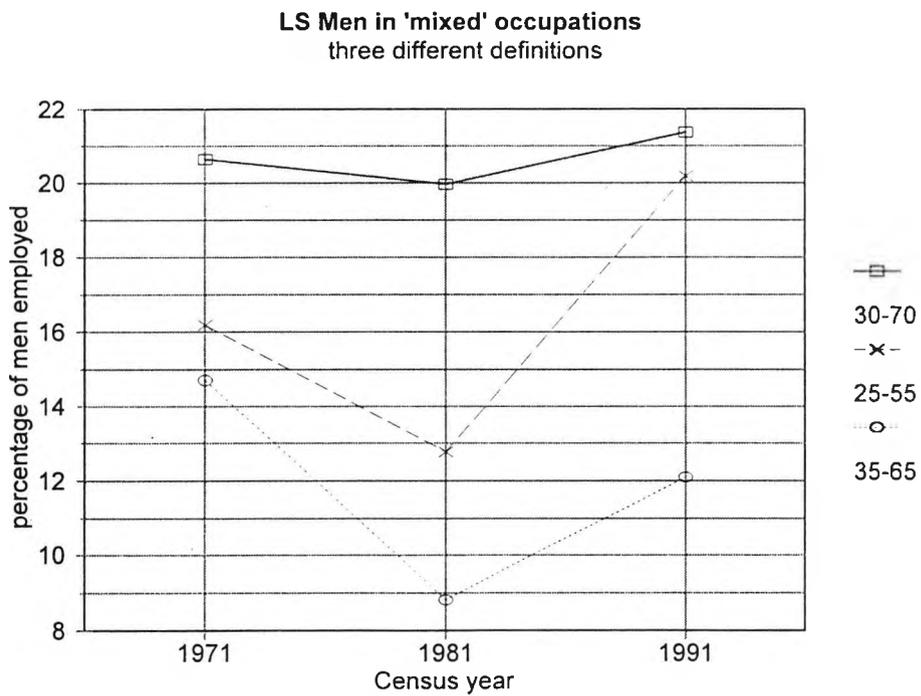
Contrary to Jacobs and Hakim, this analysis found that the partitioning of the male/mixed/female model was critical and strongly influences the segregation patterns observed. The location of the mid-point and the width of the 'integrated' band both influence results. Figure 4.15 shows how 1971/81/91 trends in the percentage of LS women employed in 'mixed' occupations depends on how they are defined. Using the 30-70 per cent definition, adopted throughout this thesis, the graph shows that the percentage of women in mixed occupations was stable between 1971 and 81, then fell in 1991. Using Hakim and Jacobs' 25-55 per cent definition, there was a 1971/81 fall in the percentage of women in mixed occupations, followed by an 81/91 rise. A third definition, this time with a 30 per cent mixed band around a 50 per cent mid-point, suggests altogether different trends. The 1971/81/91 trends for women full-timers and women part-timers, shown

Figure 4.17



Source: ONS Longitudinal Study

Figure 4.18



Source: ONS Longitudinal Study

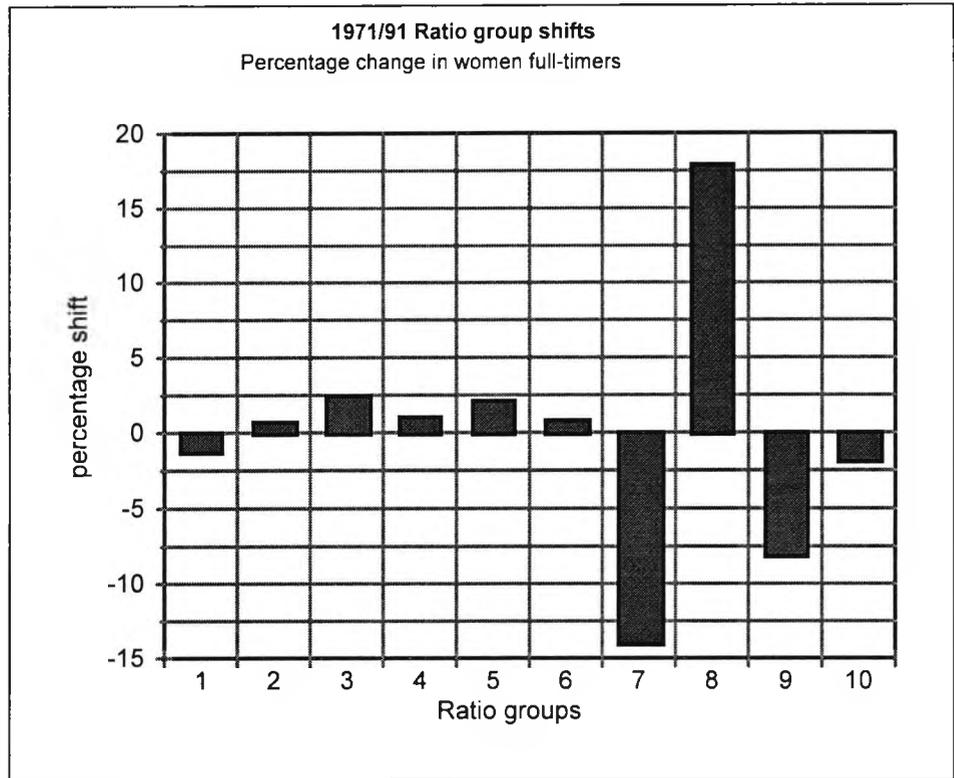
separately in figures 4.16 and 4.17, also reveal the critical nature of these definitions. There is some agreement when they describe male distributions (figure 4.18). Differences between the results presented here and Hakim's are due to the different way that mixed occupations are defined; when the 25-55 per cent definition used by Hakim is applied to the LS, the same trends that Hakim found emerge.

Breaking down the male, mixed and female categories further demonstrates why these alternative definitions generate such different results. A convenient concept for this demonstration are 'ratio groups', created when the percentage of women workers is categorised into ten per cent bands. Thus, ratio group 1 includes occupations in which fewer than ten per cent of workers are women, and so on. Figure 4.19 shows how the percentage of women full-timers in ratio groups changed between 1971 and 1991. In the model that Hakim and Jacobs used, occupations with more than 55 per cent women workers were female-typed. This point falls within ratio group 6. In the LS analysis, the crucial partition occurred at 70 per cent, so ratio group 7 is an 'integrated' occupation. Disagreement between the two models depends upon changes in ratio groups 6 and, in particular, 7. Between 1971 and 1991 the proportion of women full-timers in ratio group 7 fell by 13 per cent of the total. This difference arose because the percentage of women working in occupational group 'other clerks and cashiers' shifted from 62 per cent in 1971 to 74 per cent in 1991. The effect of this movement was more significant for women's full-time employment because some 19 per cent of women full-timers were in this single occupational group, compared to 13.1 per cent of women part-timers.

The 1971/91 ratio group changes for women part-timers (figure 4.20) are different to those for full-timers. The ratio groups for women's part-time employment were more heavily influenced by the shift from ratio group 9 (83 per cent female) to ratio group 8 (80 per cent female) of 'shop salesmen and assistants'. The loss of clerks and cashiers from ratio group 7 was compensated by other minor shifts into the ratio group.

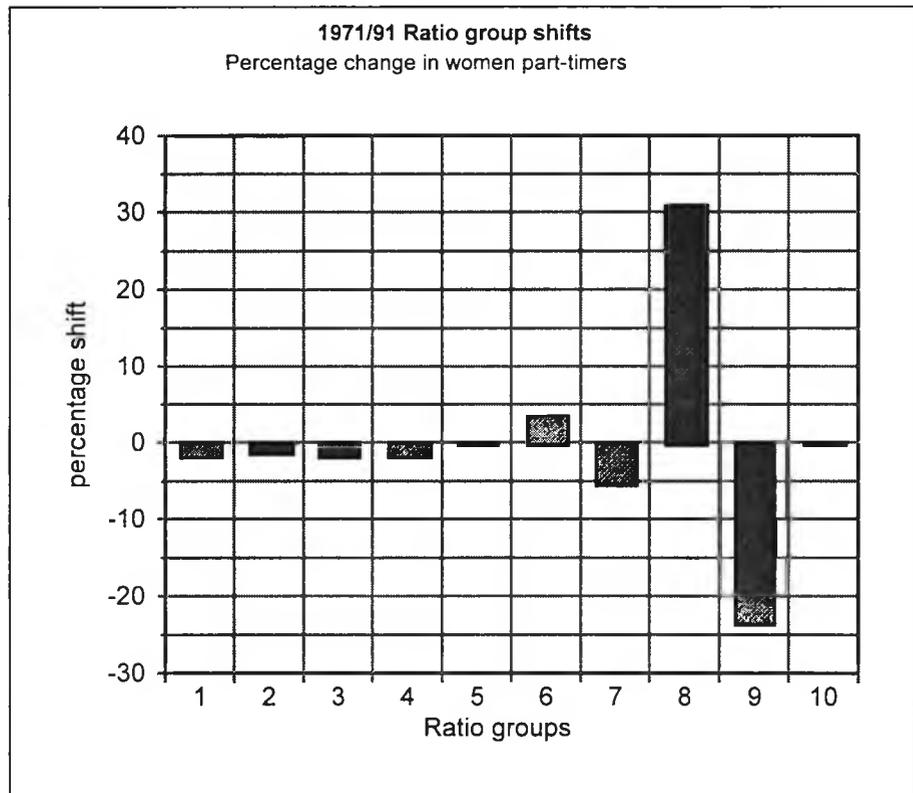
Together these charts demonstrate that between 1971 and 91 there was significant movement at the very female end of the gendered jobs spectrum. These can impact quite

Figure 4.19



Source: ONS Longitudinal Study

Figure 4.20



Source: ONS Longitudinal Study

heavily on the trichotomous model, depending on the location of the boundary between mixed and female-typed occupations, because very few occupational groups employ very many (mainly women) workers at this end of the distribution. If any one of those larger groups is nudged over the boundary between mixed and female occupations, then noticeable 'change' is reported.

Just as the ID was unaffected by movement at the very female-dominated end of the distribution, so too is the segregation model adopted by Hakim and Jacobs. As a result, their analysis has as its focus male-typed jobs and 'integrated' jobs in which the male:female ratio is as much as 3:1. Their model is unaffected by changes in occupations which are more than 55 per cent female, yet three-quarters of women (and a growing proportion of men, 14 per cent in 1991) fall into this category.

Because partitioning of the male/mixed/female model is critical to the segregation patterns it describes, its usefulness is in observing trends rather than comparing segregation levels. The Gini index, using information on gender concentration patterns throughout the distribution, showed that the overall fall in segregation between 1971 and 1991 can be attributed to a fall in the occupational segregation of women full-timers. There was no counter-balancing effect as a result of increased segregation amongst women part-timers. Segregation curves and the Gini index reveal that gender segregation for this group also fell, albeit by a marginal amount.

#### **4.5 Conclusions**

Despite the significant rise in women's employment participation over the 70s and 80s, inequalities between women and men in paid work continued. This feminisation took place in the context of deindustrialization and employment deregulation. Many of the new female jobs were part-time, in the rapidly expanding services sector. The growth in women's part-time employment continued through the recession of the late 70s/early 80s, whilst the decline in male employment, associated with deindustrialization, accelerated. Women's full-time employment, also hit by the recession, recovered by the end of the 1980s when there was a marked rise in women's full-time employment in the services sector.

Part-timers typically receive lower pay and benefits than full-timers and this disparity widened over the 70s and 80s. The pay and skills gap between women full-timers and men narrowed over this time, whilst it widened between women part-timers and full-timers. However not all part-time jobs are at the bottom of the occupational hierarchy. Between 1971 and 1991 there were twice as many new part-time jobs in professional, intermediate and skilled occupations as were generated in unskilled and sales work. This may represent a shift towards 'employee-led' part-time employment, which tends to be more like full-time work, described in Chapter 3.

There was little change in segregation levels over the 70s and 80s. Hakim has argued that this was because increased integration between women full-timers and men was outweighed by increased segregation between women part-timers and men. This interpretation is not supported by the analysis reported here. By constructing segregation curves and calculating segregation indices for 1971, 81 and 91, this analysis of the LS found that between 1971 and 1991 there was a net fall in segregation between both women full-timers and men and between women part-timers and men. A marginal 1971/81 rise in segregation between women part-timers and men, and stability in segregation between all women and men, may in fact be artefactual, given the finer detail used to describe occupations in the 1981 census. Differences between the results presented here and those of Jacobs and Hakim can be traced to methodological issues. This chapter emphasises the sensitivity of the three-fold male/mixed/female model to the way that integrated occupations are defined. It is useful for observing trends over time, but unreliable as a measure of overall segregation levels.

This chapter describes the context in which LS members' 1971, 81 and 91 employment transitions can be analysed. Chapter 3 drew attention to the importance of part-time work in women's working lives in Britain. The role of part-time work in women's employment careers is moulded by key social policies. Social policy in France facilitates maternal employment, whilst in Britain women opt for part-time work as an individual solution to the sharper conflict between paid work and family life. This chapter showed that in 1971, 81 and 91 part-time work was concentrated at the bottom of the jobs hierarchy. As the gap between pay and skills in full-time and part-time work widened, particularly over the 1980s,

the costs of switching to part-time work over child-rearing may have increased. Individual employment career patterns have to be analysed in the context of these broader structural developments.

## **CHAPTER 5 WOMEN, OCCUPATIONS AND THE 1980 RECLASSIFICATION** **- AND A NOTE ON OCCUPATIONAL CROWDING**

### **5.1. Introduction**

Occupational sex segregation appears to be universal and enduring. For this reason any differences in the level of segregation either over time or place are of particular theoretical interest. However, analyses of time series and longitudinal data are often complicated by changes in the framework used to classify workers by occupation. Typically, researchers have reported their research findings with a cautionary note about the possible impact that occupational reclassification may have had, though without quantification (for example see Dex, Joshi and Macran, 1996). This section aims to investigate in some detail the 1980 occupational reclassification conducted by the Office for National Statistics (ONS, known previously as the Office for Population Censuses and Surveys, OPCS), so that the analysis of the ONS Longitudinal Study (LS) can be adjusted for artefactual differences due to changes in the classificatory system.

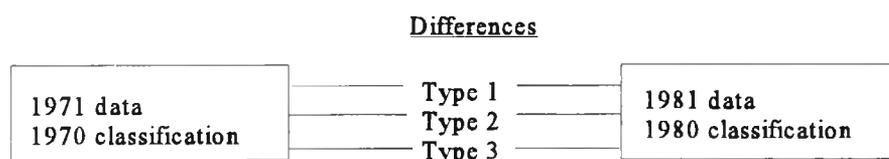
Occupational classification schemes may exaggerate the extent to which disproportionate numbers of women are concentrated in a few highly feminised occupations. This phenomenon contributes to occupational crowding (see sections 2.2, 2.3 and 3.3.2). Such occupational crowding may occur because lots of women actually do very similar work. However it could also be explained by the tendency for classification schemes to differentiate more finely between the occupations that men are in, leaving women in large, 'umbrella'-type occupational groups which mask the real diversity within feminised work. This chapter examines various theoretical perspectives which could account for the persistence of occupational crowding through the quite radical 1980 reclassification.

When comparing the linked occupations of LS members, differences in the 1970 and 1980 sex ratios of their occupational groups may arise for a number of reasons.

Firstly, individuals may have actually changed occupation, for example women may have switched from working in 'female'-typed occupations, that is occupations in which women

were statistically over-represented at both censuses, to occupations which were disproportionately 'male' at both censuses (Type 1 differences). Often these 'real' occupational shifts are of most interest to researchers. A second type of difference would arise if an individual, or group of individuals, continued in the same job but because of structural change in the inter-censal period, the sex ratio in their occupation changed so that they were nudged into a different occupational concentration category (Type 2 differences). Those occupations which are close to the boundaries between 'male' and 'female' occupations are more susceptible to this sort of movement. Type 1 and type 2 differences are analogous to the concepts of 'exchange' and 'structural' mobility in class analysis (Crompton, 1993, p63), the two are inextricably linked. It is difficult to disentangle their effects when comparing segregation over time or place (in cross-national comparisons structural differences are very likely). Much of the recent academic debate about the most appropriate method for measuring segregation focuses on how the various segregation indices cope with differences in gender composition and occupational structure.

**Figure 5.1 Differences in 1971 and 1981 occupations in the ONS Longitudinal Study**

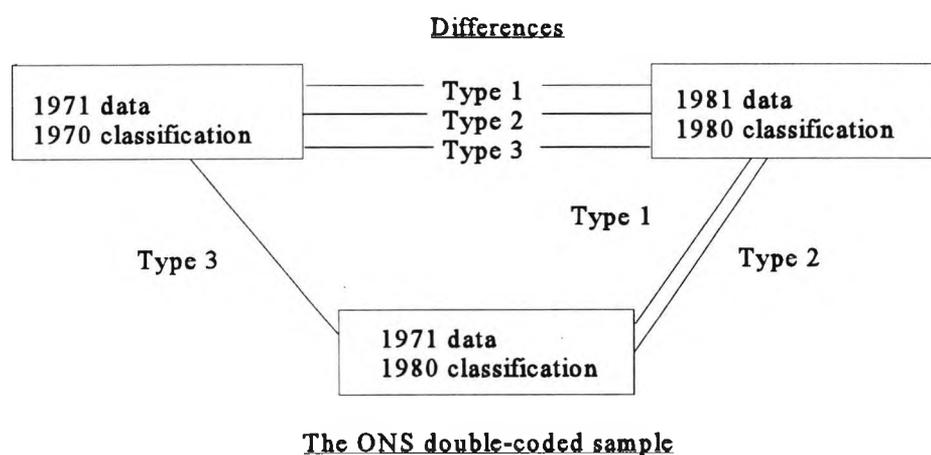


The third possibility, which is the main concern of this chapter, is that observed changes in patterns of occupational concentration have arisen as a result of occupational reclassification, or the regrouping of jobs (Type 3 differences), and are therefore artefactual. Figure 5.1 summarises the problem. This typology of differences does not claim to give a comprehensive account of all the inconsistencies that may interfere with comparisons over time. For example, any changes to the wording of key questions on the census form could

also influence the comparability of results. The main purpose has been to differentiate and disentangle these three effects. Type 3 differences need to be quantified and filtered out of the data so that differences in segregation patterns, that is type 1 and type 2 differences, in their 'uncontaminated' form, can be analysed.

The 1971 census used the 1970 Classification of Occupations (OPCS, 1970) which involved 223 occupational titles. The 1981 census adopted an occupational classification system which in its basic form used 351 titles, which could be further expanded to 549 titles, and was related to the Key List of Occupations for Statistical Purposes, or KOS (Department of Employment, 1972) and described in the 1980 Classification of Occupations (OPCS, 1981). To show the comparability between the two systems, the ONS double-coded a one per cent sample of the 1971 census returns for persons in employment, both full-time and part-time, using both classification systems. This produced two cross-tabulations of 1970 by 1980 occupational codes, one each for women and men. By analysing these cross-tabulations in some detail it was possible to isolate the effect that reclassification has on the LS results. The process is summarised in figure 5.2 below.

**Figure 5.2 1971/81 occupational differences in the ONS LS and the use of the double-coded sample**



Peter Elias and colleagues at the Institute for Employment Research, Warwick University, have facilitated the analysis of these cross-tabulations by putting them into a machine-readable form in their 'Warwick Occupational Conversion Programme'. This Programme has been adapted to create 'segregation change matrices' which cross-tabulate occupational concentration patterns produced by the 1970 and 1980 classifications. These matrices reveal the extent to which observed differences in segregation patterns are really due to reclassification.

Throughout this analysis there is an emphasis on the proportion of women in occupational groups or categories. In part this flows from the central concern with examining gender concentration patterns in the labour force; the relative distributions of women and men across occupational groups have to be established. But the analytical importance of the percentage female within an occupational group or occupational category extends beyond a concern with the differential allocation of women and men to 'slots' in the occupational structure. The proportion of women in an occupational group or category is related to the phenomenon of sex typing which profoundly influences important issues such as relative pay, employment conditions and industrial muscle (Murgatroyd, 1988). Any attempt to explain changes in the occupational structure needs to acknowledge the broader significance of occupational sex-typing.

Before the analysis of the ONS double-coded sample is described, the next section reviews the way in which women's occupations have been represented in classificatory systems, both historically and in more recent times.

## **5.2 Contextualising 'work' and the significance of occupational crowding- a theoretical discussion**

Occupational classification schemes are not atheoretical templates which, applied to labour-force statistics, produce value-free occupational profiles of the labour force. Rather, they are just one aspect of the official records of a particular historical context. They incorporate and help to perpetuate the dominant ideas of that era. This section suggests that in official statistics, grouping lots of women workers together under a few

occupational titles may reflect women's current and past subordinate status, and the under-valuation of their work both in the family and in paid employment, rather than *or in addition to* limitations in the number of jobs that they actually do.

Both the 1970 and 1980 classification schemes organise women into relatively few, very female-dominated occupations whilst men's occupations are much more finely differentiated. There are various possible explanations for this aggregation of women's jobs. Women may in fact tend to do very similar work. Alternatively, it could be that occupational classifications do not recognise the diversity in women's work, including the diversity in the skills they use.

The degree of skill involved in a job is one of the criteria by which ONS distinguishes between occupational groups (Classification of Occupations 1970, pvi, Classification of Occupations 1980, pvi, HMSO). Women's jobs may be grouped together more than men's because they employ lower levels of skill. Theoretical work which has highlighted the social construction of skill and the under-valuation of skills used in female-dominated work is relevant to this question and is discussed below.

However, recent classification schemes are also influenced by past practice. 'Classificatory conservatism' means that any attempts to revise existing schemes are constrained by users' demands that consistency be maintained in time-series data. For these reasons the treatment of women in nineteenth century censuses in Britain is discussed in section 5.2.1 below. Visibility in official statistics is also influenced by political considerations, as revealed by analysis of early American censuses.

### **5.2.1 Women's occupations in early Censuses**

Current practice is for the census to describe the occupations of those who are 'economically active', meaning those who work for pay or for profit (or seek it). It has been argued that this reflects the influence of economists, who are solely concerned with the size of the labour force engaged in the market economy (Hakim, 1985). However, early censuses also reported work done in the family economy. The censuses of 1811-31

collected information not on individual occupations, but on each family's occupation, though in 1831 there was also a question on the individual occupations of men over 19 years of age (Higgs, 1987). By 1851 the concept of personal occupations was firmly established, with householders required to give occupational details of all household members present on census night. However women often continued to be classified according to their husband's occupation ('shoemaker's wife', 'shopkeeper's wife') rather than their own. The convention for recording women's occupations varied from district to district, for example women's part-time work was sometimes omitted from census returns, and married women's occupation was often left blank. These differences reflected variations in the perceptions and conventions adopted by individual enumerators and the lingering significance attached to the family, rather than the market, economy (Higgs, 1987).

As the definition of 'work' shifted to refer to the market rather than the family economy, so the boundary between the two was often unclear. Not only did work shift from one domain to the other, but women traditionally tended to straddle both. This resulted in more confusion and inconsistencies in the way that women's work was recorded. Higgs points out that the instructions to enumerators complicated matters further, with inconsistencies such as the requirement in the mid-nineteenth century census that the wives and daughters of farmers be recorded as 'farmer's wife', 'farmer's daughter', whilst the same rule was not extended to, say, the female relatives of shopkeepers and the like (Higgs, 1987). But most confusion arose in the context of domestic work, where the difference between work for the family and work for the market economy could be very unclear, for example where servants were employed in homes which were also units of production like shops and farms. This is an important issue given that domestic service was considered to be the largest female occupation in the nineteenth century. Because of the under-enumeration and misclassification of women's work in the early censuses, the tradition of listing occupational titles, which forms the historical basis of conventional classification schemes, needs to be viewed with caution.

In the United States of America, under-enumeration in the census extended beyond women

to slaves:

“On its face it would seem that an occupational classification scheme is a comprehensive and logical ordering of the work of a population and that statistics ordered by such a system will also encompass all the work of a society. Yet such an assumption seems to be inappropriate because, historically, in 19th-century America, for example, it is probable that women, children and slaves performed as much as half of the work in society despite their omission from the statistics “(Anderson, 1994, p8)

Anderson points to the political context to explain this exclusion from official statistics. The US federal census, like the British, originally collected family-level occupational data, switching to individual-level information in 1850. But occupations were only recorded for ‘free males over 15 years old’ in the 1850 and 1860 censuses; the occupation question was not asked of the slave population or women. By documenting the legislative progress of various proposals, Anderson reveals how the categorisation of occupations reflected political concerns. There was much debate over whether occupational information should be collected about the various ‘factions’ or ‘interests’ in American society, and these essentially political debates informed the choice of occupational categories used. Each category was either influential politically, or the subject of social policy concern. There was no category for domestic workers. These were ‘young, female, non-White, and/or unfree, and therefore, not to be listed.’(Anderson, 1994, p27)

One early American census which did, exceptionally, collect occupational data from the slave population reported that very high numbers of black people worked in very few occupational groups. In 1849 in Charleston, South Carolina, the occupation questions were asked of the whole population. The almost 8,000 slaves and ‘free colored’ population were classified into approximately 50 occupations, whilst the 4,500 whites were classified into about 200 occupational groups (Anderson, 1994, p27). It could be argued that this accurately reflects the restricted occupational opportunities open to the slave population. But to what extent did it also reflect a lack of interest in the work that slaves actually did, with low-grade occupations not being as finely differentiated as higher-status ones?

### **5.2.2 Women's occupations and 'skill'**

In occupational classification schemes today, the level of skill involved in a job is an important criterion used to differentiate occupations. Men's occupations may be more finely differentiated because historically they have done more highly-skilled work than women. In the early part of this century, women's work was concentrated amongst single women. For example the marriage bar continued to exclude married women from the civil service until 1946, and from the post office right up until 1963 (Burchell, Dale and Joshi, 1997). More senior jobs, and those which required training or apprenticeship, were mainly done by men. Even now, older women typically work intermittently and part-time and this is a weak basis for challenging men's dominance in more highly skilled work.

Despite the post-war growth in women's employment, and a decline in the gender gap in job skills, differences remain (Gallie, 1996). In the early 1990s, women were more likely to be in a job where no qualifications were required (39 per cent compared to 30 per cent of men p.146). They were less likely to be in a job requiring 'A' level qualifications (32 compared to 41 per cent p.146). Women full-timers however were more likely to be in jobs requiring qualifications than men full-timers, and the gender skills gap is largely attributable to the different skill requirements of full-time and part-time work. Thus occupational classification schemes may differentiate men's jobs more finely firstly because in the past men dominated skilled areas of work, and secondly because they tend to be more skilled than the majority of women workers. However the grouping of women under a few occupational titles may also reflect the general under-valuation of women's skills in society.

When asked, women workers, and particularly women part-timers, are likely to downgrade the skills aspects of their jobs whilst men are likely to upgrade theirs (Horrell, Rubery and Burchell, 1994). This partly reflects a general association within Britain between part-time and feminised work and low skills status. It is also consistent with the importance of men's wage employment within the household:

'part-timers may see their jobs as more marginal to their lives and to their identity and thus be less concerned to see themselves as doing a skilled job' (Horrell, Rubery and Burchell, 1994, p220).

The high level of detail in describing men's occupations may also reflect historic struggles to demarcate and defend jobs that provided a family wage.

However Rees argues that recent classification systems such as the Classification of Occupations and Directory of Occupational Titles (CODOT), which informed the 1970/80 reclassification used in this study, affords a degree of differentiation between 'male' occupations, for example welders of different materials, which is 'almost loving in its meticulousness' ( Rees, 1992, p18). Whilst skill is used as a criterion to graduate men's occupations very finely, women's occupations such as clerical and secretarial work are lumped together in classifications and are perceived as having very similar levels of skill. This is because, according to Rees, concepts relating to work, particularly skill, are modelled upon men's, rather than women's experiences of work. She reports that job evaluation schemes have revealed that many jobs are recognised as unskilled or semi-skilled because they are performed almost exclusively by women (Rees, 1992, p17).

Phillips and Taylor (1980) use the examples of box manufacturing, clerical work and the clothing trade to illustrate how the skill labels attached to jobs reflect the gender of the workers doing them rather than the real technical requirements of the work. Jobs which have been done by men are found to have higher-grade skill labels attached to them than identical jobs done predominantly by women. They also argue that the skill status of jobs reflects the industrial muscle of the workers involved, as stronger groups of workers are more likely to get 'skill' recognition for their work, and more successfully defeat employers' attempts to deskill the workforce. Men are more established in the labour force and have better trade union protection, therefore they are more successful than women at winning and retaining their skilled status. Phillips and Taylor argue that men's power, both industrially and within the family, ensures the subordination of women's work; 'Skill has been increasingly defined against women - skilled work is work that women don't do' (Phillips and Taylor, 1980, p86). This view was supported by Craig et al, in their survey for the Department of Employment looking at women's employment, pay structures and small firms (Craig, Garnsey and Rubery, 1984). They conclude that the unskilled classification of women's work should not be taken at face value.

The nature of the skills typically employed in female-dominated occupations is different to that used in men's occupations. Women's jobs are far more likely to involve social skills (Horrell, Rubery and Burchell, 1994). The latter are usually a necessary element of service-type occupations, in which women predominate. Reskin argues that because 'female' occupations use skills acquired prior to employment, being less visibly gained they are less likely to be 'socially credited' (Reskin, 1988; p72). Much of women's work is said to rely on their intuition, but when skills are considered to be inborn and therefore 'natural', they are not thought to merit compensation.

It has been argued that skill labels help to maintain social distance between women and men in the labour force by differentiating them:

'(Thus) differentiation in all its forms supports dominance systems by demonstrating that superordinate and subordinate groups differ in essential ways and that such differences are natural and even desirable' (Reskin, 1988, p 63)

Here rather than being seen as a quantifiable personal attribute, skill can be viewed as just one element of a discourse, articulated in the system used to classify occupations, which reflects, sustains and helps to perpetuate women's subordination through social differentiation and occupational segregation. As such, it is the product of past social struggles and technological change, and it has as much to do with reflecting past and current gender relations as it has with perpetuating them. Classificatory systems can therefore be 'read' as a commentary on contemporary gender relations; they describe the position of women relative to men in the occupational structure and, in their interpretation, as much meaning can be attributed to what is visible in the classificatory system as to what, or who, has been left out or lumped together. The aggregation of lots of women under a few occupational titles helps to perpetuate gender inequality through the distorted picture of the occupational structure it creates; this is important because statistics based on these classification schemes help to inform what research questions are asked, influence their conclusions, and possibly misinform social policy. They also help to maintain, through the omission or marginalisation of women, the idea that women's work is of less value than men's.

It is appropriate that a perspective which gives primacy to women's position relative to men in the occupational structure, and which recognises that gender relations are in a constant state of change, be brought to bear on the analysis of change in the classificatory system. The analysis reported in this chapter pays special attention to how the crowding of women in 'female' occupations was affected by the 1970/80 reclassification, and this is discussed in section 5.6 below.

### **5.3 Data and methods**

#### **5.3.1 The ONS double-coded sample and the Warwick Occupational Conversion Programme**

The ONS cross-tabulation of one per cent of the 1971 census was used to examine the relationship between the occupational titles in the 1970 and 1980 classifications. When the 1970 occupational classification was changed just prior to the 1981 census, the 1970 occupational unit groups (OUGs) were each dispersed among several 1980 OUGs. Thus, 1980 OUGs are typically formed from many disparate 1970 OUGs. This 'spread' and the absence of a 1:1 relationship between unit groups in the 1970 and 1980 classifications complicate comparisons of 1971 and 1981 occupational data. By highlighting key occupations, and tracking the destinations of 1970 groups and the disparate sources of 1980 groups, this chapter observes the effect that the reclassification had on the statistical representation of women's employment at occupational unit group level. The patterns of occupational concentration (crowding of women or men into female-dominated and male-dominated occupations) generated by the 1970 and 1980 classifications are also reviewed.

The Warwick Occupational Conversion Programme was devised to enable researchers to develop groupings of occupations related to the 1980 Classification of Occupations, which are consistent with user-defined groupings based on the 1970 classification. The 1970 to 1980 conversion is achieved on the basis of the best statistical match between OUGs in the two classifications. For the analysis described in this chapter, however, the Warwick programme was adapted to cross-tabulate two sets of user-defined groupings, based on the

percentages of female workers in the OUGs in the 1970 and 1980 classifications in the double-coded sample. For each classification, workers were regrouped into ten occupational concentration categories. This regrouping was achieved by allocating to each occupation a 'percentage female' based on the proportion of women in that group in the double-coded sample. Cross-checking these percentages with those in the 10 per cent published tables for the 1971 Census revealed that, for over 95 per cent of the double coded sample, or 202 1971 OUGs, there was less than a one per cent difference in the percentage female. A difference of more than 5 per cent was found for just two occupational groups, representing just over 1 per cent of the double-coded sample. Thus, the double-coded sample could be considered reliable in terms of its representativeness of the sex composition of OUGs. These percentages were then categorised into ten per cent bands, or 'ratio groups'.

The final output from the programme is a ten by ten matrix, the rows of which encode data according to the 1970 ratio groups, whilst the columns represent the 1980 ratio groups. Cells on the main diagonal represent those workers who stayed in the same ratio group through reclassification; entries off the main diagonal show movement arising from reclassification. Recall that none of these workers have actually changed jobs, but have had the occupational map redrawn around them.

This chapter focuses on the effects of reclassification using the 351-title version of the 1980 classification, as this more condensed form is used for the LS analysis described in chapters 6 and 7. Appendix 5.1 outlines how reclassification to the expanded, 549-title version of the 1980 classification affects the comparability of occupational data.

### **5.3.2 Dealing with error in the double-coded sample**

Before discussing the results, there are several sources of error which must be considered, namely response errors, coding errors and errors in the allocation of occupations to occupational unit groups. Firstly, response errors can arise because of missing information or misinformation on the part of the census respondent (see for example Boston 1980). In this exercise such errors would affect the representativeness of the 1971 occupational

distributions.

The second possibility is that workers could have been allocated to the wrong OUGs due to coding errors. Coders may introduce both random and correlated errors to occupational data. Random errors are the product of mistakes in the allocation of codes to occupational groups. Correlated errors arise from systematic differences in the way that individual coders apply the occupational classification. This type of error is more problematic in office-based coding systems, which ONS used until the mid-1980s, because they rely on fewer individual coders so systematic errors become more significant. Jean Martin and others (Martin et al. 1995) found through experimentation with the coding of the Standard Occupational Classification (SOC, 1990) that when office-based coding was compared with a sample which had been coded by an 'expert',

'...a member of OPCS Census Division responsible for the maintenance of SOC who has considerable experience of occupation coding and extensive expertise in the SOC classification' (Martin et al, 1995),

the level of agreement was 80 per cent. When coding frames are collapsed the degree of error is reduced. Martin and others report that when the same occupational codes are collapsed to produce socio-economic groups and social classes, the level of agreement with expertly-coded data rises to 90 per cent and 89 per cent respectively.

In this exercise the occupational classification is being collapsed down to produce ten ratio groups, reflecting the percentage of female workers. These groups are not merely an aggregation of codes but take on meaning in a similar way to the socio-economic groups and social classes mentioned above. Therefore, the extent of coding error should be reduced. However the cross-tabulations need to be viewed with some caution. Entries off the main diagonal indicate the extent of mismatching arising from the reclassification of occupations in 1980, and these will be slightly compounded by coder errors. An attempt has been made to adjust for these coder mistakes in section 5.3.

### **5.3.3 Comparability of results**

The one per cent sample relates to the population of England and Wales as a whole. The results which follow would not necessarily be the same for particular age-groups or

geographical areas.

#### **5.4. The effect of reclassification on occupational unit groups.**

It is not always easy to track occupational unit groups across the reclassification. Both versions of the 1980 classification were more detailed than their 1970 predecessor. Difference in the definitions of unit groups means that single 1970 codes almost always become dispersed across several 1980 codes, and similarly 1980 codes can be seen to be composed of several 1970 groups.

Table 5.1 lists the five largest occupational groups in the 1970 classification. Table 5.2 shows how these occupational groups became dispersed over the condensed (351-title) version of the 1980 classification scheme in the double-coded sample. Only those destinations to which at least one per cent of the 1970 group was allocated are listed here<sup>(1)</sup>.

<b>Table 5.1 The five largest occupational groups in 1971, coded to the 1970 classification.</b>				
<b>Code &amp; title</b>	<b>Total no. workers</b>	<b>%fem*</b>	<b>No. women (rank**)</b>	<b>No. men (rank**)</b>
<b>139</b> Clerks, cashiers	222345	62	138710 (1)	83635 (1)
<b>144</b> Shop salesmen & assistants	83794	80	67183 (3)	16611 (23)
<b>141</b> Typists, s/hand writers & secretaries	71354	99	70479 (2)	875 (193)
<b>143</b> Proprietors & managers, sales	63552	33	20728 (9)	42824 (3)
<b>122</b> Drivers of road goods vehicles	51833	2	1241 (70)	50592 (2)

\* Percentages drawn from the double-coded 1971 sample

\*\*Occupations ranked in order of size, the one employing most women/men ranked (1)

**Table 5.2 Distribution of the five largest 1970 occupational groups across the 1980 classification (351-title version)**

1970 code	1980 code	1980 Occupational title	per cent fem**	% men*	% women*
139 (62% fem)	115	Clerks & cashiers	61	92.9	88.2
	116	Retail shop cashiers	97	***	3.9
	117	Receptionists	98	***	4.2
	<b>Total no. Workers</b>				83635
144 (80% fem)	125	Shop salesmen and assistants	82	85.4	95.9
	127	Petrol pump, forecourt assistants	52	6.1	1.7
	133	Sales representatives	3	1.0	***
	333	Storekeepers	12	1.4	
	<b>Total no. Workers</b>				16611
141 (99% fem)	24	Officials of trade associations	14	5.8	
	29	Managers' personal assistants	41	26.1	***
	115	Clerks and cashiers	61		1.7
	118	Typists, shorthand writers and assistants	99	58.0	96.5
	<b>Total no. Workers</b>				875
143 (33% fem)	15	Buyers (retail)	45	1.6	2.8
	16	Buyers (not retail)	8	1.1	***
	101	Proprietors & managers (sales)	31	86.9	90.2
	128	Roundsmen, van salesmen	6	1.8	***
	131	Scrap dealers	7	2.9	***
	<b>Total no. Workers</b>				42824
122 (2% fem)	326	Drivers of road goods vehicles	2	96.5	95.0
	327	Other motor drivers	5	1.4	5.0
	<b>Total no. Workers</b>				50592

\* percentages apply to the original occupational group in the 1970 classification

\*\*These percentages were calculated using the distributions in the 1 per cent double-coded sample.

\*\*\* less than 1 per cent, possibly none, workers in this group.

Table 5.2 illustrates the absence of 1:1 matching through reclassification. (In the ONS published table which cross-classifies the 1970 and the 1980 (549-title) classifications, there are only two OUGs, chiropodists and electrical engineers, where there is a perfect match for both women and men).

### **5.5 Reclassification and the overall pattern of occupational concentration**

This section describes the net effect that the reclassification had on the overall pattern of occupational concentration in the labour force. The following tables show the distributions of women and men, and of OUGs produced by the 1970 and 1980 (351-title) occupational classification schemes. These tables relate to the distributions generated by the ONS one per cent double-coded sample.

#### **5.5.1 Gender concentration in the occupational structures generated by the 1970 and 1980 classification schemes.**

<b>Table 5.3 Occupational concentration in the double-coded sample using the 1970 classification</b>							
<b>1970 occupational classification</b>							
Ratio group	Percentage female	Number of OUGs	cum. %	Percentage of men employed	cum. %	Percentage of women employed	cum. %
1	0 to 10	110	(50)	54.6	(54.6)	3.1	(3.1)
2	10 to 20	28	(63)	14.4	(69.0)	4.1	(7.2)
3	20 to 30	17	(71)	7.0	(76.0)	4.1	(11.2)
4	30 to 40	17	(78)	8.1	(84.1)	7.5	(18.7)
5	40 to 50	12	(84)	2.5	(86.5)	3.8	(22.4)
6	50 to 60	6	(87)	0.7	(87.2)	1.6	(24.0)
7	60 to 70	8	(89)	8.3	(95.5)	24.2	(48.1)
8	70 to 80	9	(93)	1.7	(97.2)	7.4	(55.5)
9	80 to 90	9	(97)	2.2	(99.5)	19.2	(74.7)
10	90 to 100	6	(100)	0.5	(100.0)	25.3	(100.00)
<b>Total no.</b>		222*		1322115		758750	

\* Group no 223 "Inadequately described occupations" was not included in the analysis.

Table 5.3 shows the patterns of occupational concentration for women and men, and the clustering of OUGs in the 1970 occupational classification. There is a disproportionate number of OUGs at the male-dominated end of the distribution. The distributions of men and of OUGs across ratio groups are closely matched, whilst such correspondence is entirely absent for women. There are 110 OUGs, or 50 per cent of the total, in ratio group 1, representing occupations which were at least 90 per cent male. This contrasts with the female end of the distribution, where ratio group 10, for occupations which were at least 90 per cent female, contains just 6 OUGs, or 3 per cent of the total. Thirty-six per cent of the work force are employed in ratio group 1, compared to 10 per cent in ratio group 10.

Although women and men are polarised at opposite ends of the gendered occupations spectrum, women are not as heavily concentrated in highly feminised occupations as men are in very male-dominated occupations. There are 55 per cent of men in the most male-dominated occupations (ratio group 1), and 25 per cent of women in the most female-dominated occupations (ratio group 10). Women appear to be generally more evenly distributed across the classification, though they are highly clustered within ratio group 7. The largest occupations within this ratio group are 139 "clerks and cashiers" and 193 "primary and secondary school teachers". If a central pivot of 50 per cent is used to define occupations as either majority male or majority female, table 5.3 shows that 87 per cent of men are employed in majority male occupations and 76 per cent of women are employed in majority female occupations.

Table 5.4 summarises the distributions of OUGs, women and men across ratio groups produced when the double-coded sample was classified using the 1980 (351-title) classification. This classification system differentiated as finely among male occupations as the 1970 classification did: 51 per cent of the 351 OUGs are in ratio group 1, compared to 50 per cent in the 1970 classification.

The pattern of occupational concentration for women is similar to that produced by the 1970 classification. This classification suggests greater polarisation of women and men though, with 82 per cent of women in majority female occupations and 86 per cent of men

in majority male occupations. Men are more heavily concentrated at the very male-dominated end of the spectrum, with 61 per cent of men in ratio group 1 compared to 55 per cent in the 1970 classification.

Cross-tabulations produced by the Warwick Conversion programme reveal further differences between the 1970 and 1980 classifications.

<b>Table 5.4 Occupational concentration in the double-coded sample using the 1980 (351-title) classification</b>							
<b>1980 (351-title) occupational classification</b>							
Ratio group	Percentage female	Number of OUGs	cum. %	Percentage of men employed	cum. %	Percentage of women employed	cum. %
<b>1</b>	0 to 10	177	(51)	61.0	(61.0)	3.5	(3.5)
<b>2</b>	10 to 20	41	(63)	10.5	(71.5)	3.1	(6.6)
<b>3</b>	20 to 30	26	(70)	6.0	(77.4)	3.3	(9.8)
<b>4</b>	30 to 40	17	(75)	5.9	(83.4)	5.3	(15.2)
<b>5</b>	40 to 50	19	(80)	2.2	(85.6)	3.3	(18.5)
<b>6</b>	50 to 60	14	(84)	1.1	(86.7)	2.2	(20.7)
<b>7</b>	60 to 70	13	(88)	8.3	(95.0)	23.9	(44.5)
<b>8</b>	70 to 80	11	(91)	2.6	(97.6)	13.5	(58.0)
<b>9</b>	80 to 90	13	(95)	1.9	(99.5)	15.1	(73.1)
<b>10</b>	90 to 100	17	(100)	0.5	(100.0)	26.9	(100.0)
<b>Total</b>		348*		1322115		758750	

\* The following groups were not included in the analysis;  
 349 "Inadequately described occupations"  
 350 "Occupation not stated"  
 351 "midwives"

### **5.5.2 Shifts in the pattern of occupational concentration: the 10 by 10 matrices for women and men.**

The Warwick programme was used to produce matrices which map the ratio groups derived from the 1970 classification onto those derived from the 1980 classification. These highlight and measure the extent of ratio group mismatching between the two classifications. Table 5.5 is the matrix for men. Percentages on the main diagonal, which

are highlighted, represent a 'no change' position; reclassification did not alter the ratio group for workers in these occupations.

**Table 5.5 The 1970 and the 1980 (351-title) cross-classification; the 10 by 10 ratio groups matrix for men (percentages)**

		1980										
		1	2	3	4	5	6	7	8	9	10	TOTAL
1970	1	51.9	1.0	0.9	0.4	0.1	0.0	0.1	0.1	0.2	0.0	54.6
	2	7.0	6.1	0.3	0.2	0.2	0.0	0.2	0.4	0.0	0.0	14.4
	3	0.6	2.7	2.9	0.5	0.1	0.1	0.1	0.0	0.0	0.0	7.0
	4	0.6	0.6	1.4	4.6	0.5	0.1	0.2	0.1	0.0	0.0	8.1
	5	0.5	0.1	0.1	0.1	0.7	0.5	0.1	0.3	0.1	0.0	2.5
	6	0.1	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.7
	7	0.2	0.1	0.1	0.0	0.4	0.0	7.5	0.0	0.0	0.0	8.3
	8	0.1	0.0	0.2	0.0	0.1	0.0	0.1	1.2	0.0	0.0	1.7
	9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	1.6	0.0	2.2
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
		61.0	10.5	6.0	5.9	2.2	1.1	8.3	2.6	1.9	0.5	100.0
<b>TOTAL ON THE DIAGONAL=77.1</b>												
<b>TOTAL NO. MEN = 1,322,115</b>												

The ratio groups of 77.1 per cent of men were unaffected by the reclassification. For the remaining 22.9 per cent, there was enough change in the percentage of women in the occupation to force it into a different ratio group. Most shifts off the diagonal were adjacent to it, so that for example 0.5 per cent of all men had been in ratio group 5 (greater than 40 and less than 50 per cent female) in the 1970 classification, but were located in ratio group 6 (greater than 50 and less than 60 per cent female) when the 1980 classification was used. The most significant shifts of this kind occurred at the male end of the spectrum, which is not surprising given that most men are concentrated here.

The largest of these one-group shifts occurred for 7.0 per cent of all men, who had been in ratio group 2 in the 1970 classification, but were in ratio group 1 when the 1980 classification was used. There is such a high degree of discontinuity in the 1970/1980 reclassification that this movement cannot be attributed to a single cause. The tendency for finer detail in the definition of very male-dominated OUGs in the 1980 classification has disaggregated women and men even more, producing this apparent shift of men further

along the gendered occupations spectrum. For example, in 1971 group 218 'draughtsmen' was 11 per cent female, employing 1551 women and 12750 men. Of these, 75 per cent of the men and 25 per cent of the women were recoded to 1980 group 79, also 'draughtsmen'; this OUG was 3 per cent female. The rest were disaggregated into other OUGs, the majority (72.5 per cent ) of women being coded to 1980 group 114 'clerks; tracers, drawing office assistants' which was overwhelmingly female, in ratio group 10.

**Table 5.6 The 1970 and the 1980 (351-title) cross-classification; the 10 by 10 ratio groups matrix for women (percentages)**

		1980										
		1	2	3	4	5	6	7	8	9	10	TOTAL
1970	1	2.1	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	3.1
	2	0.9	1.5	0.2	0.1	0.2	0.0	0.4	0.6	0.0	0.3	4.1
	3	0.2	1.0	1.6	0.5	0.2	0.2	0.2	0.0	0.1	0.1	4.1
	4	0.2	0.2	1.0	4.0	0.6	0.3	0.7	0.3	0.1	0.0	7.5
	5	0.0	0.0	0.1	0.1	0.9	1.0	0.4	0.6	0.3	0.3	3.8
	6	0.1	0.0	0.0	0.3	0.3	0.5	0.1	0.1	0.0	0.1	1.6
	7	0.0	0.0	0.0	0.0	0.7	0.1	21.6	0.1	0.1	1.4	24.2
	8	0.0	0.0	0.2	0.0	0.1	0.0	0.2	6.7	0.1	0.0	7.4
	9	0.0	0.1	0.1	0.0	0.0	0.2	0.1	4.8	13.9	0.2	19.2
	10	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.3	24.5	25.3
TOT	3.5	3.1	3.3	5.3	3.3	2.2	23.9	13.5	15.1	26.9	100.0	
<b>TOTAL ON THE DIAGONAL= 77.4</b>												
<b>TOTAL NO. WOMEN =758,750</b>												

Table 5.6 shows that very similar proportions of women and men were thrown off the diagonal through reclassification; 22.6 per cent of women and 22.9 per cent of men. Again, most movement was out of ratio groups where women were most heavily concentrated, at the female end of the occupations spectrum. Because there are fewer OUGs in the female-dominated quadrant of the table, the off-diagonal outliers are more easily accounted for. Cell 9:8 (1970:1980) shows that 4.8 per cent, or 36,647 women, shifted from ratio group 9 to ratio group 8 through reclassification. For 36,019 of these women the shift arose because of the redefinition of cleaning occupations in 1980. In 1970 OUG 166 'charwomen, office cleaners, window cleaners, chimney sweeps' was 86 per cent female, employing 37,133 women and 6,223 men. By 1980 cleaners were in a more inclusive group, 158 'cleaners, window cleaners, chimney sweeps, road sweepers'. This group contained cleaners of buildings, and was 79 per cent female, employing 44,055 women and

11,627 men.

This aggregation of cleaning occupations also accounts for most of the women in cell 2:8 (1970:1980). The 1970 group 114 'other labourers not elsewhere classified' was 16 per cent female, in ratio group 2, and comprised miscellaneous occupations in manufacturing. This male-dominated group included 3,521 women who were coded to the 1980 group for cleaners, group 158, which in 1980 was in ratio group 8. This dramatic shift therefore arose because the 1980 classification combined cleaners of offices, homes and streets with cleaners in manufacturing.

These results suggest that given the possibility of coder errors, the upper limit to type 3 differences (described in section 5.1) in the 351-title version of the 1980 classification is 23 per cent for both women and men. This could lead to substantial overstatement of longitudinal change if the occupational sex ratio variable is measured at the 10-fold level, but reclassification does not often generate big ratio group shifts.

### **5.5.3 Reclassification and the distributions of women and men across 'male', 'mixed' and 'female' occupations**

Chapters 2 and 4 discussed the threefold model of 'female', 'mixed' and 'male' occupations. This was described as an increasingly popular way of measuring change in gender segregation, reflecting contemporary theoretical concerns. Despite its sensitivity to the location of boundaries between categories, shown in chapter 4, the model is relatively simple to analyse. Examining a 3 by 3 matrix arising from longitudinal data is far less daunting than interpreting 10 by 10 matrices which show ratio group shifts, like those above. But apart from being simpler to analyse, 'female' 'mixed' and 'male' occupational categories promise an analytical strength which reflects the significance of the sex-typing of groups of occupations, as distinct from merely their statistically-defined gender composition, for issues such as industrial strength, bargaining power, pay, conditions and other gendered labour market attributes.

In this thesis boundaries between 'female', 'mixed' and 'male' occupations have been set

at 30 and 70 per cent female. The effect that the 1970/80 (351-title) reclassification had on the distributions of women and men in this model in longitudinal data is now examined.

**Table 5.7 The effect of 1970/1980(351-title) reclassification on men in 'male', 'mixed' and 'female' occupations**

<b><u>MEN</u></b>	<b>MALE</b>	<b>MIXED</b>	<b>FEMALE</b>	<b>TOT(%)</b>
<b>MALE</b>	<b>73.4</b>	2.0	0.7	76.0
<b>MIXED</b>	3.7	<b>15.3</b>	0.6	19.5
<b>FEMALE</b>	0.4	0.3	<b>3.8</b>	4.5
<b>TOT(%)</b>	77.4	17.6	5.0	100.0

<b>TOTAL ON THE DIAGONAL= 92.4%</b>
-------------------------------------

**Table 5.8 The effect of 1970/1980(351-title) reclassification on women in 'male', 'mixed' and 'female' occupations**

<b><u>WOMEN</u></b>	<b>MALE</b>	<b>MIXED</b>	<b>FEMALE</b>	<b>TOT(%)</b>
<b>MALE</b>	<b>7.7</b>	2.1	1.4	11.2
<b>MIXED</b>	1.8	<b>31.7</b>	3.5	36.9
<b>FEMALE</b>	0.3	0.9	<b>50.6</b>	51.9
<b>TOT(%)</b>	9.8	34.7	55.5	100.0

<b>TOTAL ON THE DIAGONAL= 90.1%</b>
-------------------------------------

Tables 5.7 and 5.8 show that using fewer, broader occupational categories, means that occupational mismatching as a result of reclassification is reduced. The main diagonal totals increase to 92.4 per cent for men and 90.1 per cent for women.

These tables can be used to adjust the 1971/1981 results of the ONS Longitudinal Study, which adopted the 1970 classification for the 1971 census and the 1980 classification for the 1981 census. Cell adjustments can be made, as indicated by the tables above, to filter out artefactual shifts in occupational ratio groups arising from reclassification.

However, as described in section 5.3.2, the double-coded sample includes some degree of coder error which generates some artefactual mismatching in the table. This has arisen not because the 1970 and 1980 ratio groups do not agree, but because workers have been coded to the wrong occupational group in either classification. Section 5.3.2 explained that aggregating the 371 SOC codes with employment status information to produce social class codes reduced coder error from 20 per cent to 11 per cent. The aggregation of occupations into 'male', 'mixed' and 'female' groups reduces the effect of coder error even further, especially given the concentration of OUGs within 'male' occupations, as shown in table 5.9 below.

If the amount of mismatching in the 3 by 3 matrices arising from coder error is estimated at 3 per cent, tables 5.7 and 5.8 can be adjusted to produce tables 5.10 and 5.11 below. Adjustments have been made to preserve cell proportions within the group of cells on the main diagonal and within the group of cells off the main diagonal. At the three-fold level reclassification appears to introduce artefactual change in between 5 and 7 per cent of cases. These tables can now be used to make net adjustments to tables produced using longitudinal data.

**Table 5.9 Distribution of OUGs across 'male', 'mixed' and 'female' categories**

<b>Classification</b>		<b>MALE</b>	<b>MIXED</b>	<b>FEMALE</b>	<b>Total</b>
<b>1970</b>	No	155	43	24	222
	%	70	19	11	100
<b>1980 (351-title)</b>	No	244	63	41	348
	%	70	18	12	100

**Table 5.10 The effect of reclassification on men in 'male', 'mixed' and 'female' occupations, adjusted for coder error (1980 351-title classification)**

<b>MEN</b>	<b>MALE</b>	<b>MIXED</b>	<b>FEMALE</b>	<b>TOT(%)</b>
<b>MALE</b>	75.6	1.2	0.4	77.3
<b>MIXED</b>	2.3	<b>15.8</b>	0.3	18.4
<b>FEMALE</b>	0.3	0.2	<b>3.9</b>	4.3
<b>TOT(%)</b>	78.2	17.2	4.7	100.0

<b>TOTAL ON THE DIAGONAL= 95.3%</b>
-------------------------------------

**Table 5.11 The effect of reclassification on women in 'male', 'mixed' and 'female' occupations, adjusted for coder error (1980 351-title classification)**

<b>WOMEN</b>	<b>MALE</b>	<b>MIXED</b>	<b>FEMALE</b>	<b>TOT(%)</b>
<b>MALE</b>	<b>8.0</b>	1.5	1.0	10.5
<b>MIXED</b>	1.3	<b>32.7</b>	2.5	36.4
<b>FEMALE</b>	0.2	0.7	<b>52.2</b>	53.1
<b>TOT(%)</b>	9.5	34.8	55.7	100.0

<b>TOTAL ON THE DIAGONAL= 92.9%</b>
-------------------------------------

### **5.6. Reclassification and the occupational crowding of women: Discussion**

The crowding of a disproportionate number of women into relatively few OUGs reflects the finer differentiation of men's jobs. The possible reasons for this are discussed in section 5.2. Reclassification offered the opportunity to redress the balance. However, this analysis has revealed that although the 1970/80 reclassification was a very radical one, with hardly any 1:1 matching of OUGs, it maintained a remarkably consistent degree of female occupational crowding. It could be argued that the persistence of this phenomenon through a major reclassification suggests that both classifications were reporting that many women were actually engaged in very similar jobs in both 1970 and 1980. Alternatively it may signal the enduring nature of the gendered assumptions built into occupational classification

schemes. At this point it is helpful to take a closer look at the background to the 1970/80 reclassification.

Differences between the 1970 and 1980 classifications stem from the ONS decision to use the Department of Employment's CODOT as the basis for future classifications. CODOT contained a very detailed list of occupational titles, derived from a study of 20,000 jobs. This produced a list of 5,000 occupations. It is beyond the scope of this study to examine the CODOT in detail, though criticisms have been made by others, for example Rees (1992) and Stewart, Prandy and Blackburn (1980). ONS compressed the CODOT titles to produce 161 groups 'of major statistical importance' (Boston, 1980), which formed the major groups of the 1980 classification. These were further subdivided to produce the 549 minor groups (OUGs) of the 1980 classification. The availability of such detailed occupational information in the CODOT could have been used to produce a more detailed list of titles for work mainly done by women. For example, 1980 occupational group 46.3, 'clerks and cashiers', contained 84 different CODOT titles. There were 33 different CODOT titles for group 55.1 'shop salesmen & assistants'. The 1980 classification has therefore crowded CODOT titles into OUGs. The opportunity to remedy the problem whereby the 1970 classification tended to put many women workers into a few undifferentiating occupational unit groups seems to have been missed.

One reason was 'classificatory conservatism', which led ONS to adopt CODOT titles in such a way as to maintain consistency with the 1970 classification. The resulting bias in the classification system was acknowledged. Boston, of ONS, wrote at the time

'The occupational structure of women differs considerably from that of men, with a much smaller proportion of women than of men employed in skilled manual occupations. It remains an open question whether the relationship between fertility and the mother's economic situation can appropriately be studied using a social class or socio-economic classification that was constructed on the basis of men's occupations.' (Boston, 1980, p11)

By the time of the next reclassification, the inadequacies of the 1980 classification in respect of women had been recognised (Thomas, 1986), the problems having been highlighted by the Women and Employment Survey (Martin and Roberts, 1984). A review of the 1980/90 reclassification should, therefore, show that the 1990 Standard Occupational Classification more satisfactorily describes women's work.

### **5.7. Conclusions**

The 1980 ONS occupational reclassification represented a dramatic change in the way workers were organised into OUGs. There was very little 1:1 matching of OUGs in the 1970 classification with OUGs in either the expanded or collapsed versions of the 1980 classification. However these changes made very little difference to the mismatch between the detail afforded to men's and women's occupations. The artefactual effect of reclassification on longitudinal or time series data is therefore very small.

Both the 1970 and the 1980 classifications show the polarisation of women and men into highly feminised and very male-dominated occupations. Over a half of all men work in occupations which are more than 90 per cent male, whilst a quarter of women work in occupations which are at least 90 per cent female. Both classifications report a second major cluster of women in clerical occupations and in teaching, which are 60 to 70 per cent female.

Although both classifications suggest very similar gendered occupational structures, these distributions tend to conceal the extent to which reclassification pushed workers into occupational groups with quite different proportions of women. The matrices produced by the Warwick Occupational Conversion Programme revealed that around a quarter of women and men were pushed into different percentage female deciles by reclassification. However when the 'male', 'mixed' and 'female' occupations model was used to categorise gendered occupational groups, the mismatching produced through reclassification, or type 3 differences, fell to around 5 per cent for men and 7 per cent for women. These figures include adjustments for coder error.

Gendered occupational crowding has been a feature of the occupational structure since the time of the first census and it is said to reflect the undervaluation of women's work in society. This chapter questions the extent to which occupational crowding reflects the tendency for disproportionate numbers of women to do the same sort of jobs, or failure of the occupational classification system to recognise the diversity in women's work.

The 1980 reclassification offered an opportunity for women's occupational groups to be disaggregated so that the level of detail afforded by the classification scheme to women's work could approach that for men's. However no such change took place. Reclassification therefore had little effect on LS members' 1980 distributions across male, mixed and female occupations, described in chapters 6 and 7. This detailed account of occupational crowding in 1970 and 1980 classifications should provide a useful reference for analysing the treatment of women's work in the 1990 reclassification. Inconsistencies in the sex-typing of LS members' occupations which may have been generated by the 1990 reclassification are avoided in Chapters 6 and 7, which use 1991 data coded to the 1980 classification.

### **Notes**

1. The full list of destinations for 1971 occupational group 139, clerks and cashiers, is more extensive, involving 32 1980 occupational groups. The less frequent destinations may be attributable to coding errors.

## **CHAPTER 6 THE DYNAMICS OF SEX SEGREGATION AT WORK- EVIDENCE FROM THE ONS LONGITUDINAL STUDY**

### **6.1 Introduction**

This chapter looks longitudinally at LS members' experiences of occupational sex segregation in 1971, 81 and 91. Women's working patterns change at different stages of the life course and between generations. In contrast men's working patterns are relatively stable. In Britain motherhood typically prompts a departure from full-time employment into intermittent and part-time working. Full-time employment is lower amongst mothers, even those with grown-up children, than for childless women. However maternal employment, both full-time and part-time, is rising as women's lifetime labour force attachment grows. These patterns emerge in the LS analysis below, despite the limitation of ten-yearly census intervals between observations. The main question addressed by this analysis is how working part-time influenced women's experiences of occupational segregation.

Transitions between full-time and part-time work do not necessarily imply higher levels of occupational sex segregation for women. The concentration of part-time work in feminised occupations (chapter 4, table 4.6) could reflect a preference for reduced hours amongst women who work in female-typed occupations. A person who switched to part-time hours, by job-sharing for example, within an occupation, would experience the same level of occupational segregation in part-time work as full-time. This would be consistent with the human capital account of occupational sex segregation (described in Chapter 1) which implies occupational immobility over the life course.

This research found that occupational mobility was highest for women who changed employment status. Transitions into and out of part-time work were associated with moves towards and away from higher levels of occupational segregation, especially in the 1980s. LS women born in the 1950s were no less likely to work in segregated occupations in the 1980s than 1930s and 40s-born women were in the 1970s. This was because, despite having a stronger labour force attachment than those born in the 1930s and 40s, structural

economic change and particularly feminisation of the labour force reinforced patterns of gender concentration in the occupational structure.

The occupational changes associated with transitions into part-time work tend also to be downwardly mobile. Vertical mobility is the subject of chapter 7, and in chapter 8 the plausibility of alternative theoretical explanations of occupational sex segregation is discussed.

This chapter begins by describing the structure of the LS analysis and defining the two groups which are compared. The next section, 6.2, discusses attrition from the LS. The focus of the rest of the chapter is on patterns of horizontal occupational segregation. At this stage, the sex-typing of occupations rather than their location in the jobs hierarchy is the main concern. The following questions, raised in chapter 1, are addressed:

1. *Is it motherhood itself or part-time working that affects women's experiences of segregation?*
2. *To what extent do transitions to part-time work lead women into more segregated occupations?*
3. *Are women who work part-time or withdraw completely from the labour force over child-rearing more likely to have worked in feminised occupations prior to having children?*
4. *How does the age at which women become mothers affect these patterns?*
5. *Are these patterns changing over time?*
6. *What influence has change in the industrial structure had on these patterns of occupational mobility?*
7. *How do the patterns of occupational mobility for women compare to those for men?*

## **6.2 Groups 1 and 2**

Two groups of LS members have been selected. Women and men in group 1 were aged 20-39 in 1971. They were born between 1931 and 51 (1930s and 1940s cohorts for short). By 1991 older members of group 1 were nearing retirement age. Linked LS data were

Figure 6.1 Overview of the LS analysis

AGE	1971	1981	1991
60+			
55-59			30s-
50-54			born
45-49		30s-	40s-
40-44		born	born
35-39	30s-	40s-	40s-
30-34	born	born	born
25-29	40s-		50s-
20-24	born		born
under 20			
	<b>All-age cross-sectional data</b>		
	<b>Group 1 longitudinal data</b>		
	<b>Group 2 longitudinal data</b>		

used to trace their experiences of occupational segregation in 1971, 81 and 91. For women there is a further analysis of the impact that child-rearing had on their employment patterns, and of how working part-time influenced their experiences of occupational segregation.

The second group was aged 20-39 in 1981, born between 1941 and 61 (1940s and 1950s cohorts). Thus there is an overlap between the two groups; people born between 1941 and 51 are in both. This overlap permits a comparison between groups within the 40s-born cohort who had different timing of their first birth. The 1981/91 experiences of this second group have been compared with the 1971/81 experiences of the first to show how patterns of segregation, child-rearing and part-time work changed over time. Figure 6.1 summarises the samples selected. The two groups have each been divided into ten-year cohorts to analyse cohort and age effects on child-rearing and maternal employment.

The all-age cross-sectional analysis of LS data in chapter 4 is represented by the vertical bars in figure 6.1. The major structural changes of the 1970s and 80s, including deindustrialization and the feminisation of the labour force, were reflected in the changing employment and occupational cross-sections of the LS workforce. These contextualise group 1 and 2's experiences of paid employment. There were characteristic patterns of employment participation and occupational attainment as LS members passed through key stages of their lives. This chapter reveals how those transitions changed over the 70s and 80s.

### **6.2.1. Who is included? Attrition in the LS**

The 1971/81 analysis of group 1 includes more LS members than the 1981/91 and more than the 1971/81/91 analyses because of attrition in the LS. The numbers of women and men in each analysis are given in table 6.1. Absence from the 1991 analyses arose either because LS members died, emigrated or could not be found in the LS. People not enumerated in 1971 (for example first decade immigrants) are also automatically excluded.

Death accounts for 2.5 per cent of the members of group 1 in the 71/81 analysis who were

absent in 1991. The percentage was higher for men (3.0) than for women (2.0). Just 0.7 per cent were known to have emigrated. Mortality rates were higher at the bottom of the social scale, emigration rates higher at the top.

The remaining 6.4 per cent of LS members (7% of men and 5.7% of women) in the 71/81 analysis were missing in 1991 because of the non-availability of 1991 data. LS members are 'lost' if, for example, for some reason they were not enumerated on census night. Alternatively the wrong date of birth may have been put on the census form. If so, they could not be linked to 1971 and 81 records. This sort of attrition is higher for economically inactive people and manual workers. Rates are particularly high for people in the armed forces and tracing vital event data can be problematic for prime-age women who change surname at marriage ( Hattersley & Creeser, 1995).

<b>Table 6.1 Two-census and three-census analyses: who's included.</b>							
	Present at each census			Working & occupational data at each census		Age in each analysis	
<b><u>Analysis:</u></b> <b><u>census</u></b>	<b>Total</b>	<b>Men</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>	<b>beginning</b>	<b>end</b>
<b>Group 1:</b> <b>71/81</b>	<b>118157</b>	<b>59231</b>	<b>58926</b>	<b>56332</b>	<b>21118</b>	<b>20-39</b>	<b>30-49</b>
<b>Group 1:</b> <b>81/91*</b>	<b>106822</b>	<b>52848</b>	<b>53974</b>	<b>41978</b>	<b>25099</b>	<b>30-49</b>	<b>40-59</b>
<b>Group 1:</b> <b>71/81/91*</b>	<b>106822</b>	<b>52848</b>	<b>53974</b>	<b>39140</b>	<b>13578</b>	<b>20-39</b>	<b>40-59</b>
<b>Group 2:</b> <b>81/91</b>	<b>131201</b>	<b>64357</b>	<b>66844</b>	<b>50955</b>	<b>28192</b>	<b>20-39</b>	<b>30-49</b>

Source: ONS Longitudinal Study notes

\* Both analyses use linked data for LS members present in 1971, 81 and 91.

As the focus of this chapter is occupational transitions many of the following tables only include LS members in employment with an identified occupation at each census. Table 6.1 gives, for each analysis, the numbers of LS members included in these tables. There is always less occupational data for women than for men. Women tended to be absent in

larger numbers mainly because of labour market withdrawal around child-rearing (described on the census forms as 'housewives'). Men were mainly excluded because they were either students (or on government schemes) or unemployed. Unemployment, permanent sickness and retirement rates increased amongst group 1 men in 1991 (section 6.3).

There are further differences in the numbers of cases included in successive tables because of missing values as more variables are introduced. Tables could have been standardised by removing at the outset all individuals who would later disappear because of missing information. However this would introduce unnecessary constraints and distortions to preceding tables. As a general rule, the fullest amount of data available has been used at each stage of the analysis, so the number of cases in each set of tables tends to progressively decrease.

### **6.3 Gendered jobs and career paths: occupational transitions over the 70s and 80s**

#### **6.3.1 Gendered occupations: definitions.**

In this chapter the three-fold model of male, mixed and female occupations is used to analyse segregation patterns. Mixed occupations are defined as those in which the percentage of workers who are women was 30-70. This is consistent with the definitions used in chapters 4 and 5. The main advantage of the three-fold model was its simplicity, both in use and in interpretation. This was a particular asset given the complex nature of the data. Despite the limitations discussed in chapter 4, the gender model was also used because sample sizes were often too small for reliable distributions from which segregation indices could be calculated.

Sex ratios used to categorise occupations were based upon the 10 per cent sample published census economic activity tables for 1971 and 81. The all-age LS sample for 1991 was used to define 1991 sex ratios, as described in Chapter 4.

#### **6.3.2 Group 1: 1971/81 gendered occupations transitions**

The following tables and graphs compare the distributions of group 1 across male, mixed

and female occupations in 1971 and 81. They include only people who were employed in both 1971 and 81, which amounts to 95.1 per cent of men and 35.8 per cent of women group 1 members present in the LS in both 1971 and 1981.

In group 1, as in the all-age sample discussed in chapter 4, women were more evenly distributed across gendered occupations categories than men. Figure 6.2 shows that more than three-quarters of men were employed in male occupations in both 1971 and 81, compared to less than half of women in female occupations (figure 6.3). Women were twice as likely as men to work in mixed occupations. Women were also much more likely to work in gender-atypical occupations than men. By 1981 both women and men in group 1 had increased their share of male-typed occupations, at the expense of both mixed and female-typed occupations.

At the ages of 20-39 in 1971 and 30-49 in 1981, group 1 men were slightly more heavily concentrated in male-typed occupations than men in the all-age sample (chapter 4, table 4.3). At these censuses this group excludes students and pre-retirement workers, who are the most likely male groups to work in more feminised occupations. Group 1 women were more highly concentrated in both male and mixed occupations than the all-age sample. The difference is only 3.5-4 per cent at both censuses.

These graphs under-state the amount of mobility between gendered occupations, as they merely compare net outcomes. The LS provides more insight into the occupational shifts which contributed to these cross-sectional pictures. Table 6.2 contains the 1971/81 gendered occupations mobility tables for women and men. More than a fifth of men crossed the boundaries between male, mixed and female occupations. The main diagonal shows the extent to which men were in the same category in both 1971 and 1981 and it contains 77.1 per cent of men. Most of the movement between gendered categories occurred for men moving between mixed and male occupations; 8.1 per cent of men moved from male to mixed occupations whilst 10.0 per cent moved in the opposite direction.

<b>Table 6.2 Group 1: 1971 to 1981 gendered occupations shifts for women and men</b>				
Men		1981		
1971		MALE	MIXED	FEMALE
	MALE	66.9	8.1	1.5
	MIXED	10.0	9.2	0.6
	FEMALE	1.7	0.9	1.0
Less feminised 12.7		same 77.1	More feminised 10.2	
Total no. workers= 56332				
Women		1981		
1971		MALE	MIXED	FEMALE
	MALE	3.9	3.4	3.7
	MIXED	4.1	24.2	12.2
	FEMALE	3.8	12.2	32.5
Less feminised 20.1		same 60.6	More feminised 19.3	
Total no. workers= 21118				

Source: ONS Longitudinal Study notes

This table refers to LS members present in the LS and working in both 1971 and 1981

For women too the mobility table reveals more movement between gendered occupations categories than was suggested by figure 6.3. Three-fifths of women were in the same gender category at both censuses. Two-fifths shifted across the boundaries between male, mixed and female occupations. Most of the movement occurred between female and mixed occupations, with 12.2 per cent of women moving from mixed to female occupations and the same percentage moving in the opposite direction. Whilst two-thirds (66.9 per cent) of men were in male-dominated occupations at both censuses, just under a third (32.5 per cent) of women stayed in female-dominated occupations.

### **6.3.3 The effect of the 1980 reclassification**

The matrices in table 6.2 include some artefactual change arising from the reclassification of occupations in 1980. In chapter 5 the effects of this reclassification were investigated

using the ONS one per cent double-coded sample. The main conclusion was that although this reclassification was quite drastic, with little 1:1 matching of 1970 and 1980 OUGs, it had a small effect on the three-fold model of male, mixed and female-typed occupations. Adjusted tables, based upon the reconciliation in chapter 5, are in Appendix A6.1.

#### **6.3.4 Group 1: 1981/91 gendered occupations transitions**

As in chapter 4, the 1980 classification has been used to code LS members' 1991 occupations.

Figures 6.4 and 6.5 show the 1981 and 91 gendered occupations profiles of women and men in group 1. They include people who were working in both 1981 and 91. The 1981 distributions differ from those in the 71/81 tables and graphs above, because they each represent the occupations of different groups. The 71/81 tables include women and men who were not in the LS or in employment in 1991. Conversely the 81/91 tables also include all 1971 economic statuses. The 81/91 analysis shows a reversal of the net 1971/81 trend towards male-typed occupations. This is specific to group 1. Different trends might emerge for a different age-group, sample or period.

The proportion of men in male-typed occupations fell in 1991, as the proportion in mixed and female occupations grew. Despite this trend towards greater occupational integration for men, more than 70 per cent of men were still in male-typed occupations in 1991. Their share of female-typed occupations remained very low, at less than 5 per cent, whilst over a fifth were now in mixed occupations.

Women in group 1 were more heavily concentrated in female-typed occupations in 1991, whilst percentages in mixed and male occupations fell.

As in the 71/81 analysis described above, the 1981 and 1991 distributions shown here suggest that men in group 1 were more heavily concentrated in male occupations than men of all ages (chapter 4). The 1981 distributions for women in the 71/81 and 81/91 analyses compare differently with the all-age concentration patterns (see note 1).

<b>Table 6.3 Group 1: 1981 to 1991 gendered occupations shifts for women and men who worked in 1981 &amp; 91 (all 1971 statuses)</b>				
Men		1991		
1981		MALE	MIXED	FEMALE
	MALE	65.5	11.1	2.6
	MIXED	5.7	10.0	2.4
	FEMALE	0.9	0.8	1.0
Less feminised 7.4		same 76.5	More feminised 16.1	
Total no. workers= 41978				
Women		1991		
1981		MALE	MIXED	FEMALE
	MALE	3.7	3.4	3.1
	MIXED	2.8	17.0	16.9
	FEMALE	2.7	10.4	40.0
Less feminised 15.9		same 60.7	More feminised 23.4	
Total no. workers= 25099				

Source: ONS Longitudinal Study  
notes

This table refers to LS members present in the LS in 1971, 1981 and 1991 and working in 1981 and 1991

Table 6.3 reveals the extent of 1981/91 gendered occupations mobility for group 1 women and men. As in 1971/81, there was more mobility for women. These changes are the outcome of a combination of two separate dynamics. On the one hand, mobility arises because individual women moved between 1981 and 91 into a new occupation which was differently sex-typed to their 1981 occupation. However, even if all of the women in group 1 stayed in their 1981 occupations through to 1991, the mobility tables would still report transitions. That is because changes in the employment structure in the 1980s altered the sex-typing of occupational groups (this is relevant to question 6, posed in section 6.1). The most important of these was the group for clerks and cashiers, which was mixed in 1981 but female-typed in 1991. This was the largest occupational group for both women and men in 1981 and in 1991. In 1991, 14 per cent of all LS women and 2.4 per cent of LS men were classified as 'clerks and cashiers (non-retail)'. Most of the mobility in table 6.3

between mixed and female-typed jobs is attributable to the increased feminisation of this single occupational group.

### **6.3.5. Group 2: 1981/91 gendered occupations transitions**

These structural changes also influenced the distributions of the second group (20-39 years in 1981) across male, mixed and female jobs in 1991 and led to higher levels of mobility (table 6.4) than group 1 experienced in 71/81 (table 6.2). In 1991 group 2 members were 30-49 years old, and both women and men were more likely to work in female-typed or mixed occupations than group 1 women and men at the same age in 1981 (figures 6.6 and 6.7). Distributions were similar for men in groups 1 and 2 in 1991. Differences emerge between women in groups 1 and 2 in 1991. In 1991 group 1 were aged 40-59 years, group 2 were 30-49 years. Proportionally fewer group 2 women worked in female-typed occupations in 1991.

<b>Table 6.4 Group 2: 1981 to 1991 gendered occupations shifts for women and men</b>				
Men		1991		
1981		MALE	MIXED	FEMALE
	MALE	63.3	10.7	2.2
	MIXED	7.1	10.1	2.6
	FEMALE	1.5	1.2	1.2
Less feminised 9.8		same 74.7	More feminised 15.5	
Total no. workers= 50955				
Women		1991		
1981		MALE	MIXED	FEMALE
	MALE	4.2	3.8	3.3
	MIXED	3.5	17.7	18.1
	FEMALE	3.2	11.0	35.1
Less feminised 17.8		same 57.0	More feminised 25.2	
Total no. workers= 28192				

Source: ONS Longitudinal Study

This table refers to LS members present in the LS in 1971, 1981 and 1991 and working in 1981 and 1991

Group 2 women and men were more likely to be in male and mixed occupations in both 1981 and 91 than the all-age sample at these censuses. This contrasts with the relative position of group 1 women in 1981 in the 81/91 analysis, which included women returners. They were more likely to be in female-typed occupations. Women's concentration in female-typed occupations appears to rise around child-rearing. Segregation at different stages in the life course is the focus of the next section.

#### **6.4. Reconciling work and family life: part-time and intermittent working in LS members' employment careers.**

The most comprehensive picture of employment statuses and transitions is provided by the three-census linked data for group 1. The fluidity of women's employment in particular was highlighted by the diminishing number of members of group 1 for whom occupational data was available for all 3 censuses; just 25 per cent of all women present in the 1971/81/91 analysis (table 6.1). Women moved between full-time and part-time work and housewife status as they reconciled the competing demands of employment and family life, particularly child-rearing, during the 70s and 80s. Table 6.5 shows that full-time employment dominated men's experiences, whilst women's career profiles were more varied. The longitudinal picture reveals far more intermittent and part-time working than is suggested by the cross-sectional snapshots.

To summarise the effects of child-rearing on the employment transitions of group 1 women through the three censuses, the focus here is on 82.3 per cent of group 1 women, present at all three censuses, who were either employed or housewives at each census. Women who at any of the three censuses were unemployed (7.1 per cent) or students (2.7 per cent) have been disregarded for now, though they are included in the analysis of segregation in the next section if they worked at two consecutive censuses.

<b>Table 6.5 Economic status of group 1 members present in 1971, 81 &amp; 91</b>					
	<b>men</b>			<b>at all three censuses</b>	<b>at least one census</b>
	<b>1971</b>	<b>1981</b>	<b>1991</b>		
<b>full-time</b>	92	91	80	71	98
<b>part-time</b>	1	1	2	*	4
<b>housewife</b>	*	*	1	*	1
<b>unemployed</b>	4	7	7	*	14
<b>student/govt scheme</b>	2	*	1	*	3
<b>sick</b>	*	1	7	*	7
<b>retired</b>	*	*	2	*	2
<b>other</b>	*	*	1	*	*
<b>total no.</b>	52848	52848	52848	52848	52848
	<b>women</b>			<b>at all three censuses</b>	<b>at least one census</b>
	<b>1971</b>	<b>1981</b>	<b>1991</b>		
<b>full-time</b>	33	29	34	9	59
<b>part-time</b>	15	32	32	4	55
<b>housewife</b>	47	36	23	10	66
<b>unemployed</b>	2	3	3	*	7
<b>student/govt scheme</b>	2	*	*	*	2
<b>sick</b>	*	1	6	*	6
<b>retired</b>	*	*	3	*	3
<b>other</b>	*	*	1	*	*
<b>total no.</b>	53974	53974	53974	53974	53974

Source: ONS Longitudinal Study

\*=less than 0.5 per cent

This table includes only group 1 members who were present in the LS in 1971, 81 and 91.

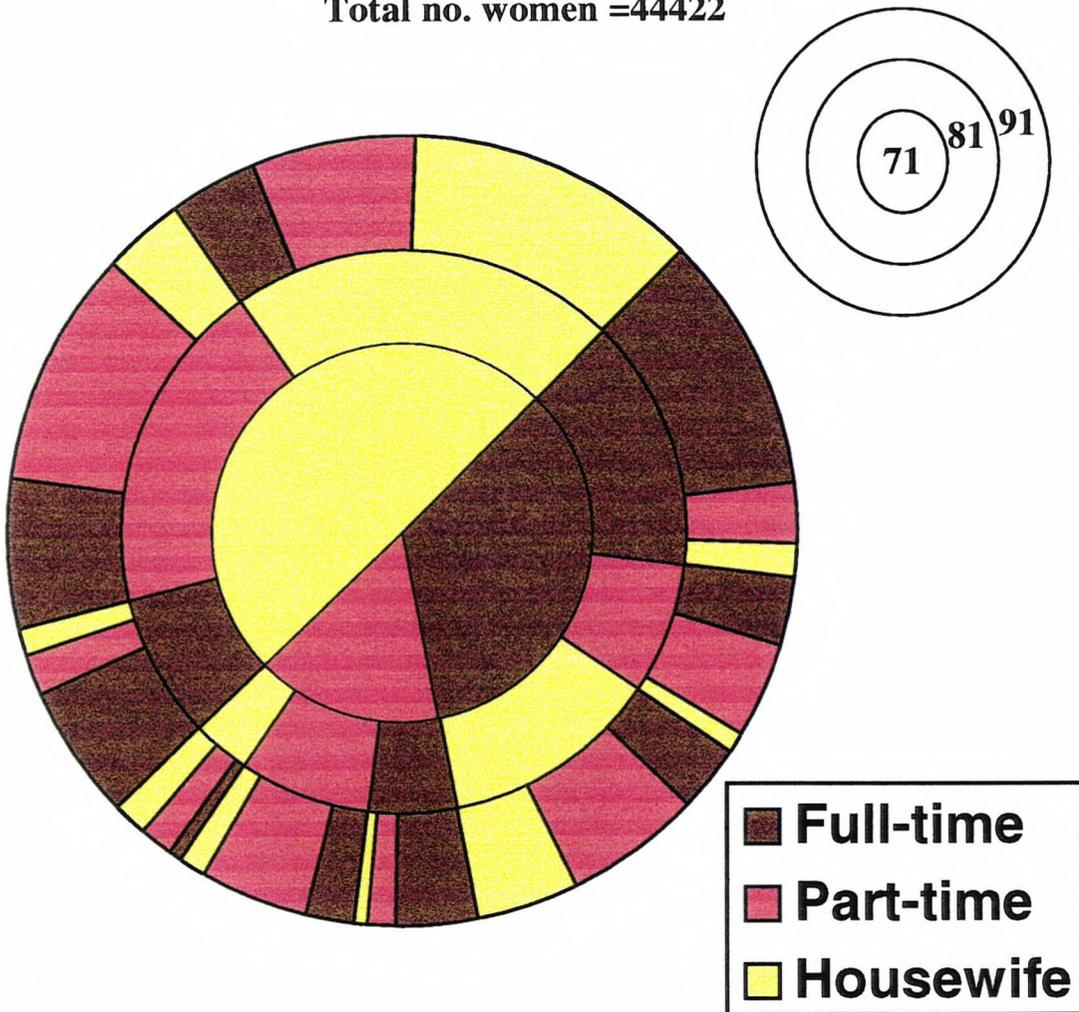
Full-time and part-time workers were defined in 1971 on the basis of hours worked: those working more than 31 hours per week, 25 hours for teachers, were classified as full-timers.

In 1981 and 91, workers were classified as full-time or part-time on the basis of self-definition. The exception was self-employed workers in 1991, for whom hours worked was used. For this latter group the 1971 criteria were applied. Comparability of the two methods of classifying full-time and part-time work are discussed in Appendix A6.2.

Figure 6.8

### EMPLOYMENT STATUS CHANGES FOR GROUP 1 WOMEN, 1971, 81 & 91

Total no. women =44422



Long-term illness and retirement were highest amongst group 1 women, at their oldest in 1991. Women who worked or were housewives in 1971 and 81 but were sick or retired in 1991 followed similar 71/81 career strategies to women who were employed or housewives at all three censuses. If they were employed in 1971 and 1981 then they too have been included in the two-census analyses of segregation patterns described below, though they are excluded from this discussion of 71/81/91 employment trajectories, as are those in the 'other' employment status category.

Within the three censuses there are 27 possible routes through the three statuses of working full-time, working part-time or housewife. This complex data can be interpreted more easily using three stacked pie charts, each one representing status at a particular census. Figure 6.8 summarises the routes taken by women in group 1. The commonest route was housewife at all three censuses, taken by 12 per cent of these women. These are represented on the stacked pie charts by the yellow block which is continuous through all three pies. The second commonest route was full-time employment at all three censuses, taken by 11 per cent of these women. The rest of the sample followed the remaining 25 routes (frequencies for each route are given in Appendix A6.3).

These graphs are based upon information given at ten-yearly intervals and need to be interpreted with caution. The data presents a distorted view of some work histories. To cite an extreme example, an LS woman may have worked full-time throughout the 1971 to 91 period, with the exception of a couple of brief spells devoted to full-time home-making. If those periods out of paid employment coincided with the weeks prior to each of the three censuses, she would appear here as a housewife 'throughout'. The important thing to remember is that someone who, within the constraints of LS data, appears to have followed a particular continuous career path may actually have a much more varied employment history. The only certainty is that someone who really did have the same status throughout will be appropriately described. Given this limitation, the relationship between child-rearing and career trajectories shown below is fairly robust.

The diversity of women's employment paths contrasts with the picture for men in group

Figure 6.9

### EMPLOYMENT STATUS CHANGES FOR GROUP 1 MEN, 1971, 81 & 91

Total no. men =51322

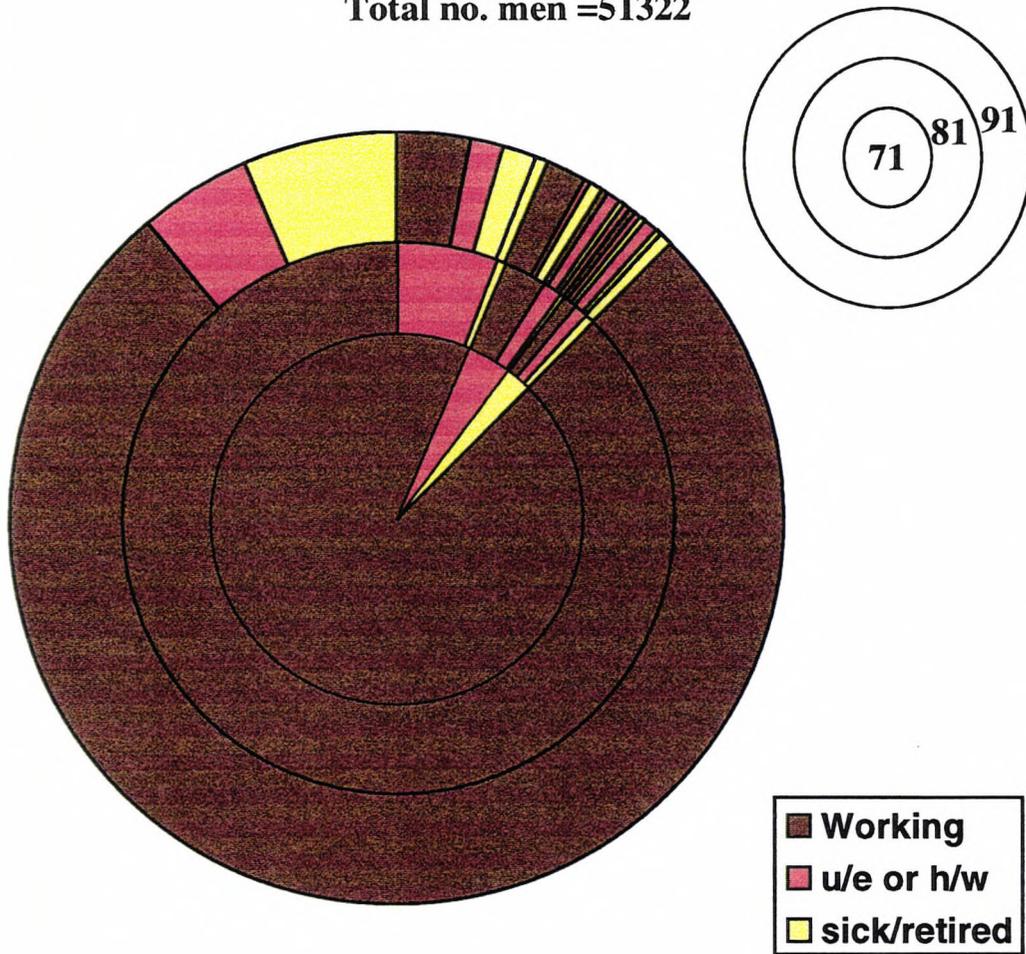


Figure 6.10

### EMPLOYMENT STATUS CHANGES FOR CHILDLESS WOMEN, 1971, 81 & 91

Total no. women = 3773

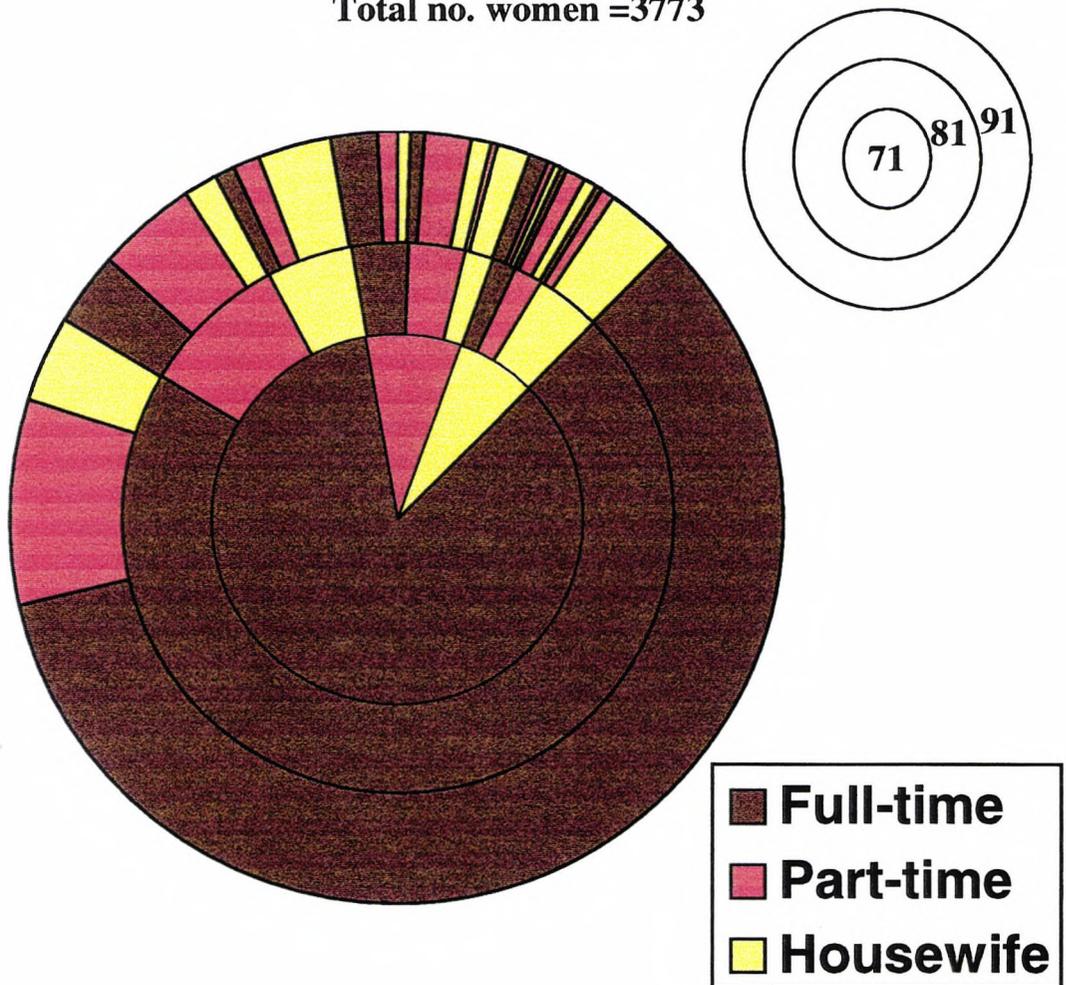
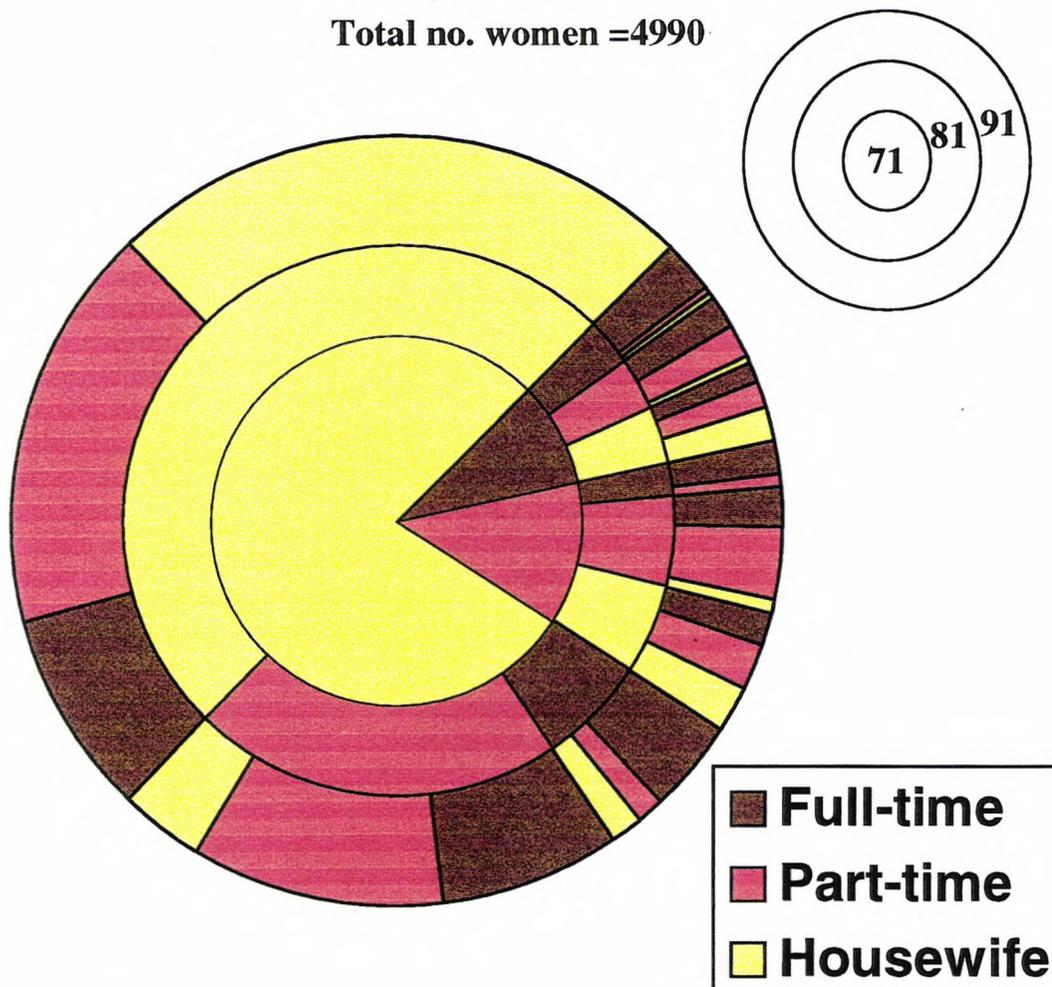


Figure 6.11

**EMPLOYMENT STATUS CHANGES FOR COHORT 1  
WOMEN WITH DEPENDENT CHILDREN IN 1971,  
AND/OR IN 81, AND IN 91.**

Total no. women = 4990



1 in 1971, 81 and 91. Figure 6.9 shows the paths that men took through work (full-time and part-time), unemployment and 'housewife' status (grouped together) and retirement and sickness.<sup>(2)</sup>

#### **6.4.1 The effect of child-rearing**

This section addresses question 3 (section 6.1) which asked whether women who work part-time or withdraw from the labour force over child-rearing are more likely to work in feminised occupations prior to having children.

Women's employment transitions were very heavily influenced by child-rearing. In this analysis child-rearing is recognised by whether there were dependent children in the LS members' household at each census, and whether the LS member was in a parental relationship with those children (children are considered dependent if aged under 15/16, or under 18 if in full-time education). Of the women represented in figure 6.8, 3773 (8.5 per cent) had never had children and had no dependent children in the household to care for in 1971, 81 or 91. They were more likely than women with children to have been working full-time at all three censuses. Figure 6.10 shows that this route was taken by the majority (58.8 per cent) of childless women. There remains, however, a sizeable share of childless women who worked part-time and intermittently.

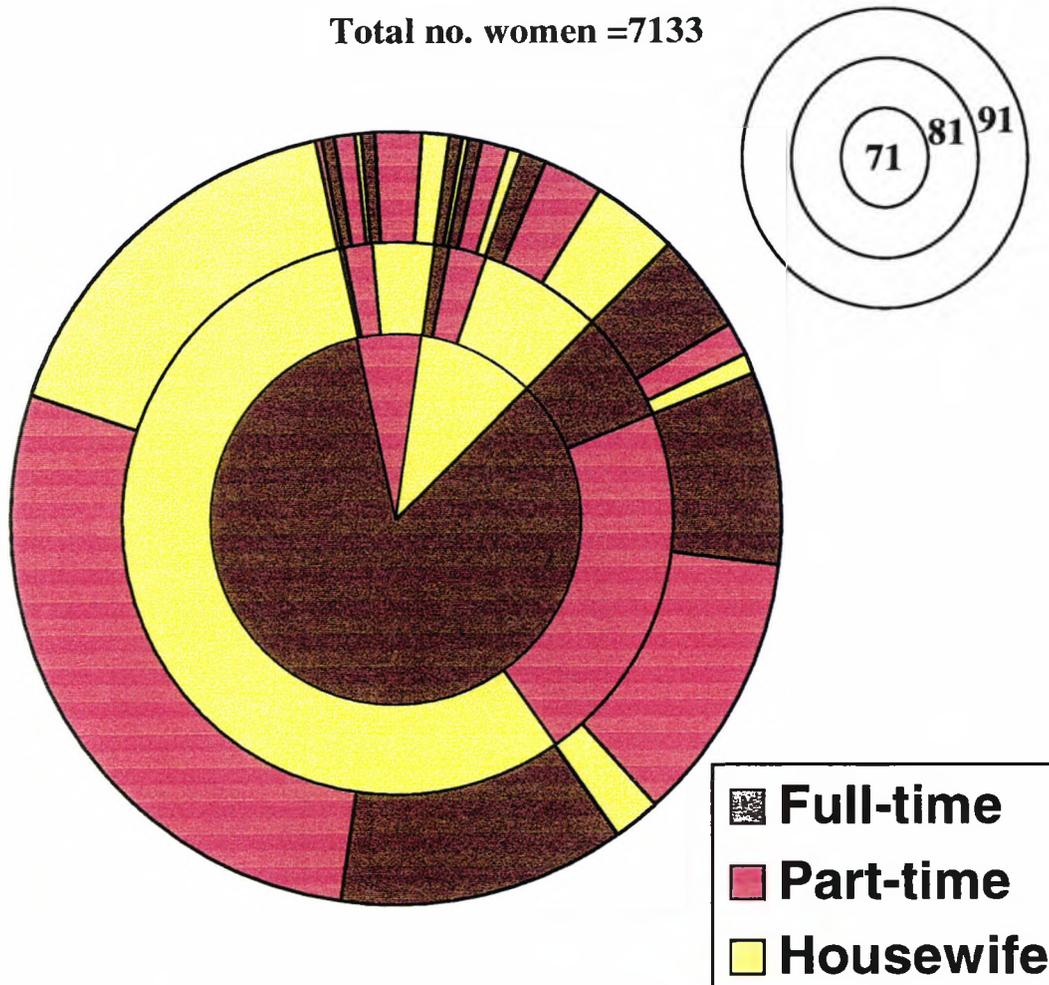
In contrast with this group, women who had dependent children in the household to care for in 1971 and/or 1981 and in 1991 had the highest rates of withdrawal from paid work, shown in figure 6.11. Only 2.2 per cent of these women worked full-time at each census, whilst 24.7 were housewives each time.

The arrival of children typically precipitates either labour market withdrawal or part-time working. Figure 6.12 shows the career trajectories of women in group 1 who had no dependent children in the household in 1971, but had them in both 1981 and 1991. The commonest path was to have worked full-time in 1971, followed by housewife status in 1981 and part-time work in 1991. These women had 1971 profiles which were almost identical to those of the women who were childless throughout. The proportions working

Figure 6.12

**EMPLOYMENT STATUS CHANGES FOR GROUP 1  
WOMEN WITH DEPENDENT CHILDREN IN 1981  
AND 91, NONE IN 1971**

Total no. women = 7133



full-time were almost the same; 86.4 per cent for those who later had dependent children and 84 per cent for childless women. Childless women were more likely to have been housewives in 1971 (10.2 per cent) compared to those with dependent children after 1971 (7.1 per cent). However the similarities end in 1981, because child-rearing precipitated high levels of part-time work and labour force withdrawal.

Patterns of employment participation after childbearing varied for different occupational groups. Table 6.6 compares the employment participation patterns of women who worked full-time in 1971 in each of five different occupations. These women were childless in 1971, but had dependent children in both 1981 and 91. The five occupations were selected on the basis of their size and because they enable comparison of different occupation types: hand and machine sewers, shop sales workers, clerks and cashiers, nurses and teachers. Teachers and clerks are 'mixed' occupations, being less than 70 per cent female, whilst the rest are female-typed.

Teachers had the strongest labour force attachment. Teachers were more likely to work full-time at both censuses, and to return to full-time employment by 1991. The 1971 teachers were far less likely than the other occupational groups to be housewives in both 1981 and 91. Women who were full-time teachers in 1971 were also very likely to be teaching in 1981 (77 per cent). However occupational mobility out of teaching rose for those who worked part-time in 1981. Of those who worked full-time in 1981, 92 per cent were teachers, compared to 67 per cent who were part-time in 1981. Those who went into non-teaching part-time work entered various occupations, mainly clerical-related.

This pattern of mobility contrasts with the women who worked full-time as nurses in 1971. This group had a weaker labour force attachment than the teachers, but stronger than the other groups. Occupational mobility out of nursing was the same for those who went into full-time and part-time work; 17 per cent of both 1981 full-timers and part-timers who had been full-time nurses in 1971 worked in other occupations.

<b>Table 6.6 Employment participation patterns in five different occupational groups</b>							
1970 unit group	No. f/t in 1971	% fem	full-time through-out	declining participation	inter-mittent workers	returners to f/t work	house wives
			1981 & 91 statuses				
			FT/FT row (%)	FT/PT FT/HW (%)	PT/PT PT/HW HW/PT (%)	PT/FT HW/FT (%)	HW/ HW (%)
<u>076</u> Hand & machine sewers	144	96	5.6	2.8	48.7	15.2	19.4
<u>144</u> Shop salesmen & assistants	336	81	2.1	0.9	42.4	19.4	20.5
<u>139</u> Clerks & cashiers	1626	62	3.6	2.1	48.8	23.0	17.3
<u>183</u> Nurses	273	91	7.3	3.3	50.5	20.9	14.3
<u>193</u> Teachers	445	64	15.5	2.3	30.5	39.6	6.3

Source: ONS Longitudinal Study

Notes

This table includes LS women who were in the LS in 1971, 81 and 91 and who worked full-time in these five occupations in 1971.

Mobility out of the other three occupations was much higher. Only 33.2 per cent of the 1971 full-time clerks and cashiers, 21.4 per cent of the shop workers and 15.6 per cent of the hand sewers and machinists stayed in the same occupation to 1981.

These five cases do not imply a simple relationship between 1971 occupational sex-type and employment continuity. Across the whole range of occupations, women in male and

Figure 6.13 **EMPLOYMENT STATUS CHANGES FOR GROUP 1  
WOMEN AGED 20-29 WHO HAD CHILDREN IN 81 &  
91 BUT NOT IN 71**

Total no. women = 6791

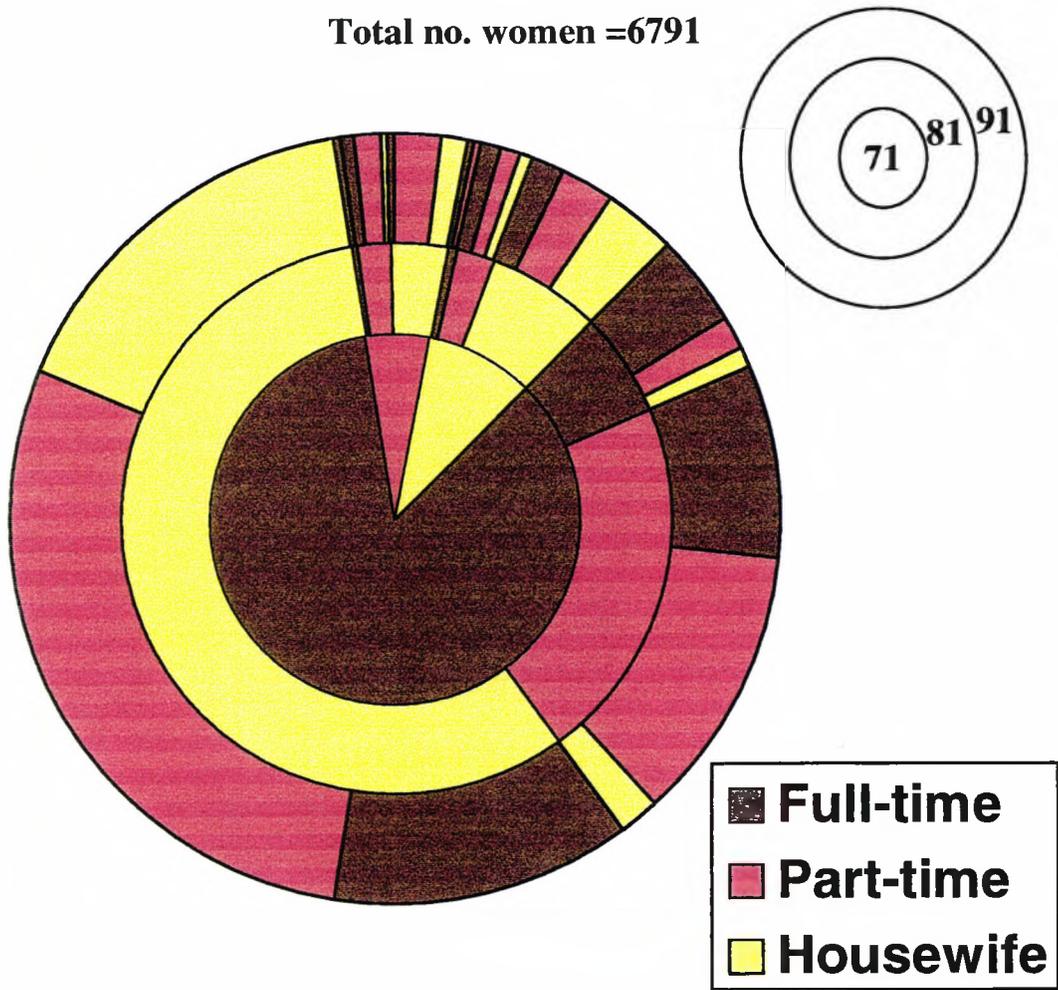
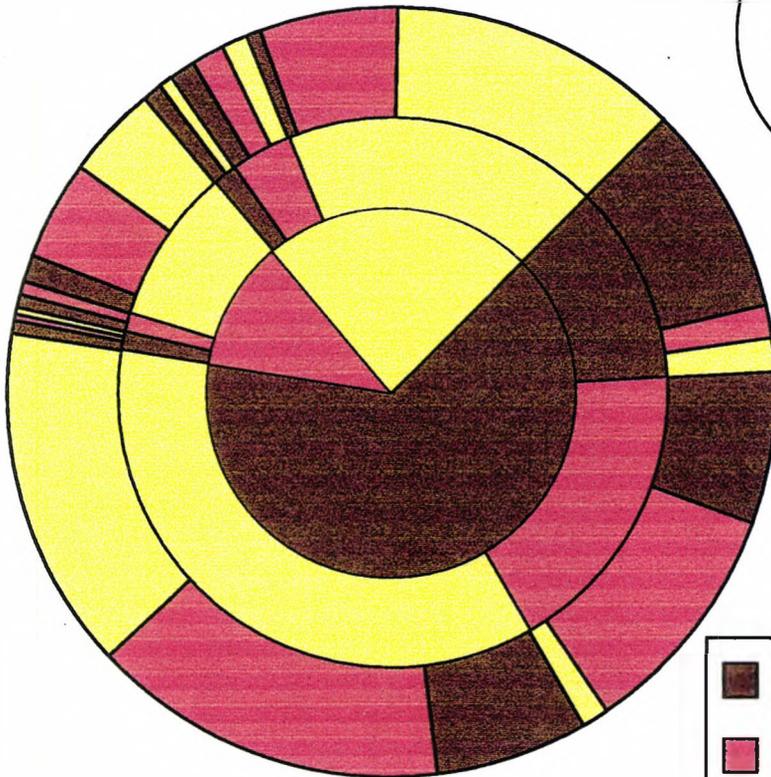
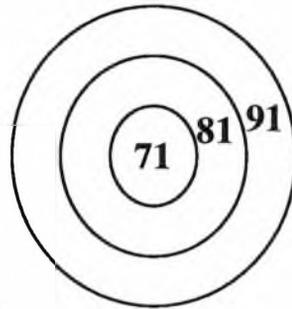


Figure 6.14

**EMPLOYMENT STATUS CHANGES FOR GROUP 1  
WOMEN AGED 30-39 WHO HAD CHILDREN IN 81 &  
91 BUT NOT IN 71**

Total no. women =342



- Full-time
- Part-time
- Housewife

mixed occupations were more likely to remain in full-time employment than women in female-typed occupations. For example in the 71/81 analysis of group 1, 74.0 per cent of the women in male occupations remained full-time, compared to 70.7 per cent of those in mixed and 65.4 per cent of those in female-typed occupations. This pattern is repeated for group 2 in the 1981/91 analysis.

The three-census analysis of group 1 reveals the nature of the association between male, mixed and female-typed occupations and full-time continuous working. Consider the 4752 who worked full-time in 1971, 81 and 91. Their 1971 distributions across gendered occupations were: 12.4 per cent in male, 46.6 per cent in mixed and 41.0 per cent in female occupations. The 1971 distributions for women in group 1 who worked full-time in 1971 but were part-time or housewives in 1981 and/or 1991 were: 9.6 per cent in male, 43.6 per cent in mixed and 46.7 per cent in female occupations. The differences are all significant at the 5 per cent level, and suggest that women who work intermittently and on a part-time basis are less likely to have been in male or mixed occupations in their former full-time occupations. Whether the relationship between occupational sex-type and employment continuity is strong enough to support the human capital prediction that women who anticipate full-time, continuous working opt for male-type occupations (Chapter 1) is questionable, and is discussed more fully in chapter 8.

#### **6.4.2 Child-rearing, paid work and mothers' age**

Question 4 (section 6.1) asked how the age at which women became mothers affected employment participation and segregation patterns. Amongst mothers, labour force withdrawals were fewer, and full-time work rates higher, for those who had their first child at an older age. This applied to both 1971/81 and 1981/91, and is demonstrated here by reconsidering the women, whose trajectories are summarised in figure 6.12, with dependent children in 1981 and 91 but not in 1971. This group are further divided into two ten-year cohorts, the first born mainly in the 1940s and aged 20-29 in 1971 and the second born mainly in the 1930s and aged 30-39 in 1971. Although there were more housewives in the 30s-born cohort in 1971 (23.7 per cent were housewives compared to 11.3 per cent of the 40s-born cohort), in 1981 when they had dependent children to care for there was

**Figure 6.15 EMPLOYMENT STATUS CHANGES FOR GROUP 1  
WOMEN AGED 20-29 WHO HAD CHILDREN IN 71 &  
OR 81 BUT NOT IN 91**

**Total no. women =10357**

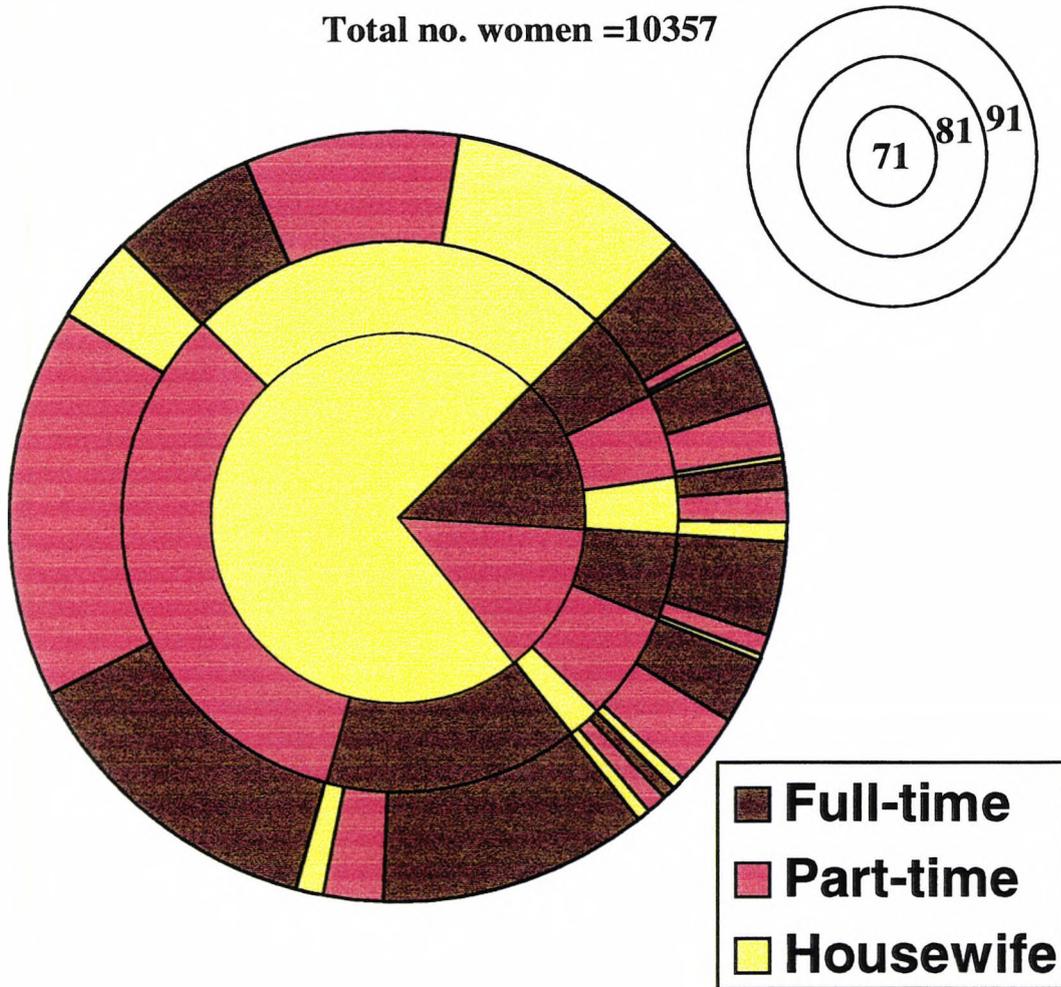
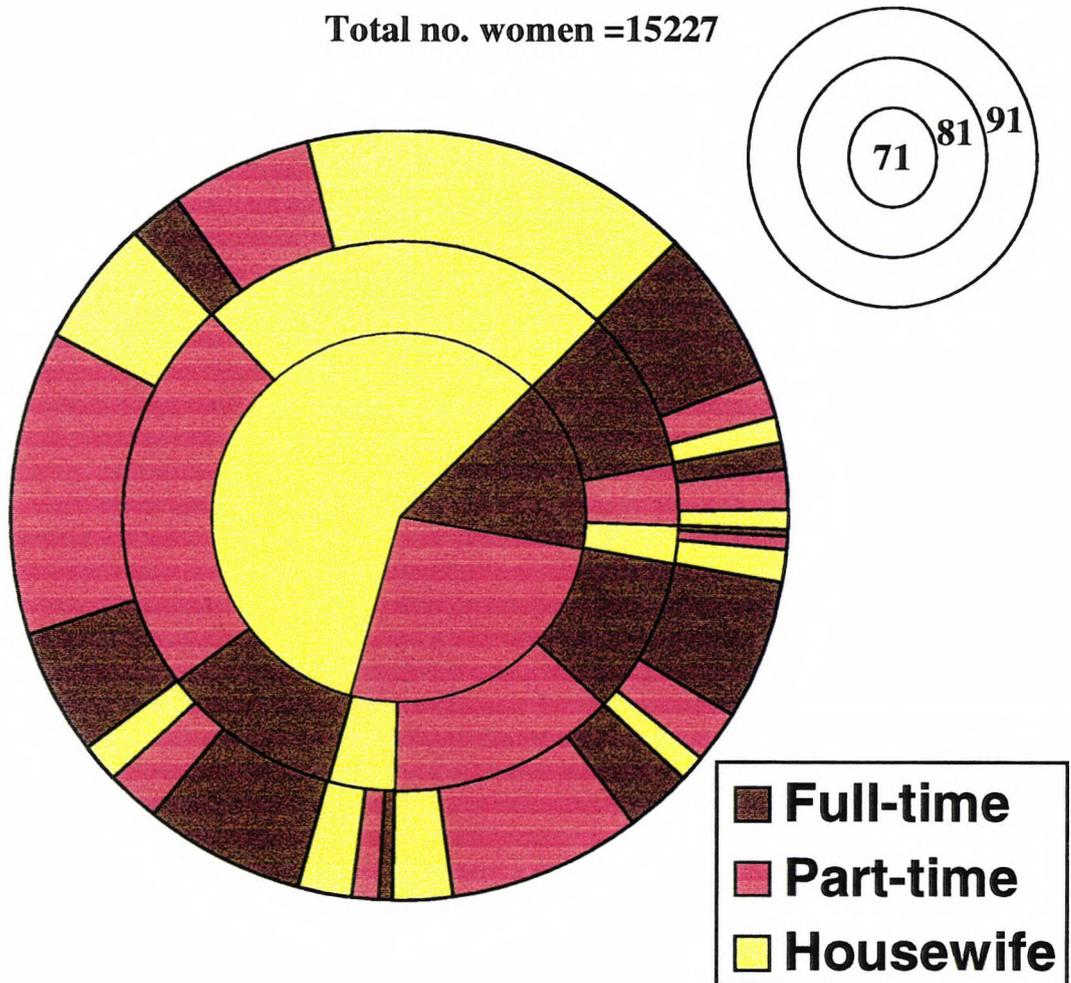


Figure 6.16

**EMPLOYMENT STATUS CHANGES FOR GROUP 1  
WOMEN AGED 30-39 WHO HAD CHILDREN IN 71 &  
OR 81 BUT NOT IN 91**

Total no. women =15227



more full-time employment amongst these older women (14.4 per cent) than the 40s-born cohort (8.3 per cent). Fewer of the 30s-born cohort were housewives in 1981 (63.5 per cent compared to 68.2 per cent amongst the 40s-born women). By 1991 however, the situation reversed and only 27.8 per cent of 40s cohort were housewives, compared to 34.8 per cent of 30s cohort. This reversal could reflect a second age-related effect; the tendency, reported elsewhere (Dex, 1984), for employment activity rates for older women to fall as they approach retirement. The stacked pie charts for these two ten-year cohorts are in figures 6.13 and 6.14.

The influence of child-rearing and age is further demonstrated by the different career paths of 30s and 40s-born women who had dependent children in 1971 and/or 1981, but had none by 1991. Thus the 30s-born women had children at a later age. There were higher rates of both full-time and part-time employment in 1971 amongst the 30s cohort: 58.4 per cent were housewives, compared to 73.1 per cent of the 40s cohort (figures 6.15 and 6.16). In 1981 there was also more full-time employment amongst the 30s cohort (29.3 per cent compared to 25 per cent). Part-time work rates were 4 per cent higher amongst the 40s cohort, with the proportion of housewives the same. However by 1991 the younger women had a stronger labour force attachment: 45.6 per cent in full-time work, compared to 31.9 of the 30s cohort. There were similar proportions in part-time work (40s cohort: 36.7 and 30s cohort: 36.4 per cent). Only 17.7 per cent of the 40s cohort were housewives, compared to 31.7 per cent of the 30s-born women. To summarise, group 1 mothers who had their children late had a stronger labour force attachment in 1981 than younger women with children, but not in 1991 when their own age dominated.

#### **6.4.3. Child-rearing and employment transitions: differences between groups 1 and**

#### **2**

Women in group 2 had a stronger labour force attachment than women in group 1. In both 1981 and 91 they had higher levels of full-time and part-time work and they were less likely to be housewives than group 1 in 1971 and 81 (see tables 6.5 & 6.7). This was despite higher levels of unemployment in the 1980s compared to the 1970s.

	<b>Men</b>		<b>Women</b>	
	<b>1981</b>	<b>1991</b>	<b>1981</b>	<b>1991</b>
<b>full-time</b>	86	84	36	36
<b>part-time</b>	1	2	19	32
<b>housewife</b>	*	1	38	25
<b>unemployed</b>	10	8	5	3
<b>student/govt scheme</b>	2	1	2	1
<b>sick</b>	1	3	1	3
<b>retired</b>	*	*	*	*
<b>other</b>	*	1	*	1
<b>total no.</b>	64357	64357	65844	65844

Source: ONS Longitudinal Study

\*=less than 0.5 per cent

In 1981 and 91, workers were classified as full-time or part-time on the basis of self-definition. The exception was self-employed workers in 1991, for whom hours worked was used. Those working more than 31 hours per week, 25 hours for teachers, were classified as full-timers. Comparability of the two methods of classifying full-time and part-time work are discussed in Appendix A6.2.

The longitudinal data reveal high levels of mobility between full-time work, part-time work and housewife status for group 2, but these were not as high as for group 1 in 1971/81. Table 6.8 shows group 2 mobility and the difference between this and group 1 mobility. The largest differences were between women who were housewives at both censuses (6.6 per cent fewer in group 2) and full-time at both censuses (5.7 per cent more in group 2). The concentration of negative values associated with housewife status reflect the stronger labour force attachment of group 2.

<b>Table 6.8 1981/91 Transitions between full-time and part-time work and housewife status for group 2 women, and group 1(71/81)/group 2(81/91) comparison</b>						
		1991				
1981	F/T (%)	g2-/g1 diff*	P/T (%)	g2-/g1 diff*	H/W (%)	g2-/g1 diff*
F/T (%)	21.6	+5.7	9.1	+1.9	8.0	-3.7
P/T (%)	8.3	+2.9	9.9	+2.4	2.8	-0.5
H/W (%)	8.8	-0.1	16.1	-2.0	15.5	-6.6
Total no. group 2 women					57065	

Source: ONS Longitudinal Study

#### Notes

This table includes group 2 (20-39 years old in 1981) women who were present in the LS in 1981 and 91 and who were either working full-time or part-time or housewives at the two census (85.4 per cent of the total). \*g2-g1 diff is the difference between the percentage of group 1(1971/81) and group 2 (1981/91) women in each in each cell of the table. Thus 15.9 per cent (21.6-5.7) of women in group 1 were working full-time in both 1971 and 81.

The group 1 distributions are for group 1 women who were present in the LS in 1971 and 1981 (total=58926) and who were either working full-time or part-time or housewives at the two census (92.1 per cent of the total).

The previous section showed how child-rearing typically precipitated part-time work and labour market withdrawal. Women in group 2 had higher levels of paid employment, both full-time and part-time, than group 1 women, for two reasons. In 1981 and 91 they were less likely to have dependent children to care for than group 1 had in 1971 and 81. Secondly, those that did have dependent children were more likely to work.

Child-rearing responsibilities are indicated by four sets of conditions in the two-census analysis used here. These are summarised in table 6.9. In the following two-census analyses, the 'none' category includes women who had older children who were non-dependent by the time of the first census (1971 for group 1, 1981 for group 2). Thus women with no childcare responsibilities at either census, including childless women and older mothers, were combined in a single category. The small group of mothers with non-dependent children at either census were not combined with the 'grown-up children' category because the latter represents mothers whose children became independent between censuses.

<b>Table 6.9. Child-rearing in the 2-census LS analysis: groups 1 and 2 compared</b>		
Child-rearing indicator	Group 1 1981 (%)	Group 2 1991 (%)
'NONE'; no dependent children in the household at this census or the last one	14.2	16.8
'NEW MUMS'; dependent children at this census, none at the last	19.4	19.8
'CONTINUING MUMS'; dependent children in the household at this census and at the last	52.2	42.3
'GROWN-UP CHILDREN'; no dependent children in the household at this census, but dependent children at the last	14.1	21.0
Total	56402	63424

Source: ONS Longitudinal Study

notes

The group 1 (20-39 years in 1971) distributions are for women who were present in the LS in 1971 and 1981 (total=58926) and for whom there was adequate data to classify child-rearing roles (95.7 per cent of the total). The group 2 (20-39 years in 1981) distributions are for women who were present in the LS in 1981 and 91 and for whom there was adequate data to classify child-rearing roles (94.9 per cent of the total).

Differences between groups 1 and 2 can be explained better if they are each further divided into their component ten-year cohorts (Table 6.10). Group 1 includes 1930s and 1940s-born LS members. Many of the 1940s-born LS members reappear in group 2, together with 1950s-born LS members. However the 1940s-born women in group 1 are a slightly different sample to those in group 2. In group 1 they were present in the LS in 1971, 81 and 91. Women born between 1942 and 51 ('40s' cohort members) who immigrated between 1971 and 81 would be in group 2 but not in group 1. Although the comparison is not a perfect one, they are matched closely enough to show how women in this generation progressed through motherhood.

Patterns of child-rearing among women in their thirties/forties in 1981/91: the effect of age.

A comparison of the 1981 and 91 child-rearing patterns of the 1940s-born in groups 1 and

2 shows how women progressed through the different child-rearing statuses as they got older. By 1991 there were fewer 40s-born women with no children because some women had their first children after 1981. This transition is represented by the 4.2 per cent who became 'new mums' in 1991. Women whose children were non-dependent in both 1981 and 91 added to the proportion in the 'none' category. 'Continuing mums' were those with dependent children at both censuses. Fewer of the 1940s-born cohort (43.9 per cent) were in this position in 1991 than they had been in 1981 (50.1 per cent). The biggest change was a rise, from 2.7 per cent in 1981 to 38.3 per cent in 1991, in the proportion whose children had since the previous census become non-dependent, in the 'grown-up children' category.

#### Child-rearing patterns among women in their forties: 1981 and 91 compared

This section compares the 1981 child-rearing statuses of the 30s-born cohort with those of the 40s-born cohort in 1991. The main difference was that women in the 40s-born cohort were less likely to be 'continuing mums' and were more likely to have children who had in the past ten years become non-dependent. This reflects differences in the average family size for these two cohorts. Average family size in England and Wales was 2.42 children per women born in 1934 and 2.36 for women born in 1939. For women born in 1944 the average was 2.21 children, falling further still to 2.08 for women born in 1949 (ONS, 1996, table 3 p9). Falling family size will almost inevitably shorten the time between first and last birth.

#### Child-rearing patterns among women in their thirties: 1981 and 91 compared

This section compares the 1981 child-rearing statuses of the 40s-born cohort with those of the 50s-born cohort in 1991. Childlessness at 30-39 was higher for those born in the 50s. This is also confirmed by fertility tables (ONS, 1996, table 4, p10). The biggest difference though between the two cohorts was that women in the 1950s cohort were less likely to be 'continuing mums' (40.7 per cent compared to 50.1 per cent). This reflects a fall in average family sizes and a tendency towards later childbearing.

Child-rearing indicator	Group 1 1971-81 (%)		Group 2 1981-91 (%)	
	30s cohort 30-39	40s cohort 20-29	40s cohort 30-39	50s cohort 20-29
age at outset				
'NONE'	13.9	14.5	13.6	20.1
'NEW MUMS'	4.2	32.6	4.2	36.0
'CONTINUING MUMS'	54.7	50.1	43.9	40.7
'GROWN-UP CHILDREN'	27.2	2.7	38.3	3.1
Total no. women	26214	30224	32323	31101

Source: ONS Longitudinal Study

notes

The group 1 (20-39 years in 1971) distributions are for women who were present in the LS in 1971 and 1981 (total=58926) and for whom there was adequate data to classify child-rearing roles (95.7 per cent of the total). The group 2 (20-39 years in 1981) distributions are for women who were present in the LS in 1981 and 91 and for whom there was adequate data to classify child-rearing roles (94.9 per cent of the total). There was more missing data on maternal status for the 40s-born cohort in 1981 than in 1991. This was mainly because this variable is based upon relationships within the household and younger women were more likely to be away from home.

Differences between groups 1 and 2 shown in table 6.9 reflect a trend towards delayed child-rearing and a shortening of the child-rearing period, attributable to a reduction in the average family size. Percentages in the 'none' category in table 6.9 include women who had older children who were non-dependent by the time of the first census. When women who had at some time given birth are removed, the percentages in this category fall to 12.9 and 15.0 per cent for cohorts 1 and 2, respectively.

In addition to these differences in child-rearing patterns, there were also differences between groups in employment participation rates for women at each child-rearing stage. Table 6.11 shows the 1981/91 mobility patterns between full-time, part-time and housewife status for group 2. It also shows the difference between the percentage of group 1 women

in the 1971/81 analysis and the percentage of group 2 women in the 1981/91 analysis in each cell of the mobility tables for the four child-rearing stages. The biggest differences between the two cohorts were between women with no children and, in particular, the 'new mums'. Women in group 2 who gained children between 1981 and 1991 were more than twice as likely to work full-time at both censuses than group 1 'new mums' had been. Their chances of switching to part-time work from full-time work were almost 50 per cent higher than for group 1 women in the 71/81 analysis. At all child-rearing stages group 2 women were less likely to become housewives. Whilst a third (34 per cent) of group 2 women went from full-time work to housewives, 47 per cent of group 1 women did this. There was also a large increase (9.1 per cent) in the 'none' category who worked full-time at both censuses.

<b>Table 6.11 1981/91 Transitions between full-time and part-time work and housewife status for different child-rearing stages: group 2 women and group 1(71/81)/group 2(81/91) comparison</b>						
<b>'none'</b>	1991(g2)					
1981(g2)	F/T (%)	<b>g2-/g1 diff*</b>	P/T (%)	<b>g2-/g1 diff*</b>	H/W (%)	<b>g2-/g1 diff*</b>
F/T (%)	74.5	<b>+9.1</b>	8.5	<b>+0.1</b>	3.0	<b>-3.7</b>
P/T (%)	3.9	<b>+0.2</b>	3.7	<b>-0.5</b>	0.8	<b>-1.0</b>
H/W (%)	1.3	<b>-0.8</b>	1.5	<b>-0.9</b>	2.6	<b>-2.5</b>
Total no. group 2 women					8359	
<b>'new mums'</b>	1991(g2)					
1981(g1)	F/T (%)	<b>g2-/g1 diff*</b>	P/T (%)	<b>g2-/g1 diff*</b>	H/W (%)	<b>g2-/g1 diff*</b>
F/T (%)	17.7	<b>+9.7</b>	31.7	<b>+10.7</b>	34.0	<b>-13.4</b>
P/T (%)	0.9	<b>0</b>	2.5	<b>-0.1</b>	2.7	<b>-0.8</b>
H/W (%)	1.6	<b>-0.6</b>	3.0	<b>-2.0</b>	5.9	<b>-3.8</b>
Total no. group 2 women					10707	
<b>'continuing mums'</b>	1991(g2)					
1981(g2)	F/T (%)	<b>g2-/g1 diff*</b>	P/T (%)	<b>g2-/g1 diff*</b>	H/W (%)	<b>g2-/g1 diff*</b>
F/T (%)	5.4	<b>+0.5</b>	1.8	<b>-0.5</b>	1.2	<b>-0.6</b>
P/T (%)	8.2	<b>+2.7</b>	10.6	<b>+2.6</b>	2.8	<b>-0.3</b>
H/W (%)	14.5	<b>+1.7</b>	29.0	<b>+0.1</b>	26.4	<b>-6.1</b>
Total no. group 2 women					24658	
<b>'g/up children'</b>	1991(g2)					
1981(g2)	F/T (%)	<b>g2-/g1 diff*</b>	P/T (%)	<b>g2-/g1 diff*</b>	H/W (%)	<b>g2-/g1 diff*</b>
F/T (%)	18.9	<b>+0.4</b>	3.7	<b>-1.6</b>	1.6	<b>-1.4</b>
P/T (%)	19.0	<b>+5.9</b>	20.7	<b>+3.6</b>	4.3	<b>-1.0</b>
H/W (%)	9.0	<b>-0.9</b>	11.3	<b>+0.1</b>	11.5	<b>-5.2</b>
Total no. group 2 women					11708	

Source: ONS Longitudinal Study

Notes

This table includes group 2 (20-39 years old in 1981) women who were present in the LS in 1981 and 91 and who were either working full-time or part-time or housewives at the two census and for whom there is data on child-rearing roles (82.9 per cent of the total).

\*g2-g1 diff is the difference between the percentage of group 1(1971/81) and group 2 (1981/91) women in each child-rearing status group in each cell of the table. Thus 65.4 per cent (74.5-9.1) of childless women in group 1 were working full-time in both 1971 and 81.

The group 1 distributions are for women who were present in the LS in 1971 and 1981 (total=58926) and who were either working full-time or part-time or housewives at the two census and for whom there is data on child-rearing roles(89.0 per cent of the total). This included women in the child-rearing categories as follows:

'none'	6890
'new mums'	10142
'continuing mums'	28071
'g/up children'	7356

**6.5 Part-time work is 'women's work': the effect of part-time work and labour market withdrawal on segregation patterns**

This section uses three-census data for group 1 and 2-census data for groups 1 and 2 to show how part-time work influenced women's experiences of occupational segregation. This addresses question 2 (section 6.1). Most transitions between full-time and part-time work made by groups 1 and 2 precipitated high levels of gendered jobs mobility.

The previous section demonstrated a strong association between full-time/part-time transitions and motherhood. A separate analysis of the 1971/81 experiences of group 1 (not shown) investigated whether motherhood or part-time work was more responsible for increased levels of segregation. Part-time work emerged as the dominant factor. Transitions into and out of part-time work generated characteristic segregation patterns which described the experiences of women at all child-rearing stages. The effect of motherhood on segregation patterns was weakened by the diversity of employment strategies adopted by women at each stage of the life course.

**6.5.1 Part-time work and group 1's experiences of occupational segregation**

Transitions between full-time and part-time work generated high levels of gendered jobs mobility for group 1. Table 6.12 shows how 71/81 and 81/91 mobility between male, mixed and female jobs for group 1 women was influenced by employment status. Full mobility tables are given in appendices A6.4-6.6. In the 1981/91 analysis there were higher

levels of mobility into more feminised occupations and lower levels of mobility into less feminised jobs than in the 1971/81 analysis. This largely reflects feminisation in the employment structure, which led to an increase in female-typed workers in 1991 (discussed more fully in section 6.2 above). Women who shifted from full-time to part-time jobs were most likely to move to more feminised occupations, if the segregation of their occupation changed at all. In each two-census analysis over a half of these women remained within the same gendered occupations category. Of those who moved, in 1981 they were twice as likely to move to more rather than less feminised occupations, and more than three times as likely to do so in 1991. Women who had the same status at both censuses had least gendered job mobility. Shifts from part-time to full-time work generated the largest moves into less feminised occupations.

The same relationship between part-time work and segregation is seen when the 1971 and 91 occupations of women in group 1 are compared. The 1971/91 comparison includes, by necessity, only those women who were in paid work in 1971 and 91. These women had to be either in paid work or housewives in 1981 to be included in the table. An analysis of 71/91 transitions controlling for 1981 status (results not shown here) revealed that whether women were workers or housewives in 1981 had no clear effect on transitions between male, mixed and female occupations from 1971-91. This was not the case for vertical mobility (Chapter 7, section 7.3.3).

<b>Table 6.12 Full-time/ part-time transitions and gendered jobs mobility for group 1 women 1971/81, 1981/91 and 1971/91.</b>				
<b>71/81 mobility*</b>				
transitions	no. women	less feminised (%)	same (%)	more feminised (%)
FT/FT	8562	21.5	64.0	14.5
FT/PT	3893	14.8	56.8	28.3
PT/FT	2909	28.6	55.4	16.0
PT/PT	4054	15.0	66.1	18.9
<b>81/91 mobility*</b>				
transitions	no. women	less feminised (%)	same (%)	more feminised (%)
FT/FT	9358	15.9	58.2	25.9
FT/PT	2370	10.8	53.7	35.5
PT/FT	4893	22.8	57.6	19.6
PT/PT	8147	11.9	68.4	19.7
<b>71/91 mobility*</b>				
transitions	no. women	less feminised (%)	same (%)	more feminised (%)
FT/FT	7245	20.2	53.4	26.3
FT/PT	5235	12.0	50.9	37.1
PT/FT	2670	26.0	52.4	21.5
PT/PT	2911	14.5	60.2	25.4

Source: ONS Longitudinal Study

Notes

\* 71/81 mobility is based upon the occupational transitions of group 1 women who were present in the LS in 1971 and 1981 and who worked full-time or part-time at each census (33 per cent of the total)

81/91 mobility is based upon the occupational transitions of group 1 women who were present in the LS in 1971,81 and 91 and who worked full-time or part-time in 1981 and 91 (45.9 per cent of the total).

71/91 mobility is based upon the occupational transitions of group 1 women who were present in the LS in 1971,81 and 91 and who worked full-time or part-time in 1981 and 91 and who were either in work or housewives in 1981 (33.5 per cent of the total)

Full-time and part-time workers were defined in 1971 on the basis of hours worked: those working more than

31 hours per week, 25 hours for teachers, were classified as full-timers.

In 1981 and 91, workers were classified as full-time or part-time on the basis of self-definition. The exception was self-employed workers in 1991, for whom hours worked was used. For this latter group the 1971 criteria were applied. Comparability of the two methods of classifying full-time and part-time work are discussed in Appendix A6.2

Mobility is determined by movements between occupations which are male, mixed and female-typed. Mixed occupations are 30-70 per cent female.

### **6.5.2 Part-time work and occupational segregation: groups 1 and 2 compared**

For group 2 women transitions between full-time and part-time work in the 1980s were also associated with high levels of gendered jobs mobility, shown in table 6.13. As for group 1, women moving into full-time work from part-time work were most likely to move to less feminised jobs, whilst the reverse was true for women switching to part-time from full-time work.

Women in group 2 had higher levels of mobility into more feminised occupations than group 1 women in 1971/81 even when controlling for 81/91 changes in employment status.

They also had lower levels of mobility into less feminised jobs. Most of this difference between the two groups can be traced to higher rates of mobility between mixed and female-typed occupations for group 2 (appendices 6.4 and 6.7), due to change in the employment structure over the 1980s.

These changes make it difficult to untangle cohort and period effects. The strong similarities between the mobility patterns of groups 1 and 2 in 1981/91 (in tables 6.12 and 6.13 and also in appendices 6.5 and 6.7) suggest that when change in employment status is taken into account, age had little effect on women's experience of gendered jobs mobility. Mobility into more feminised jobs was almost the same for group 1 and group 2 women who made the same transitions between full-time and part-time work. Group 2 women were only a little more likely than group 1 to move to less feminised jobs (tables 6.12 and 6.13).

<b>Table 6.13 Full-time/ part-time transitions and gendered jobs mobility for group 2 women 1981/91 and group 1(71/81)/group 2(81/91) comparison</b>							
<b>81/91 mobility*</b>							
transitions	no. women	less feminised (%)	g2-/g1 diff*	same (%)	g2-/g1 diff*	more feminised (%)	g2-/g1 diff*
<b>FT/FT</b>	12330	18.7	<b>-2.8</b>	55.9	<b>-8.1</b>	25.4	<b>+10.9</b>
<b>FT/PT</b>	5185	11.8	<b>-3.0</b>	51.3	<b>-5.5</b>	36.9	<b>+8.6</b>
<b>PT/FT</b>	4593	23.6	<b>-5.0</b>	57.4	<b>+2.0</b>	19.1	<b>+3.1</b>
<b>PT/PT</b>	5660	14.0	<b>-1.0</b>	66.1	<b>0</b>	19.9	<b>+1.0</b>

Source: ONS Longitudinal Study

Notes

\* 71/81 mobility for group 1 is based upon the occupational transitions of women who were present in the LS in 1971 and 1981 and who worked full-time or part-time at each census (33 per cent of the total)

81/91 mobility for group 2 is based upon the occupational transitions of women who were present in the LS in 1981 and 91 and who worked full-time or part-time in 1981 and 91 (41.5 per cent of the total).

Full-time and part-time workers were defined in 1971 on the basis of hours worked: those working more than 31 hours per week, 25 hours for teachers, were classified as full-timers.

In 1981 and 91, workers were classified as full-time or part-time on the basis of self-definition. The exception was self-employed workers in 1991, for whom hours worked was used. For this latter group the 1971 criteria were applied. Comparability of the two methods of classifying full-time and part-time work are discussed in Appendix A6.2

Mobility is determined by movements between occupations which are male, mixed and female-typed. Mixed occupations are 30-70 per cent female.

## **6.6 Conclusions**

This chapter investigated patterns of gender concentration and mobility across male, mixed and female-typed jobs for LS members over the 1971, 81 and 91 censuses. Two groups were compared. The first, born between 1931 and 51, were aged 20-39 in 1971. The second were born between 1941 and 51 and were aged 20-39 in 1981.

Several questions, unanswered in existing research and listed at the beginning of this chapter, can now be addressed:

*1 Is it motherhood itself or part-time working that affects women's experiences of segregation?*

Women's experiences of segregation were influenced by whether they worked full- or part-

time, rather than motherhood itself. Child-rearing typically involved shifts from full-time employment either to part-time work or labour market withdrawal. Transitions into and out of part-time work were associated with characteristic patterns of segregation, because it is concentrated in highly feminised occupations. However the effect of motherhood on segregation was mediated by the employment strategies that mothers adopted over child-rearing.

*2 To what extent do transitions to part-time work lead women into more segregated occupations?*

Amongst women who worked after having children, most shifted from full-time to part-time work. Such shifts tended to lead women into more feminised occupations. Those shifting from part-time to full-time work typically moved in the opposite direction, from female-typed jobs to mixed (or occasionally) male ones. However there were other moves in all directions. Stability within male, mixed and female occupations was highest for those who remained either full-time or part time.

*3 Are women who work part-time or withdraw completely from the labour force over child-rearing more likely to have worked in feminised occupations prior to having children?*

Employment participation patterns over child-rearing varied between occupational groups, and between male, mixed and female-typed occupations. Women who started out in male or mixed occupations were more likely to work full-time consistently than those starting out in female-typed occupations. This pattern was found in the first-decade analysis for groups 1, the second-decade analysis for group 2 and in the two-decade analysis for group 1. However chapter 8 ( section 8.5.2) argues that this association is not strong enough to support the prediction of stable career paths within gender-typical and a-typical occupations suggested by human capital accounts of occupational segregation.

*4 How does the age at which women become mothers affect these patterns?*

Women who became mothers at an older age were less likely to become housewives and more likely to remain in full-time employment than young mothers.

5 *Are these patterns changing over time?*

There were intergenerational differences, in both child-rearing and employment participation patterns. The second group, born in the 40s and 50s, were less likely to have dependent children to care for than the first group, born in the 30s and 40s. This reflects a tendency among the later cohort for delayed child-bearing and a fall in average family sizes. Amongst both mothers and childless women, those born in later decades were more likely to work, both full- and part-time.

Despite their stronger labour-force attachment, working women in group 2 were more likely to work in feminised occupations than group 1 had been. This was because of broader patterns of occupational feminisation, addressed by question 6.

6 *What influence has change in the industrial structure had on these patterns of occupational mobility?*

The occupational paths and segregation patterns described in this chapter have to be interpreted in their broader context. Chapter 4 described how the occupational structure was shaped over the 70s and 80s by several processes: deindustrialization, employment deregulation and feminisation of the labour force. The latter in particular influenced segregation patterns observed in the LS. For example between 1981 and 91 individuals may have moved from male to mixed or from mixed to female occupations without changing jobs. This was because increasing numbers of women, who generally reinforced existing concentration patterns, pushed occupations into the more feminised category. This also influenced 'real' occupational changes. As a result, mobility into female-typed occupations was higher for women and men in groups 1 and 2 in the 1981/91 analyses than it had been for group 1 in the 71/81 analysis. Men in both groups became less heavily concentrated in male occupations, whilst women became more concentrated in female-typed occupations. This leads us to the final question.

7 *How do the patterns of occupational mobility for women compare to those for men?*

In both groups men were more heavily concentrated in male-typed jobs than women were

in female-typed jobs. Typically around three-quarters of men were in male occupations, compared to less than half of women in female-typed occupations. Longitudinally, women experienced more mobility between male, mixed and female occupations than men. Women's concentration in female-typed occupations rose around child-rearing, and was linked to part-time work. Men avoided these fluctuations in their experiences of segregation. The effects of this increased stability, in terms of occupational attainments, are discussed in the next chapter.

### Notes

1. In the 71/81 analysis group 1 women were less likely to be in female-typed occupations and more likely to be in male or mixed occupations than the all-age sample in 1981. Distributions for 1981 generated by the 1981/91 analysis show that women were more likely to be in female-typed occupations (53.1 compared to 52.4 per cent ) and less likely to be in male-typed occupations (9.2 and 10.4 per cent) than the all-age sample. This difference is due to the inclusion of more women in the initial, pre-child-rearing stage of their careers in the 71/81 analysis (many of whom were absent in 81/91) and returners in the 81/91 analysis. The latter were absent in 71/81 because they were not in employment in 1971. These returners were more likely to be in more feminised occupations, and they account for the 4.7 per cent difference in group 1 women's share of female occupations in 1981 in the 71/81 and 81/91 analyses. Similarly there were 1.6 per cent fewer group 1 women in male occupations in 1981 in the 81/91 analysis, and 3.1 per cent fewer in mixed occupations.

2. Categories could have been re-grouped so that full-time workers and the unemployed were combined into a single block, with a second group of part-time workers and housewives, and then the same third combination of retired and long-term sick men. However the important point which any grouping would emphasise is the dominance of full-time employment; the number of men working part-time is negligible when compared with women.

## **CHAPTER 7 LADDERS AND SNAKES- SEX SEGREGATION. PART-TIME WORK AND THE JOBS HIERARCHY.**

### **7.1 Introduction**

This chapter extends the analysis of the previous one by considering LS members' mobility within the vertical occupational structure. It compares the positions and mobility of women and men in group 1 (aged 20-39 in 1971) in the jobs hierarchy in 1971, 81 and 91. The effects of working part-time and of labour market withdrawal are investigated. These patterns are contrasted with those of women and men in group 2 (aged 20-39 in 1981) to compare the experience of the 80s with the 90s for people of the same age. The all-age LS cross-sections described in Chapter 4 indicate the relative position of each group in the vertical hierarchy.

Information on horizontal and vertical segregation is combined to reveal the relationship between occupational sex-type and social class. This very detailed analysis sometimes uses the same tables and graphs to make more than one comparison. Statistical modelling techniques summarise the key relationships between horizontal and vertical segregation and part-time work.

Chapter 1 listed important questions which are of theoretical interest yet remain unanswered in existing research. Some were dealt with in chapter 6. This chapter addresses the following remaining questions (numbered as in section 1.4):

8. *To what extent are moves to more feminised occupations also the downward moves?*
9. *How many of these transitions also involve part-time work?*
10. *Do women full-timers who worked continuously through the family formation phase of their lives fare differently, in terms of occupational attainments and segregation, to those full-timers who worked part-time when they had young children?*
11. *How do the experiences of consistent full-time workers and those with both full-*

*time and part-time jobs recorded compare to women who are not observed in any paid work at this time?*

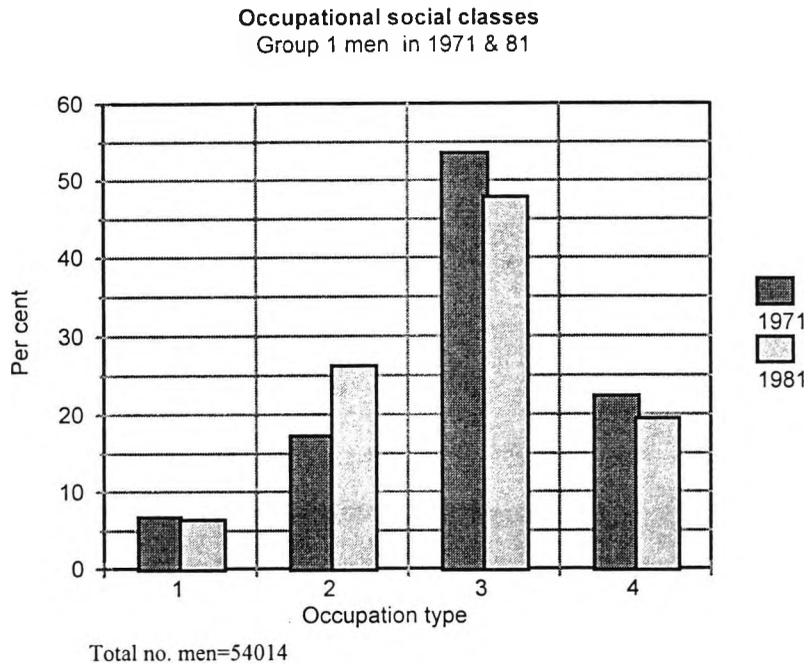
5. *Are these patterns changing over time?*
6. *What influence has change in the industrial structure had on these patterns of occupational mobility?*
7. *How do the patterns of occupational mobility for women compare to those for men?*

### **7.1.1 Defining vertical mobility**

The following analysis of vertical mobility used information on occupation and employment status to allocate LS members to one of four social classes, broadly based on the Registrar General's social classification. It is acknowledged that categorising the vertical hierarchy in this way may generate different mobility patterns to other studies which adopt alternative approaches. In this scheme, social classes III (non-manual) and (manual) were combined to create a single category of skilled workers. This was because the vertical direction of shifts between non-manual and manual occupations was not always clear. Thus, in the mobility tables below, shifts from skilled non-manual to skilled manual jobs do not appear as vertical moves (in the 1971/81 analysis of group 1 this only affected less than 1 per cent of the women/men). Similarly the reverse shifts from skilled manual jobs to skilled non-manual jobs (involving less than 2 per cent of women and men in the 1971/81 group 1 analysis) are also invisible.

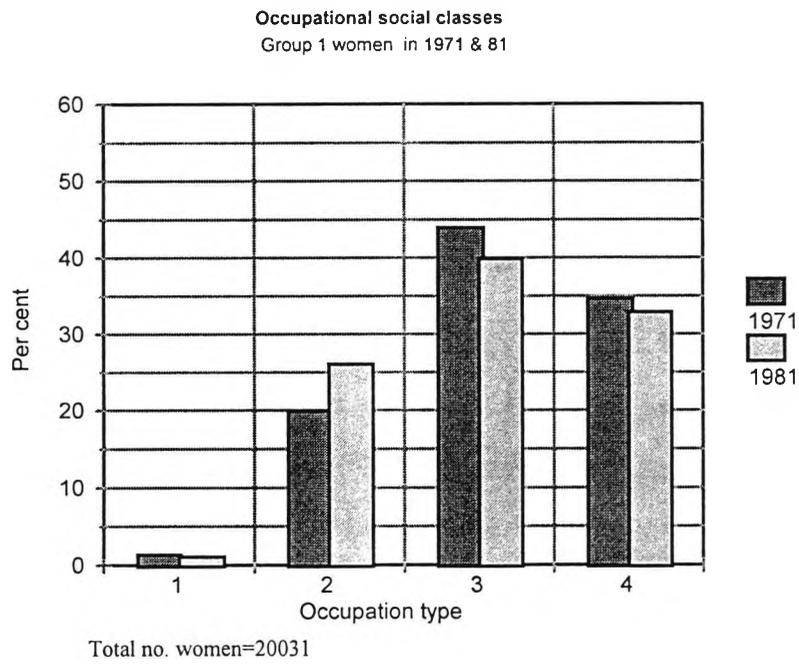
A further difference is that sales assistants have been placed in the fourth category with semi- and unskilled workers, as in chapter 4. Semi-skilled, unskilled and sales workers were combined in a single class because, as with skilled workers, the vertical direction of shifts between these occupational social classes is unclear. Shifts from semi-skilled to unskilled and sales occupations (involving 3.6 per cent of women and 1.1 per cent of men in the 1971/81 analysis of group 1) and from unskilled and sales occupations to semi-skilled occupations (3.1 per cent of women and 1.7 per cent of men, 1971/81 group 1 analysis) have thus become invisible in the mobility tables. People had to be present in the LS and either employees or self-employed at the relevant census dates to be included

Figure 7.1



Source: ONS Longitudinal Study

Figure 7.2



Source: ONS Longitudinal Study

in the following tables (as in Chapter 6).

## **7.2. Women's and men's vertical mobility over the 70s and 80s**

This section compares the vertical mobility patterns of women and men in group 1 over the 70s and 80s. These are then compared with group 2's experiences over the 80s.

The growth of managerial and technical occupations over the 80s boosted upward mobility, especially for women and men in group 2. Despite this, comparison with the all-age sample reveals that group 2 occupied a similar 1991 position in the vertical structure as group 1 in 1981, when both were aged 30-49 years.

### **7.2.1. Group 1, first decade**

Figure 7.1 shows the 1971 and 81 distributions of men in group 1 across the four occupational social classes described above. Note that in 1971 these men were aged 20-39, in 1981 they were 30-49 and they were present in the LS and working in both years.

Over the 1970s there was more upward than downward mobility for group 1 men. The fall in the proportion of group 1 men in professional occupations was artefactual<sup>(1)</sup>.

The 1971 and 81 occupational social classes for group 1 women are shown in figure 7.2. Like the men, the proportion of women in the managerial and technical class rose. However they tended to be lower down the jobs hierarchy than the men. Fewer women than men were in professional occupations, more were in semi- and unskilled and sales occupations.

Both women and men in group 1 were well-placed in the vertical hierarchy in comparison to the all-age sample (table 7.1). Group 1 women and men were over-represented in professional and managerial and technical occupations in 1971 and under-represented in semi- and unskilled work at both censuses.

Occupational social class	Group 1			
	Men		Women	
	1971	1981	1971	1981
1. Professional	1.2	1.0	1.4	1.0
2. Managerial & technical	1.0	1.1	1.2	1.2
3. Skilled	1.1	1.0	1.1	1.0
4. Semi- & unskilled	0.8	0.8	0.8	0.9

Source: ONS Longitudinal Study

Notes

This table compares the observed/expected numbers of group 1 women and men in each occupational social class in 1971 and 81. Observed numbers are based on group 1 members who were present in the LS in 1971, 81 and 91 and working in both 1971 and 81. Expected numbers are based on an all-age 'average' for each sex derived from the LS all-age sample (chapter 4 table 2)

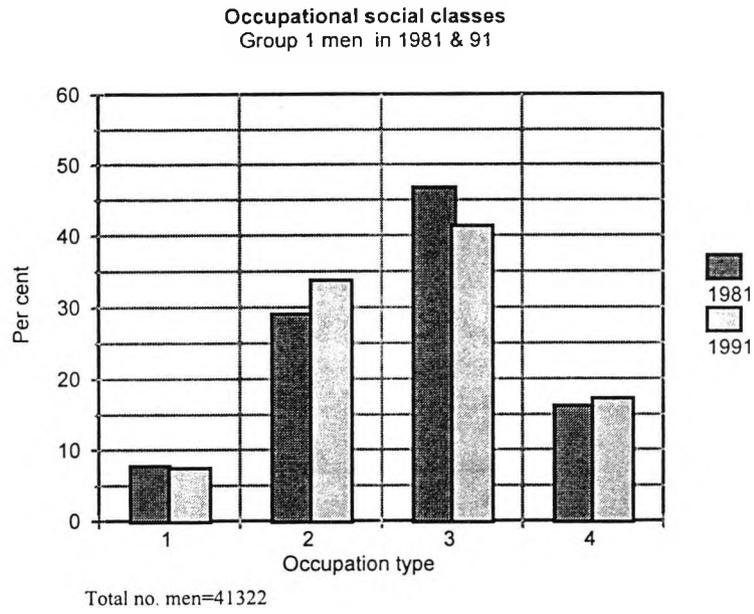
Table 7.2 shows the full extent of group 1's vertical mobility over the 1970s. Percentages on the main diagonal represent workers who were in the same social class at both censuses. Those in the off-diagonal cells were either upwardly mobile (below the diagonal) or downwardly mobile (above the diagonal). For men the commonest move was from skilled to managerial and technical occupations (9.3 per cent). For women the most frequent move was also from skilled occupations, but in the opposite direction, from skilled to semi- and unskilled and sales occupations. However this was almost matched by the percentage of women moving up into skilled work from semi and unskilled and sales work. There was more upward mobility amongst men.

The information in table 7.2 is summarised in table 7.3, which shows the amounts of upward and downward mobility for women and men in each 1971 social class. Men in each class were more likely to be upwardly mobile and less likely to be downwardly mobile than women. The exception was managerial and technical occupations, from which rates of downward mobility were the same for women and men. Amongst those who were in skilled occupations in 1971, men were more likely to have been upwardly mobile over the 1980s, whilst women were more likely to have moved down.

Table 7.2 1971 and 1981 Vertical mobility patterns for women and men in group 1.					
Men		1981 social class			
1971 social class	Professional	Managerial & technical	Skilled	Semi- & unskilled	
1. Professional	3.7	2.2	0.7	0.1	
2. Managerial & technical	1.1	12.4	2.9	0.9	
3. Skilled	1.4	9.3	35.9	7.0	
4. Semi- & unskilled	0.2	2.4	8.4	11.4	
Up	22.8	No change	63.4	Down	13.8
Total no. workers = 54014 (100%)					
Women		1981 social class			
1971 social class	Professional	Managerial & technical	Skilled	Semi- & unskilled	
1. Professional	0.5	0.5	0.2	0.1	
2. Managerial & technical	0.3	15.3	2.7	1.7	
3. Skilled	0.2	6.8	28.2	8.9	
4. Semi- & unskilled	0.1	3.5	8.8	22.3	
Up	19.6	No change	66.3	Down	14.1
Total no. workers = 20031 (100%)					

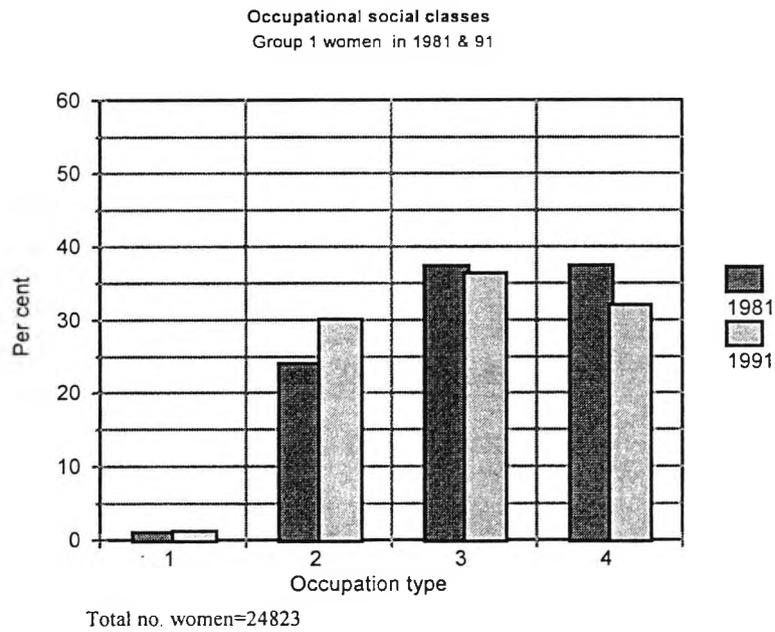
Source: ONS Longitudinal Study

Figure 7.3



Source: ONS Longitudinal Study

Figure 7.4



Source: ONS Longitudinal Study

<b>Table 7.3 1971 to 1981 Mobility table, women and men in group 1</b>						
	Men			Women		
1971 social class	1981			1981		
	no. men	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	3638	**	45.2	274	**	60.2
2. Managerial & technical	9345	6.5	21.9	4009	1.7	21.9
3. Skilled	28943	19.9	13.1	8806	15.8	20.2
4. Semi- & unskilled	12088	49.0	**	6942	35.7	**
Total no. Workers	54014	22.8	13.8	20031	19.6	14.1

Source: ONS Longitudinal Study

### **7.2.2. Group 1, second decade**

Figures 7.3 and 7.4 show the 1981 and 1991 occupational social classes of group 1 women and men who were present in the LS in 1971, 81 and 91 and working at both 1981 and 1991 censuses<sup>(2)</sup>.

In the 1980s there was less net change in the occupational social classes of group 1 men than there had been in the 70s. The biggest 81/91 difference for men was a 5.5 per cent fall in the percentage in skilled occupations. Percentages rose in both managerial and technical occupations (by 4.7 per cent) and in semi and unskilled and sales occupations.

The 1981 and 91 distributions of group 1 women across occupational social classes show an unambiguously upward net trend over the 1980s; percentages in professional and managerial and technical occupations rose, whilst percentages in the bottom two classes fell. However in both 1981 and 91 group 1 women were still much less likely than group 1 men to be in the top two classes, and twice as likely to be in the bottom two.

Group 1 women were also not doing as well as group 1 men relative to the all-age sample (table 7.4). The observed : expected ratios for 1981 in table 7.4 differ from those in table 7.1 because of the compositional differences (see note 2). Women were under-represented in professional and skilled occupations. Their declining representation in professional occupations, shown by tables 7.1 and 7.4, reflects a sharp rise in younger women in the professions, rather than an absolute fall in the number of group 1 women. Both women and men in group 1 were over-represented in managerial and technical occupations, men more so than women.

Occupational social class	Group 1			
	Men		Women	
	1981	1991	1981	1991
1. Professional	1.3	1.1	0.9	0.6
2. Managerial & technical	1.2	1.2	1.1	1.1
3. Skilled	1.0	1.0	0.9	1.0
4. Semi- & unskilled	0.7	0.8	1.0	1.0

Source: ONS Longitudinal Study

Notes

This table compares the observed/expected numbers of group 1 women and men in each occupational social class in 1981 and 91. Observed numbers are based on group 1 members who were present in the LS in 1971, 81 and 91 and working in both 1981 and 91. Expected numbers are based on an all-age 'average' for each sex derived from the LS all-age sample (chapter 4 table 2)

The full extent of group 1's vertical mobility between 1981 and 91 is shown in table 7.5. In contrast with the 1970s, over the 1980s group 1 women had more upward mobility and less downward mobility than group 1 men (1971/91 vertical mobility for women and men is compared in section 7.3.3). Whilst the most frequently-made move for men continued to be from skilled to managerial occupations, women were most likely to be upwardly mobile into skilled work from semi-skilled and unskilled occupations.

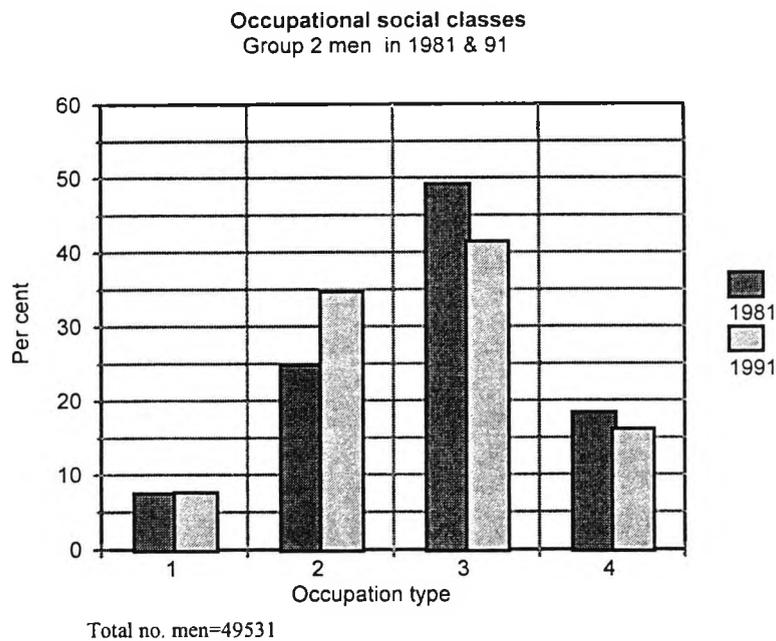
**Table 7.5 1981 and 1991 Vertical mobility patterns for women and men in group 1.**

Men		1991 social class			
1981 social class		Professional	Managerial & technical	Skilled	Semi- & unskilled
1. Professional	4.7	2.4	0.6	0.2	
2. Managerial & technical	1.7	22.0	4.2	1.2	
3. Skilled	1.0	8.0	32.1	5.8	
4. Semi- & unskilled	0.2	1.5	4.5	10.1	
Up	16.8	No change	68.8	Down	14.4
Total no. workers = 41322 (100%)					
Women		1991 social class			
1981 social class		Professional	Managerial & technical	Skilled	Semi- & unskilled
1. Professional	0.7	0.2	0.1	0.0	
2. Managerial & technical	0.3	18.9	3.0	1.8	
3. Skilled	0.1	7.0	25.1	5.2	
4. Semi- & unskilled	0.0	4.0	8.3	25.1	
Up	19.8	No change	69.9	Down	10.3
Total no. workers = 24823 (100%)					

Source: ONS Longitudinal Study

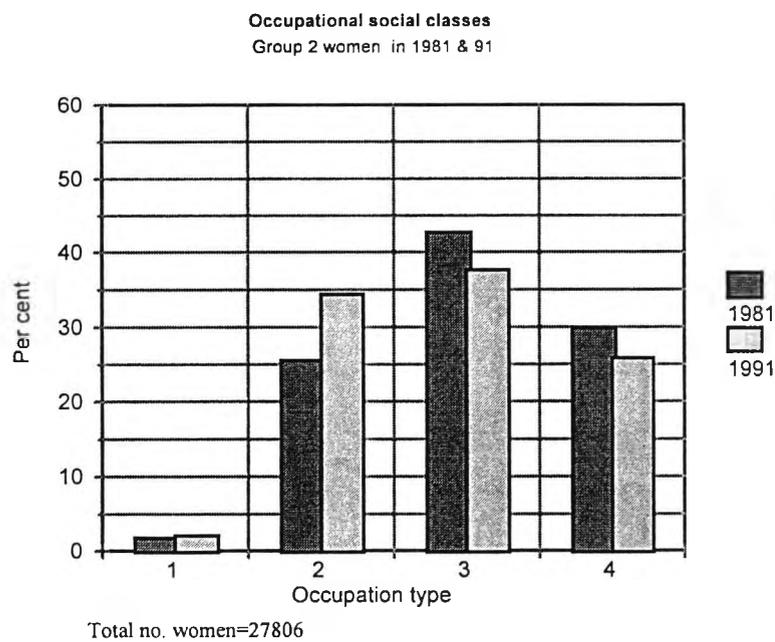
The transitions shown in table 7.5 are summarised in table 7.6. For women and men in almost every 1981 social class, both upward and downward mobility rates were lower than they had been over the 1970s (table 7.3). The exception was women, for whom upward mobility from skilled occupations was higher than it had been in the 70s (a reversal of the previous decade when women in skilled occupations were more likely to move down than up).

Figure 7.5



Source: ONS Longitudinal Study

Figure 7.6



Source: ONS Longitudinal Study

<b>Table 7.6 1981 to 1991 Mobility table, women and men in group 1</b>						
	Men			Women		
1981 social class	1991			1991		
	no. men	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	3238	**	40.5	261	**	29.1
2. Managerial & technical	12021	5.9	18.5	5978	1.4	20.0
3. Skilled	19366	19.1	12.4	9284	19.1	13.8
4. Semi- & unskilled	6697	38.0	**	9300	32.9	**
Total no. Workers	41322	16.8	14.4	24823	19.8	10.3

Source: ONS Longitudinal Study

### **7.2.3. Group 2, second decade**

Group 2 members were aged 20-39 in 1981. Their 1981/91 transitions have been contrasted with group 1 transitions between 1971 and 81 to compare the experiences of younger adults over the 70s and 80s.

Figure 7.5 shows the 1981 and 91 distributions of group 2 men across occupational social classes. The growth of occupations in the managerial and technical class is reflected in the higher proportion of group 2 men in this class compared to group 1 men in 71/81. By 1991, over a third (34 per cent) were in managerial and technical occupations, compared to just over a quarter (26 per cent) of group 1 men in 1981. The graph suggests that, like group 1 in 1971/81, there was net upward mobility.

Women in group 2 were also upwardly mobile over the 1980s (figure 7.6). Group 1 and 2 differences were greater for women than for men. Group 2 women, like group 2 men, were more likely to be in managerial and technical occupations than group 1 women had been (34 per cent of group 2 in 1991 compared to 26 per cent of group 1 in 1981). They were also less likely to be at the bottom of the hierarchy in 1991 (26 per cent in semi and

unskilled and sales occupations compared to 33 per cent in group 1 in 1981).

The positions of groups 1 and 2 relative to the all-age sample have been compared (table 7.7). Group 2, born in the 40s and 50s, occupied a similar position in the vertical hierarchy as group 1 had in 1971/81. A new feature was the over-representation of group 2 women in professional occupations 1981. This difference had disappeared by the 1991 census, even though downward mobility for women in group 2 was relatively low over the 1980s (shown later in table 7.9). Rates of downward mobility over the 1980s were lower for group 2 women than for group 2 men, and lower than for group 1 women over the 70s. This reflects their stronger labour force commitment. The decline in their relative share of professional occupations relative to the all-age sample, as for group 1, stems from a sharp rise in the proportion of younger women in these occupations over the 80s.

Occupational social class	Group 2			
	Men		Women	
	1981	1991	1981	1991
1. Professional	1.2	1.1	1.6	1.0
2. Managerial & technical	1.0	1.2	1.2	1.2
3. Skilled	1.1	1.0	1.1	1.0
4. Semi- & unskilled	0.8	0.8	0.8	0.8

Source: ONS Longitudinal Study

Notes

This table compares the observed/expected numbers of group 2 women and men in each occupational social class in 1981 and 91. Observed numbers are based on group 2 members who were present in the LS in 1971, 81 and 91 and working in both 1981 and 91. Expected numbers are based on an all-age 'average' derived from the all-age sample (chapter 4 table 2)

<b>Table 7.8 1981 and 1991 Vertical mobility patterns for women and men in group 2</b>				
<b>Men</b>		<b>1991 social class</b>		
<b>1981 social class</b>	<b>Professional</b>	<b>Managerial &amp; technical</b>	<b>Skilled</b>	<b>Semi- &amp; unskilled</b>
1. Professional	4.3	2.5	0.6	0.1
2. Managerial & technical	1.7	18.7	3.5	1.0
3. Skilled	1.3	11.0	31.3	5.6
4. Semi- & unskilled	0.3	2.6	6.1	9.4
Up 23.0	No change 63.8		Down 13.2	
Total no. workers = 49531 (100%)				
<b>Women</b>		<b>1991 social class</b>		
<b>1981 social class</b>	<b>Professional</b>	<b>Managerial &amp; technical</b>	<b>Skilled</b>	<b>Semi- &amp; unskilled</b>
1. Professional	1.2	0.4	0.1	0
2. Managerial & technical	0.5	20.0	3.3	1.8
3. Skilled	0.3	9.9	26.2	6.3
4. Semi- & unskilled	0.1	4.2	8.0	17.7
Up 22.9	No change 65.1		Down 12.0	
Total no. workers = 27806 (100%)				

Source: ONS Longitudinal Study

Table 7.8 shows 1981/91 vertical mobility patterns for women and men in group 2. In contrast to group 1 over the 1970s, women in group 2 had less downward mobility than the men over the 1980s. The most common move for group 2 women was from skilled to managerial and technical occupations (9.9 per cent). This contrasts with the 71/81 mobility of women in group 1, who were most likely to be moving from skilled work into semi- and unskilled work.

These moves are summarised in the mobility table below (table 7.9). Group 2 women had less downward mobility from professional occupations than group 2 men. They were also about half as likely to move down from professional occupations as group 1 women had been in 71/81 (table 7.3).

1981 social class	Men			Women		
	1991			1991		
	no. men	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	3725	**	42.4	498	**	32.3
2. Managerial & technical	12285	6.7	17.9	7102	2.0	19.9
3. Skilled	24402	25.0	11.4	11881	23.7	14.9
4. Semi- & unskilled	9119	48.8	**	8325	40.8	**
Total no.	49531	23.0	13.2	27806	22.9	12.0

Source: ONS Longitudinal Study

### **7.3 Part-time work, labour market withdrawal and vertical occupational mobility**

Mobility between the four social classes was much higher for women who changed between working full-time and part-time. Women who worked full-time at each census tended to be upwardly mobile. Women who worked part-time at each census were also upwardly mobile, though less so than the full-timers. Downward mobility was highest for those switching from full-time to part-time status, whilst those changing from part-time to full-time had most upward mobility.

#### **7.3.1 The impact of part-time work on group 1's vertical mobility: experiences over the 1970s**

Table 7.10 shows the 1971 and 1981 occupational social classes of group 1 women, shown separately for women with different full-time/part-time career-types. Women who worked full-time in both 1971 and 81 were better represented at the top of the hierarchy in both

1971 and 81 than those who had part-time employment in their LS career histories. The twice full-timers' vertical ranking improved between censuses. This net upward mobility contrasts with mobility patterns for those who shifted from full-time to part-time. The 1971 social class composition of this group was closest to that of the full-time/full-timers in 1971. By 1981 however their ranking had slipped, and the women who had been part-time in 1971 but were full-time in 1981 now more closely resembled the full-time/full-timers. The association between low-status occupations and part-time work is emphasised by the concentration of women who worked part-time at both censuses at the bottom of the hierarchy.

<b>Table 7.10 The 1971 and 1981 occupational social classes of group 1 women. by career-type</b>				
Social Class	full-time/full-time		full-time/part-time	
	1971(%)	1981(%)	1971(%)	1981(%)
1. Professional	1.7	1.5	1.3	0.8
2. Managerial and technical	25.3	34.0	20.9	20.8
3. Skilled	51.0	45.8	52.3	34.6
4. Semi- & unskilled	22.0	18.7	25.4	43.9
Total no.	8395	8395	3781	3781
Social Class	part-time/full-time		part-time/part-time	
	1971(%)	1981(%)	1971(%)	1981(%)
1. Professional	0.8	0.8	1.1	0.7
2. Managerial and technical	17.1	28.8	11.3	14.2
3. Skilled	34.2	42.5	28.9	30.4
4. Semi- & unskilled	47.9	27.9	58.7	54.7
Total no.	2882	2882	4017	4017

Source: ONS Longitudinal Study

These cross-sections understate the full extent of vertical mobility by career pattern. This is shown in table 7.11. For those working full-time in both 1971 and 81, most upward mobility was from skilled to managerial and technical occupations. Women who worked

<b>Table 7.11 1971/81 Vertical mobility patterns for group 1 women, by career-type.</b>				
<b>Full-time/full-time</b>		1981 social class		
1971 social class	1	2	3	4
1	0.7	0.8	0.2	0.0
2	0.5	20.9	2.8	1.1
3	0.3	9.7	36.1	4.9
4	0.0	2.7	6.7	12.6
Up 19.9	No change	70.3	Down	9.8
Total no. workers = 8395				
<b>Full-time/part-time</b>		1981 social class		
1971 social class	1	2	3	4
1	0.4	0.4	0.4	0.1
2	0.3	13.7	3.7	3.3
3	0.1	5.0	26.5	20.8
4	0.0	1.7	4.0	19.7
Up 11.1	No change	60.2	Down	28.7
Total no. workers = 3781				
<b>Part-time/full-time</b>		1981 social class		
1971 social class	1	2	3	4
1	0.3	0.4	0.1	0.0
2	0.2	13.5	2.3	1.1
3	0.1	6.6	22.5	5.1
4	0.2	8.4	17.6	21.8
Up 33.0	No change	58.0	Down	9.0
Total no. workers = 2882				
<b>Part-time/part-time</b>		1981 social class		
1971 social class	1	2	3	4
1	0.5	0.4	0.2	0.1
2	0.1	7.7	1.9	1.5
3	0.0	2.7	17.6	8.7
4	0.1	3.5	10.8	44.4
Up 17.2	No change	70.2	Down	12.7
Total no. workers = 4017				

Source: ONS Longitudinal Study

full-time in 1971 and part-time in 1981 had high levels of mobility down from skilled work (21 per cent of women with this employment pattern made this move). However, there was also upward mobility. Five per cent moved from full-time skilled occupations to part-time managerial and technical ones. For women who worked part-time in 1971 and full-time in 1981 the most common move, made by 18 per cent, was from semi- and unskilled work to skilled work. A further 8 per cent moved from semi- and unskilled work

to managerial and technical occupations.

<b>Table 7.12 1971/81 Mobility table for group 1 women, by career-type</b>						
1971 social class	Full-time/full-time			Full-time/part-time		
	1981			1981		
	no. women	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	144	0	57.6	50	0	70.0
2. Managerial & technical	2121	2.0	15.4	791	1.3	33.5
3. Skilled	4284	19.5	9.7	1979	9.8	39.7
4. Semi- & unskilled	1846	42.7	0	961	22.5	0
Total no. workers	8395	19.9	9.8	3781	11.1	28.7
	Part-time/Full-time			Part-time/part-time		
	1981			1981		
	no. women	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	23	0	65.2	45	0	55.6
2. Managerial & technical	493	1.4	19.9	452	0.9	30.3
3. Skilled	985	19.4	14.8	1161	9.3	30.0
4. Semi- & unskilled	1381	54.6	0	2359	24.5	0
Total no. workers	2882	33.0	9.0	4017	17.2	12.7

Source: ONS Longitudinal Study

Table 7.12 shows the percentages of each 1971 social class who had moved up and down

the vertical hierarchy by 1981. Upward mobility was highest for those who worked full-time 1981. Upward mobility out of semi- and unskilled work was particularly high for 1981 full-timers who had worked part-time in 1971 (54.6 per cent). Downward mobility was highest for those with part-time 1981 destinations. The exception was women who worked part-time in both 1971 and 81 who were, curiously, less likely than the full-time/full-timers to be downwardly mobile from professional occupations. This may be because once they have established part-time employment in professional occupations women find it easier to maintain their status.

### **7.3.2 Group 1's experiences of part-time work and vertical mobility in the second decade**

<b>Table 7.13 The 1981 and 1991 occupational social classes of group 1 women, by career-type</b>				
Social Class	full-time/full-time		full-time/part-time	
	1981(%)	1991(%)	1981(%)	1991(%)
1. Professional	1.6	1.7	1.3	0.8
2. Managerial and technical	25.4	40.8	18.1	19.7
3. Skilled	53.5	40.7	57.7	37.5
4. Semi- & unskilled	19.5	16.7	22.9	42.0
Total no.	7331	7331	5265	5265
Social Class	part-time/full-time		part-time/part-time	
	1981(%)	1991(%)	1981(%)	1991(%)
1. Professional	1.2	0.9	0.9	0.7
2. Managerial and technical	16.4	35.5	11.4	15.6
3. Skilled	35.0	40.5	29.7	29.4
4. Semi- & unskilled	47.4	23.0	57.9	54.3
Total no.	2729	2729	2965	2965

Source: ONS Longitudinal Study

Group 1's 1981/91 occupational transitions for each career-type were similar to the 71/81 patterns described above. Differences mainly reflect the growth of managerial and technical occupations over the 1980s. Table 7.13 compares the class composition of group 1 women in 1981 and 91.

<b>Table 7.14 1981/91 Vertical mobility patterns for group 1 women, by career-type.</b>				
Full-time/full-time		1991 social class		
1981 social class	1	2	3	4
1	0.7	0.8	0.2	0.0
2	0.7	20.7	2.8	1.2
3	0.3	15.2	32.1	5.9
4	0.0	4.2	5.6	9.6
Up 26.0	No change 63.1		Down 10.9	
Total no. workers = 7331				
Full-time/part-time		1991 social class		
1981 social class	1	2	3	4
1	0.3	0.6	0.3	0.1
2	0.3	10.8	3.2	3.8
3	0.2	6.9	29.6	21.0
4	0.0	1.5	4.4	17.0
Up 13.3	No change 57.7		Down 29.0	
Total no. workers = 5265				
Part-time/full-time		1991 social class		
1981 social class	1	2	3	4
1	0.5	0.5	0.1	0.0
2	0.2	12.8	2.7	0.7
3	0.2	10.7	19.5	4.7
4	0.1	11.5	18.2	17.6
Up 40.9	No change 50.3		Down 8.8	
Total no. workers = 2729				
Part-time/part-time		1991 social class		
1981 social class	1	2	3	4
1	0.3	0.3	0.2	0.1
2	0.2	7.3	2.1	1.7
3	0.0	3.5	16.0	10.3
4	0.1	4.5	11.1	42.2
Up 19.4	No change 65.9		Down 14.7	
Total no. workers = 2965				

Source: ONS Longitudinal Study

<b>Table 7.15 1981/91 Mobility table for group 1 women, by career-type</b>						
	Full-time/full-time			Full-time/part-time		
1981 social class	1991			1991		
	no. women	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	120	0	59.2	71	0	76.1
2. Managerial & technical	1865	2.7	15.9	951	1.8	38.7
3. Skilled	3920	29.0	11.0	3038	12.3	36.4
4. Semi- & unskilled	1426	50.6	0	1205	25.6	0
Total no. workers	7331	26.0	10.9	5265	13.3	29.0
	Part-time/Full-time			Part-time/part-time		
1981 social class	1991			1991		
	no. women	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	32	0	59.4	28	0	67.9
2. Managerial & technical	448	1.1	20.8	338	2.1	33.7
3. Skilled	955	31.0	13.4	882	11.7	34.5
4. Semi- & unskilled	1294	62.9	0	1717	27.1	0
Total no workers	2729	40.9	8.8	2965	19.4	14.7

Source: ONS Longitudinal Study

Table 7.14 shows that the upward mobility of women under 40 at the outset was higher over the 1980s for every career-type than it had been in the 1970s. The biggest difference was in upward mobility from skilled occupations, particularly for those who worked full-time in 1991. Table 7.12, summarising group 1's 71/81 vertical mobility, showed that amongst those who worked full-time in 81 and who were in skilled occupations in 1971,

just over 19 per cent moved up the social scale by 1981 whether they worked full-time or part-time in 1971. These percentages were around 30 per cent in the 81/91 comparison (table 7.15). The majority of these women were absorbed into the growing class of managerial and technical occupations.

### **7.3.3 The impact of part-time work and labour market withdrawal on long-term vertical mobility : group 1's 1971/91 mobility**

This section looks at two-decade vertical mobility for the women and men in group 1. Firstly, women's mobility is compared to men's. The focus is then on group 1 women who were in employment in both 1971 and 91 and were either working or housewives in 1981. It shows how employment status in 1981 affected 1991 occupational attainments.

In this sample, men were more likely to be in the professional class than women (7.4 per cent versus 1.4 per cent of women in 1971, and 6.8 versus 1.2 in 1991). Between 1971 and 91 there was substantial growth in the percentages of both women and men in managerial and technical occupations, from around 19 per cent to over 30 per cent. The share of skilled occupations held by women and men in group 1 fell between 1971 and 91 (from 54.5 to 42.5 per cent for men and from 48.1 to 37.9 per cent for women). For men in particular this fall was the result of upward mobility into managerial and technical occupations. Of those who were in skilled occupations in 1971, 25.2 per cent (out of 22029) of men and 21.5 per cent (out of 8878) of women were in managerial and technical occupations by 1991. Whilst men's share of semi- and unskilled occupations fell slightly between 1971 and 91 (from 19.7 to 17.9 per cent), women's remained the same, 30.8 per cent.

A comparison of 1971 and 91 occupational social classes reveals that men were more likely to be upwardly mobile than women (see the first two rows of table 7.16). Whilst both women and men benefited from the expansion of managerial and technical occupations over these two decades, women's net upward mobility was checked by mobility patterns associated with part-time work and labour market withdrawal.

<b>Table 7.16 Group 1's 71/91 vertical mobility and the effect of employment status</b>				
<b>71:81:91 status</b>		<b>no. LS members</b>	<b>Upward mobility(%)</b>	<b>Downward mobility (%)</b>
working:any:working		40423 men*	27.8	16.0
working:any:working		18448 women*	23.6	16.4
<b>71/91 status</b>	<b>1981 status</b>	<b>No. women</b>	<b>Upward mobility(%)</b>	<b>Downward mobility (%)</b>
FT/FT	FT	4670	26.1	9.2
	PT	1260	26.4	13.7
	HW	1188	24.6	14.1
FT/PT	FT	1022	15.9	22.8
	PT	1644	14.3	25.9
	HW	2465	11.4	33.6
PT/FT	FT	1551	42.0	7.7
	PT	886	39.8	9.6
	HW	253	37.9	14.2
PT/PT	FT	514	25.3	15.4
	PT	1884	18.7	12.7
	HW	257	16.2	22.6

Source: ONS Longitudinal Study

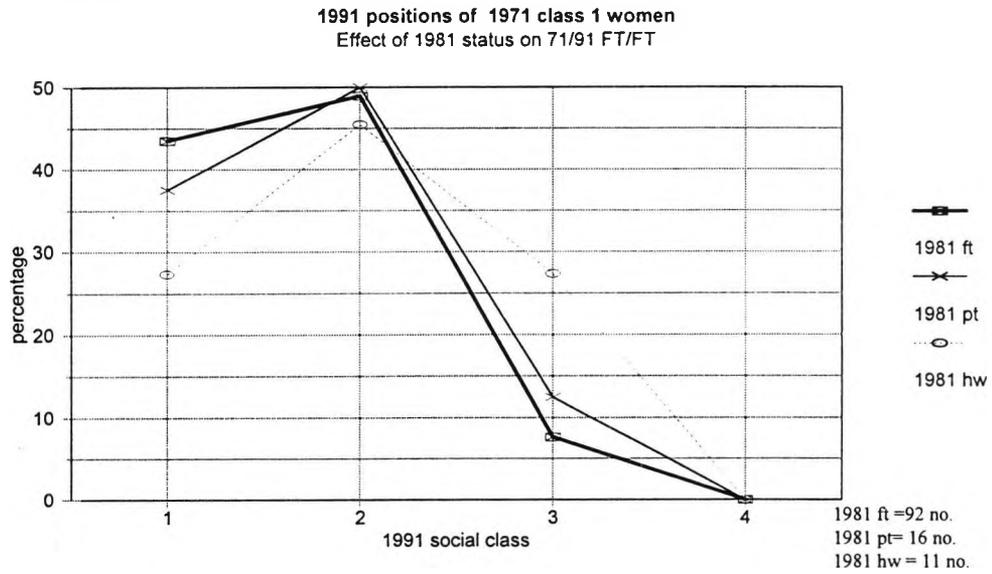
Notes

\* in these two rows women and men were present in the LS in 1971, 81 and 91 and were working in 1971 and 91. In 1981 they were either working, housewives, students, sick, retired or unemployed.

The rest of the table refers to LS women members who were in employment in 1971 and 91 and who were either working or housewives in 1981.

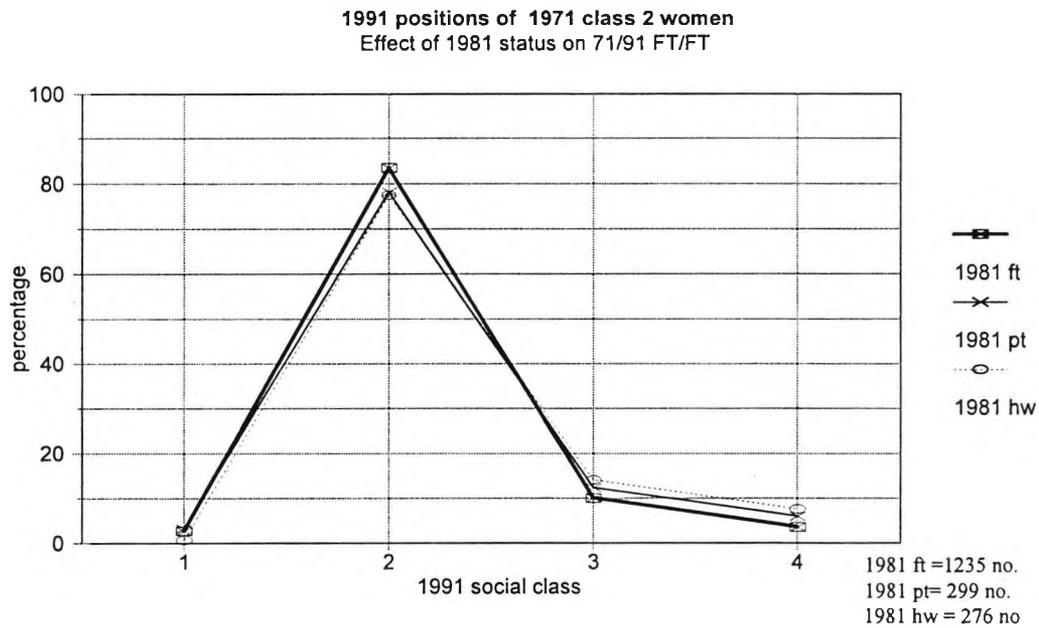
The rest of this section considers the association between 1981 status and 1971/91 mobility. The focus now is on women who were in full-time employment in 1971 and 91

**Figure 7.7** 1991 positions of 1971 social class 1 women; the effect of 1981 status on 71/91 full-time/full-timers.



This graph shows the 1991 social classes of women who were in professional occupations in 1971, showing the effect that working full-time, part-time or being a housewife in 1981 had on 1991 occupational attainments. Source: ONS Longitudinal Study

**Figure 7.8** 1991 positions of 1971 social class 2 women; the effect of 1981 status on 71/91 full-time/full-timers.



This graph shows the 1991 social classes of women who were in managerial and technical occupations in 1971, showing the effect that working full-time, part-time or being a housewife in 1981 had on 1991 occupational attainments. Source: ONS Longitudinal Study

and were either working or housewives in 1981. As in the 71/81 and 81/91 analyses described above, there were characteristic mobility patterns associated with 71/91 transitions between full-time and part-time status (table 7.16). Those who worked part-time in 1971 and full-time in 1991 experienced most upward mobility. Conversely those who worked full-time in 1971 and part-time in 1991 experienced most downward mobility.

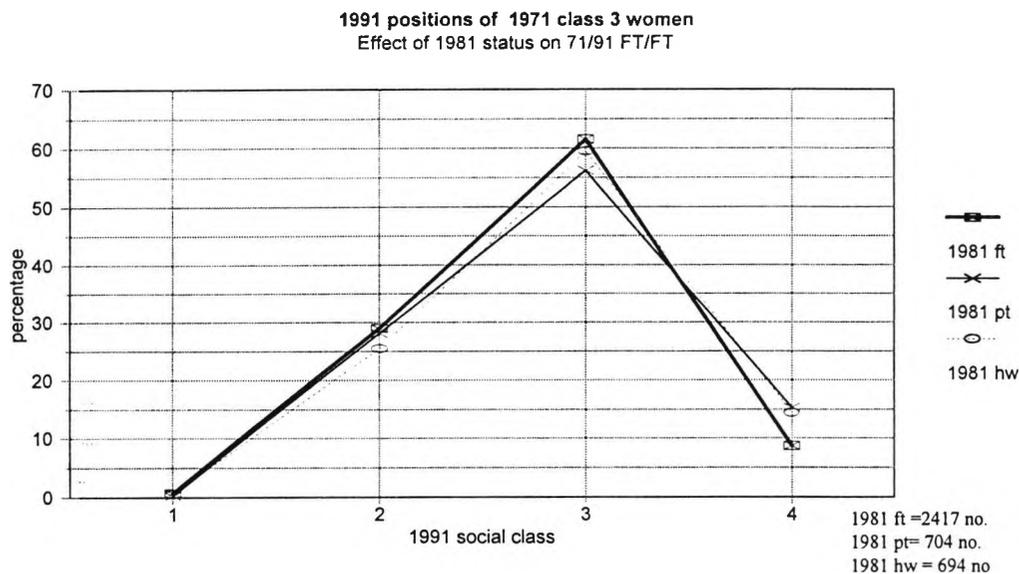
Those who worked full-time in 1981 tended to have more 71/91 upward mobility than those who worked part-time in 1981, who in turn did better than those who were housewives in 1981. The 1981 full-timers typically suffered less downward mobility than the 1981 part-timers, who in turn were less downwardly mobile between 1971 and 91 than 1981 housewives. Thus part-time employment acted as a buffer, reducing downward mobility and increasing upward mobility when comparisons are made with those women who are known to have left the labour market completely.

The following figures show that 1981 employment status had most impact on the occupational attainments of women who started out either at the top or bottom of the jobs hierarchy. Figures 7.7 to 7.10 show the 1991 social classes of women who worked full-time in both 1971 and 91. Each graph compares the 1991 social classes of 1981 full-timers, part-timers and housewives.

Thus Figure 7.7 shows that women starting out in social class 1 in 1971 had high mobility into managerial and technical occupations, largely attributable to the recoding of technologists and chemists in the 1980 reclassification, discussed in note 1. In 1991, 92.4 per cent of the 1981 full-timers were in either the professional or managerial and technical classes, compared to 87.5 per cent of the 1981 part-timers and 72.8 per cent of the 1981 housewives. Because there were so few 1981 part-timers and housewives, comparisons between these and the 1981 full-timers are tentative.

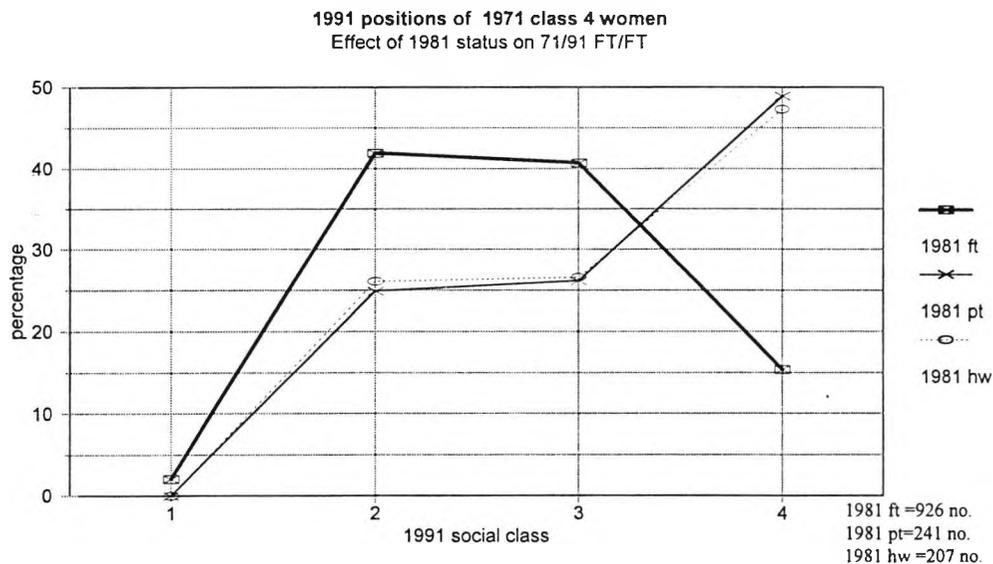
Figure 7.8 shows that around 80 per cent of the women who were in managerial and technical occupations in 1971 were still there in 1991. Working full-time in 1981 increased women's chances of remaining in this class to 1991, though only marginally.

**Figure 7.9** 1991 positions of 1971 social class 3 women; the effect of 1981 status on 71/91 full-time/full-timers.



This graph shows the 1991 social classes of women who were in skilled occupations in 1971, showing the effect that working full-time, part-time or being a housewife in 1981 had on 1991 occupational attainments. Source: ONS Longitudinal Study

**Figure 7.10** 1991 positions of 1971 social class 4 women; the effect of 1981 status on 71/91 full-time/full-timers.



This graph shows the 1991 social classes of women who were in semi- and unskilled occupations in 1971, showing the effect that working full-time, part-time or being a housewife in 1981 had on 1991 occupational attainments. Source: ONS Longitudinal Study

The 1981 full-timers were also less likely than 1981 part-timers or housewives to be in the skilled or semi- and unskilled class in 1991. Again, the 1981 part-timers fared better than the 1981 housewives.

Amongst women who were in skilled occupations in 1971 (figure 7.9), those who worked full-time in 1981 were more likely than the part-timers or housewives to be in managerial and technical occupations in 1991. Around 60 per cent were still in skilled occupations in 1991, percentages being highest for the 1981 full-timers and lowest for the 1981 housewives. Downward mobility into semi- and unskilled work was lowest for the 1981 full-timers.

Women who were in semi- and unskilled work in 1971 were much more likely to be in a higher social class in 1991 if they worked full-time in 1981 than if they worked part-time or were housewives. Figure 7.10 shows that only 15 per cent of the 1971 social class 4 women who worked full-time in 1981 were still in social class 4 in 1991, compared to just under half of the 1981 part-timers and 1981 housewives.

Taken together, these graphs show that the cost of part-time and intermittent working, in terms of 1991 occupational attainments, was highest for women at the top of the occupational hierarchy. Conversely the benefits of full-time employment appear to be most marked for those in the lowest 1971 social class.

#### **7.3.4 Group 2's experiences of part-time work and vertical mobility in the second decade.**

Women in group 2 following each of the four career patterns in 1981 and 91 tended to be in higher-status occupations than group 1 women. This largely reflects the expansion of managerial and technical occupations, though group 2 full-timers also had a larger share of professional occupations than group 1 in the 71/81 analysis.

The 1981 and 91 social class distributions for group 2 (table 7.17) also suggest increased polarisation of full-time and part-time workers within this age group in the 1980s. Group

2 had more full-time workers at the top of the jobs hierarchy, and more part-timers in semi- and unskilled occupations.

The full extent of vertical mobility is shown in table 7.18. By 1991 group 2 women with each career-type had experienced more upward mobility and less downward mobility than group 1 had over the 1970s. Group 2 women were more likely to remain in social classes 1 and 2 than group 1 women. Upward mobility out of skilled and semi- and unskilled occupations was also higher than for group 1 (tables 7.12 and 7.18). Table 7.19 gives details (not discussed) of vertical mobility out of each 1981 social class.

<b>Table 7.17 The 1981 and 1991 occupational social classes of group 2 women, by career-type</b>				
Social Class	full-time/full-time		full-time/part-time	
	1981(%)	1991(%)	1981(%)	1991(%)
1. Professional	2.6	3.0	2.0	2.0
2. Managerial and technical	31.9	44.1	27.8	25.9
3. Skilled	49.1	39.6	50.4	37.6
4. Semi- & unskilled & sales	16.4	13.3	19.8	34.4
Total no.	12176	12176	5106	5106
Social Class	part-time/full-time		part-time/part-time	
	1981(%)	1991(%)	1981(%)	1991(%)
1. Professional	0.6	1.0	0.8	0.8
2. Managerial and technical	18.6	36.3	15.4	18.9
3. Skilled	35.2	40.0	28.1	31.9
4. Semi- & unskilled & sales	45.6	22.7	55.8	48.5
Total no.	4677	4677	5593	5593

Source: ONS Longitudinal Study

**Table 7.18 1981/91 Vertical mobility patterns for group 2 women, by career-type.**

Full-time/full-time		1991 social class			
1981 social class	1	2	3	4	
1	1.8	0.7	0.1	0.0	
2	0.8	26.5	3.5	1.1	
3	0.4	14.0	31.3	3.4	
4	0.0	2.9	4.6	8.8	
Up	22.8	No change	68.4	Down	8.8
Total no. workers = 12176					
Full-time/part-time		1991 social class			
1981 social class	1	2	3	4	
1	1.4	0.3	0.3	0.1	
2	0.4	18.1	5.3	4.0	
3	0.1	5.9	28.1	16.2	
4	0.1	1.7	3.9	14.1	
Up	12.1	No change	61.7	Down	26.2
Total no. workers = 5106					
Part-time/full-time		1991 social class			
1981 social class	1	2	3	4	
1	0.4	0.1	0.0	0.0	
2	0.4	14.9	2.3	1.0	
3	0.1	10.6	21.1	3.4	
4	0.0	10.7	16.6	18.3	
Up	38.5	No change	54.7	Down	6.8
Total no. workers = 4677					
Part-time/part-time		1991 social class			
1981 social class	1	2	3	4	
1	0.5	0.1	0.1	0.1	
2	0.1	11.5	1.9	1.8	
3	0.1	3.7	18.0	6.3	
4	0.1	3.5	11.9	40.3	
Up	19.4	No change	70.2	Down	10.4
Total no. workers = 5593					

Source: ONS Longitudinal Study

<b>Table 7.19 1981/91 Mobility table for group 2 women, by career-type</b>						
	Full-time/full-time			Full-time/part-time		
1981 social class	1991			1991		
	no. women	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	319	0	32.6	104	0	31.7
2. Managerial & technical	3882	2.4	14.4	1419	1.4	33.4
3. Skilled	5977	29.4	6.8	2573	12.0	32.2
4. Semi- & unskilled	1998	46.3	0	1010	28.6	0
Total no. Workers	12176			5106		
	Part-time/Full-time			Part-time/part-time		
1981 social class	1991			1991		
	no. women	UP (%)	DOWN (%)	no. women	UP (%)	DOWN (%)
1. Professional	27	0	22.2	44	0	40.9
2. Managerial & technical	870	2.3	17.7	859	0.7	24.2
3. Skilled	1647	30.4	9.7	1571	13.6	22.5
4. Semi- & unskilled	2133	60.0	0	3119	27.8	0
Total no. Workers	4677			5593		

Source: ONS Longitudinal Study

#### **7.4 Are moves into more feminised occupations also downward moves? The relationship between vertical and horizontal occupational sex segregation**

Chapter 6 showed that when women have children they often leave full-time employment and either become housewives or work part-time. Transitions into part-time work from full-time often involve higher levels of sex segregation and downward occupational mobility. This section investigates the relationship between gendered jobs mobility and vertical mobility. Are all moves to more feminised jobs also the downward moves? To what extent does this association reflect the segmented nature of the labour market, and particularly part-time employment?

#### **7.4.1 The relationship between vertical and horizontal (gendered jobs) mobility in group 1's occupational transitions over the 1970s**

Section 7.2.1 showed that the most common occupational move for group 1, women and men, was upward. Table 7.20 describes the occupational transitions of group 1 men between 1971 and 81. It shows where vertical mobility was involved in each of the nine possible 71/81 shifts between male, mixed and female-typed occupations.

For each gendered job transition there were examples of both upward and downward occupational mobility. Shifts from female-typed occupations in 1971 to both male and mixed occupations in 1981 generated the highest levels of upward mobility. Conversely shifts from male and mixed occupations in 1971 to female occupations in 1981 were the only two types of transition where net mobility was downward. Thus for men, moves to female-typed occupations were most likely to involve downward mobility, whilst shifts out of female-typed occupations were most likely to involve upward mobility. Shifts into male and mixed occupations were more likely to be upward moves than downward. The same patterns are seen in table 7.21, which shows vertical and horizontal mobility for women.

<b>Table 7.20 The vertical and horizontal mobility of group 1 men, 1971/81</b>						
1971 gender- type	1981 gender-type					
	MALE		MIXED		FEMALE	
	UP (%)	DOWN (%)	UP (%)	DOWN (%)	UP (%)	DOWN (%)
MALE	19.2	12.5	36.9	20.3	8.9	44.0
no.	36953		3789		818	
MIXED	41.3	21.3	13.5	7.2	8.7	49.7
no.	5197		4926		312	
FEMALE	56.2	4.3	61.8	5.1	6.8	4.4
no.	989		468		562	
Total no. workers= 54014						

Source: ONS Longitudinal Study

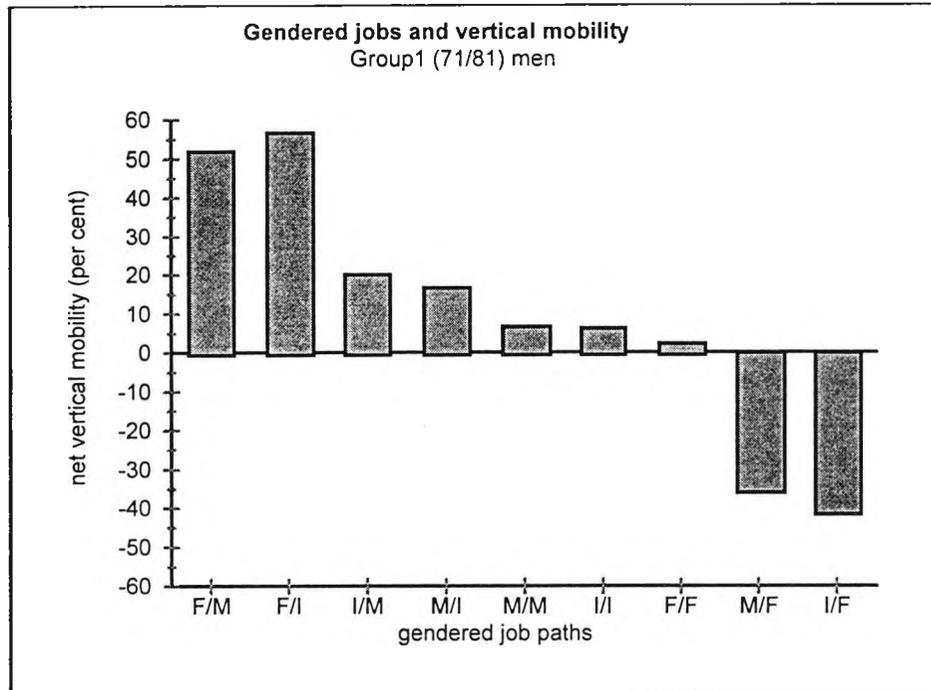
<b>Table 7.21 The vertical and horizontal mobility of group 1 women, 1971/81</b>						
1971 gender- type	1981 gender-type					
	MALE		MIXED		FEMALE	
	UP (%)	DOWN (%)	UP (%)	DOWN (%)	UP (%)	DOWN (%)
MALE	18.6	10.9	33.8	20.8	13.0	34.8
no.	806		654		774	
MIXED	43.1	18.6	12.4	7.9	8.4	48.0
no.	795		4727		2200	
FEMALE	49.3	7.4	55.6	4.5	9.1	8.4
no.	800		2385		6890	
Total no. workers= 20031						

Source: ONS Longitudinal Study

Table 7.22 The vertical and horizontal mobility of group 1 women, by career-type, 1971/81						
71/81 FT/FT						
1971 gender-type	1981 gender-type					
	MALE		MIXED		FEMALE	
	UP	DOWN	UP	DOWN	UP	DOWN
MALE	17.7	10.1	29.4	20.7	15.5	31.9
no.	526		309		226	
MIXED	50.2	14.1	11.4	6.4	9.8	34.1
no.	468		2715		643	
FEMALE	53.8	6.4	50.7	4.2	7.4	5.1
no.	357		959		2192	
Total no. workers= 8395						
71/81 FT/PT						
1971 gender-type	1981 gender-type					
	MALE		MIXED		FEMALE	
	UP	DOWN	UP	DOWN	UP	DOWN
MALE	14.3	12.9	20.2	39.4	6.3	44.9
no.	70		94		207	
MIXED	27.4	34.5	10.1	13.1	5.5	63.4
no.	113		693		740	
FEMALE	41.0	19.0	33.1	9.6	5.7	20.8
no.	100		344		1420	
Total no. workers= 3781						
71/81 PT/FT						
1971 gender-type	1981 gender-type					
	MALE		MIXED		FEMALE	
	UP	DOWN	UP	DOWN	UP	DOWN
MALE	21.7	16.3	53.2	11.0	21.6	28.9
no.	92		109		97	
MIXED	40.4	14.4	19.2	6.4	16.3	35.3
no.	104		610		252	
FEMALE	51.7	4.6	72.8	3.0	18.8	4.1
no.	174		540		904	
Total no. workers= 2882						
71/81 PT/PT						
1971 gender-type	1981 gender-type					
	MALE		MIXED		FEMALE	
	UP	DOWN	UP	DOWN	UP	DOWN
MALE	24.4	6.4	36.8	15.8	9.9	31.3
no.	78		95		192	
MIXED	32.3	21.0	11.5	10.6	7.3	51.1
no.	62		529		466	
FEMALE	41.1	5.6	63.4	2.7	9.2	5.1
no.	124		410		2061	
Total no. workers= 4017						

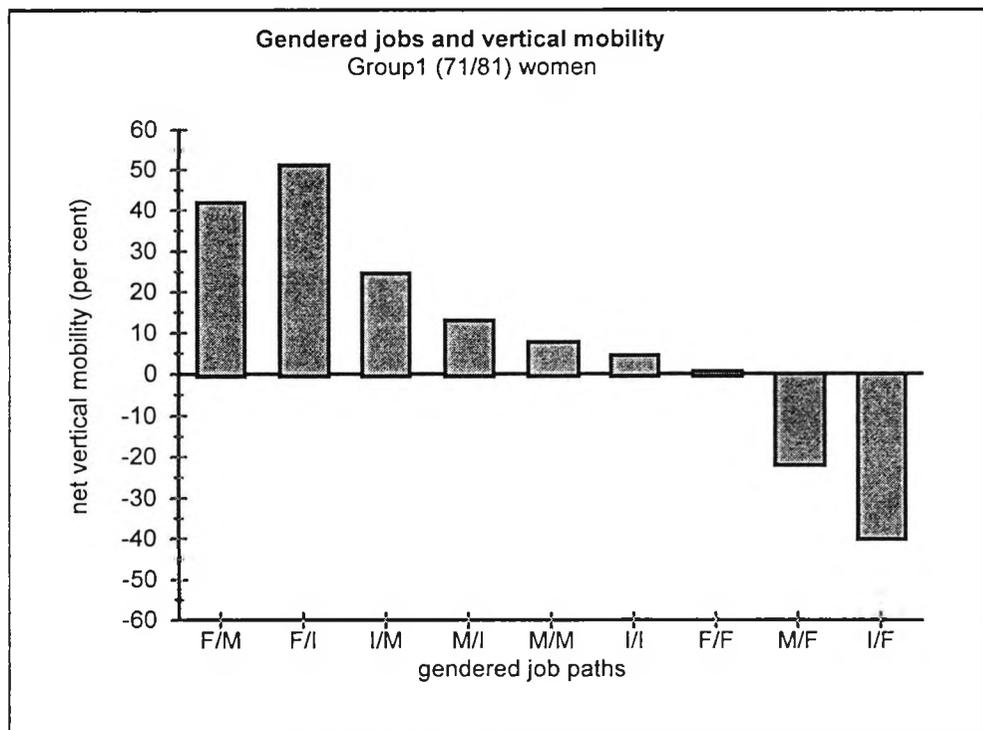
Source: ONS Longitudinal Study

Figure 7.11



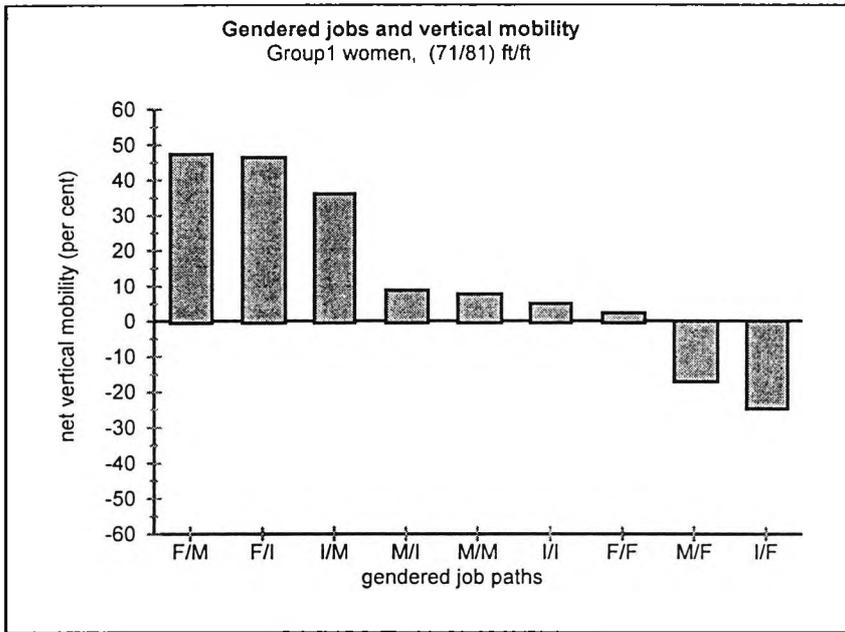
Source: ONS Longitudinal Study

Figure 7.12



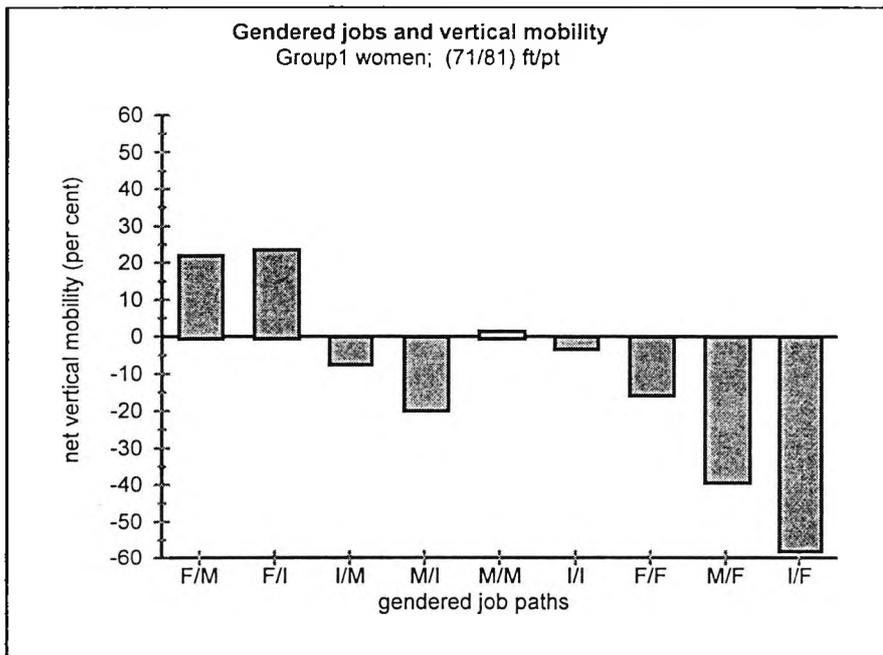
Source: ONS Longitudinal Study

Figure 7.13



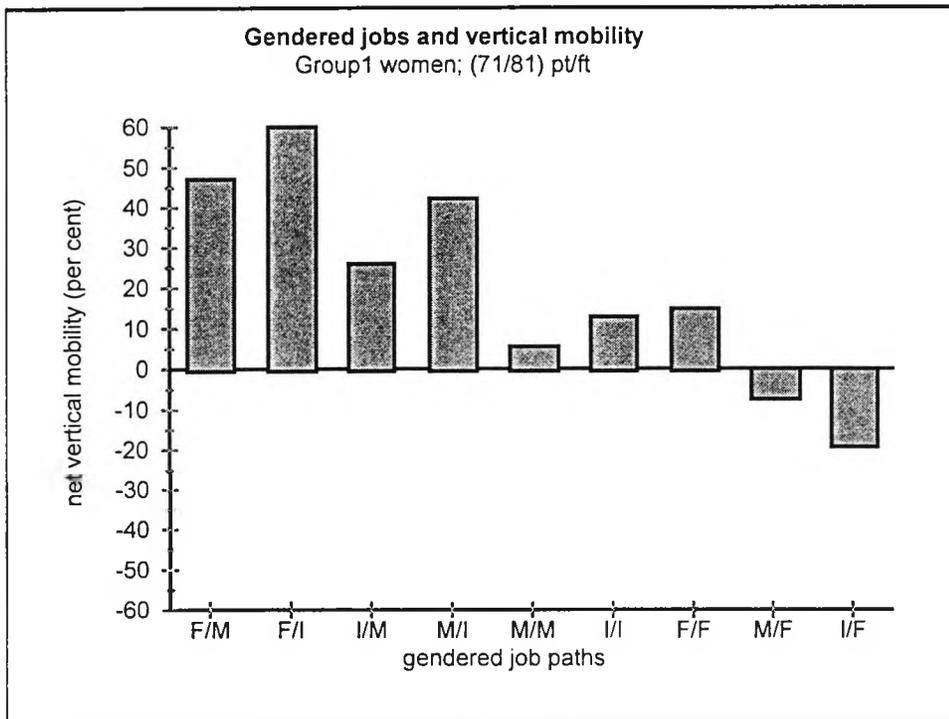
Source: ONS Longitudinal Study

Figure 7.14



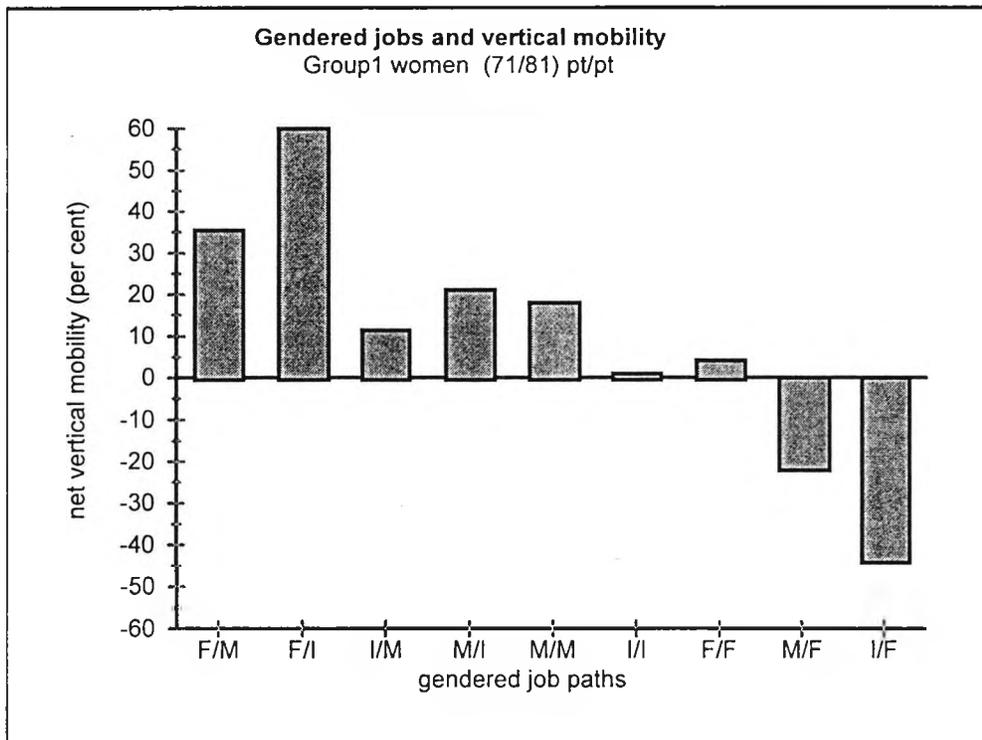
Source: ONS Longitudinal Study

Figure 7.15



Source: ONS Longitudinal Study

Figure 7.16



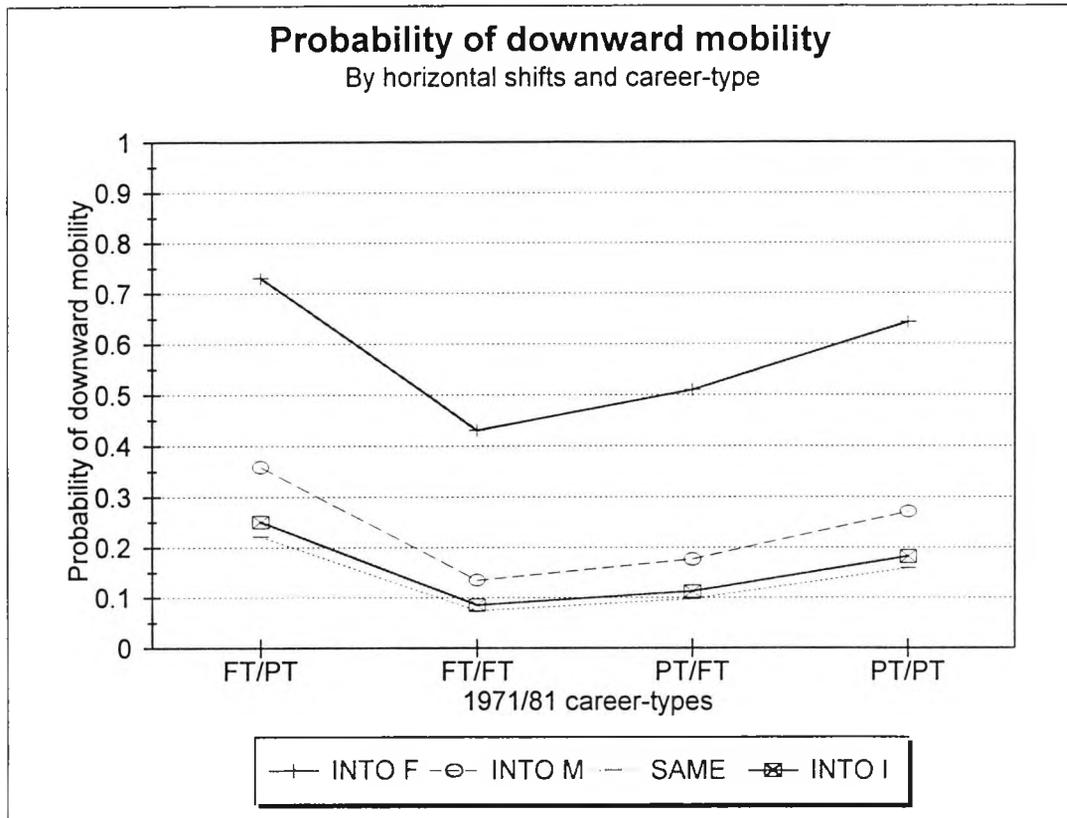
Source: ONS Longitudinal Study

Table 7.22 shows the relationship between vertical and horizontal mobility for each of the four possible 71/81 full-time/ part-time employment combinations. Those who were full-time or part-time at both censuses and those who were part-time in 1971 and full-time in 1981 had the same characteristic patterns between vertical and horizontal mobility as those described for all women and all men. The exception was women who worked full-time in 1971 and part-time in 1981. For these women, the only transitions which generated net upward mobility were moves from female-typed into male and mixed occupations. Women who were in male occupations at both censuses were also slightly more likely to have been upwardly, rather than downwardly, mobile.

The information for men in table 7.20 is summarised in figure 7.11, which shows the net vertical mobility associated with each gendered job transition. The latter are grouped along the horizontal axis in order of the typical amounts of net upward mobility involved. First come the shifts out of female-typed occupations (F/M and F/I), which generated most net upward mobility. Then the shifts between male and mixed occupations (I/M and M/I), which tended to be upwardly mobile but not as much as those out of female occupations. Then the no-change scenarios (M/M, I/I and F/F), which generated very moderate amounts of net upward mobility. Finally, shifts into female-typed occupations (M/F and I/F) which, alone, involved net downward mobility for men.

The same horizontal axis was used to show horizontal and vertical mobility patterns for women (figure 7.12). Women who were full-time in both 1971 and 81 (figure 7.13) had more net upward mobility and less net downward mobility than the average for all career-types shown in figure 7.12. Those moving from part-time work in 1971 to full-time work in 1981 (figure 7.15) had much higher levels of net upward mobility and less net downward mobility than either the full-time/full-timers or the all career-types average. When women who worked part-time in 1971 and 81 moved between mixed and female-typed occupations, these transitions involved above-average levels of net mobility (figure 7.16). Figure 7.14, for women who worked full-time in 1971 and part-time in 1981, highlights the association between occupational downgrading and shifts into part-time work. In this graph alone, moves between mixed and male occupations involved more

Figure 7.17 How occupational segregation and employment status affected the vertical mobility of group 1 women in 1981



downward than upward mobility. This is because even within male and mixed occupations, part-time jobs are concentrated at the bottom of the occupational hierarchy.

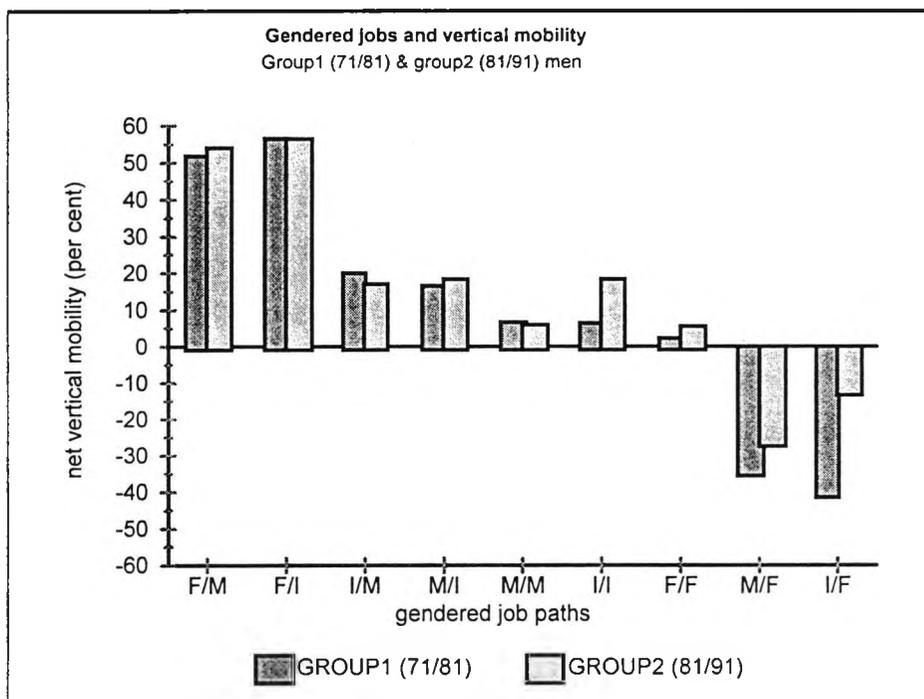
#### **7.4.2 Modelling downward mobility in GLIM.**

The 1971/81 occupational transitions of group 1 were also analysed using GLIM (Generalised Linear Interactive Modelling). The main aim was to test and summarise the conclusions being drawn from the more detailed examinations of cross-tabulations, described here and in chapter 6. Initially, forward stepwise model selection procedures including higher-order (3-variable) interactions and a variable for 1971 social class suggested that motherhood itself had very little impact on the likelihood of downward mobility. As with horizontal mobility, the determining factor was not the presence of children but whether women worked full or part-time. Although the goodness of fit for this fairly complex, initial model was satisfactory, relatively few of the t-values for parameter estimated were. So a simpler model, with reliable parameter estimates, was used to create a summary of these key relationships.

The response variable being modelled was downward mobility. The logit transformation was used and the error structure was binomial. A full list of the variables included in the analysis is given in Appendix A7.1. The model is detailed in appendix A7.2. The inverse link function was used to calculate the probability of downward occupational mobility for each set of circumstances described by the horizontal mobility and career-type parameters.

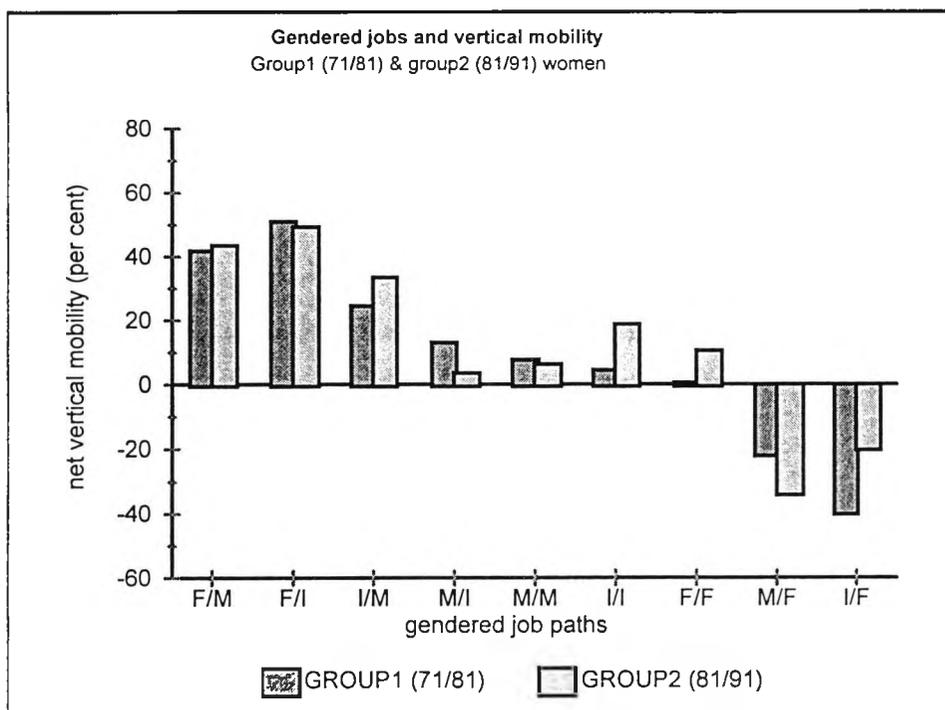
The results are summarised in figure 7.17. This shows that moving into female-typed occupations massively increased the chances that women in group 1 would be downwardly mobile. Those who worked part-time in 1981, and particularly those who had been full-time in 1971, were especially vulnerable to downward mobility. The probability of downward mobility was lowest for women who stayed in male, mixed or female occupations at both censuses, and shifts into integrated occupations were less likely to be downwardly mobile moves than shifts to male-typed occupations. These results confirm the patterns between horizontal and vertical mobility reported in section 7.4.1. They also verify that it was not moves *in a more feminised direction* which were also the downward

Figure 7.18



Source: ONS Longitudinal Study

Figure 7.19



Source: ONS Longitudinal Study

moves, but moves specifically to female-typed occupations.

**7.4.3 Vertical and horizontal mobility: group 1's experiences over the 70s and group 2's experiences over the 80s compared.**

For group 2 also, shifts from female occupations involved most upward mobility, whilst shifts into female occupations involved most downward mobility. Whilst group 1 women and men who were in male, mixed or female occupations at both censuses experienced very moderate levels of vertical mobility, most of it upward, group 2 women and men who were in mixed occupations at both censuses experienced much more upward mobility.

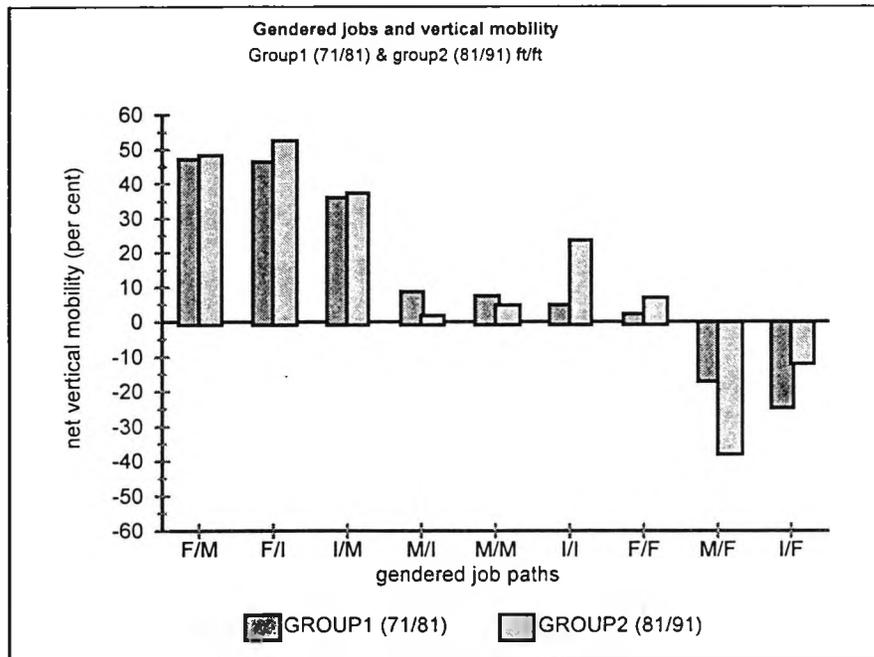
Table 7.23 shows the numbers of group 2 women and men making each of the gendered jobs transitions. The net mobility associated with each horizontal move is shown in figures 7.18-7.23, which compare group 1's 71/81 mobility with group 2's 81/91 mobility.

<b>Table 7.23. Horizontal mobility paths for group 2</b>									
	F/M	F/I	I/M	M/I	M/M	I/I	F/F	M/F	I/F
	fem/ male	fem/ mixed	mixed/ male	male/ mixed	male/ male	mixed/ mixed	fem /fem	male /fem	mixed /fem
men	762	623	3604	5450	32302	5157	623	1134	1300
women	894	3113	1000	1070	1170	5001	9899	944	5101
ft:ft	440	1190	675	643	849	3024	3016	333	2160
ft:pt	88	428	98	188	123	765	1771	317	1407
pt:ft	242	835	135	122	107	668	1861	112	641
pt:pt	112	601	81	89	78	465	3199	173	862

Source: ONS Longitudinal Study

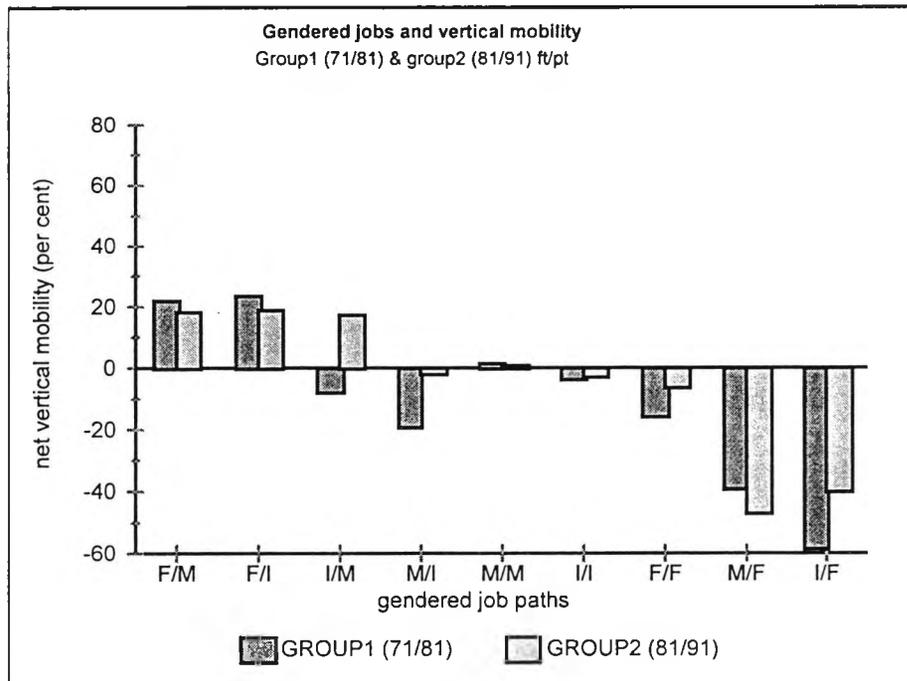
The chart for men, shown in figure 7.18, shows that group 2 men who moved into female occupations in 1991 experienced less downward mobility than group 1 men did in 1981. For group 2 women however, there was more downward mobility (compared to group 1's 71/81 experiences) for those moving from male to female occupations and less for those entering female occupations from mixed ones. This difference applies to the average for all career-types, shown in figure 7.19, and to figures 7.20 and 7.22, for those who worked

Figure 7.20



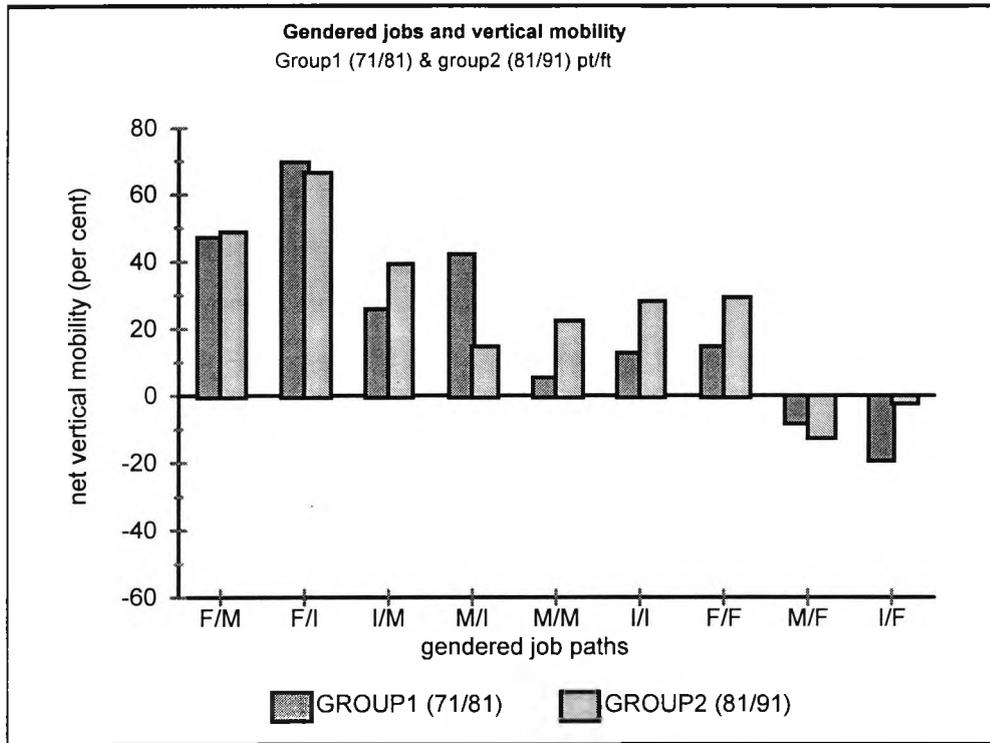
Source: ONS Longitudinal Study

Figure 7.21



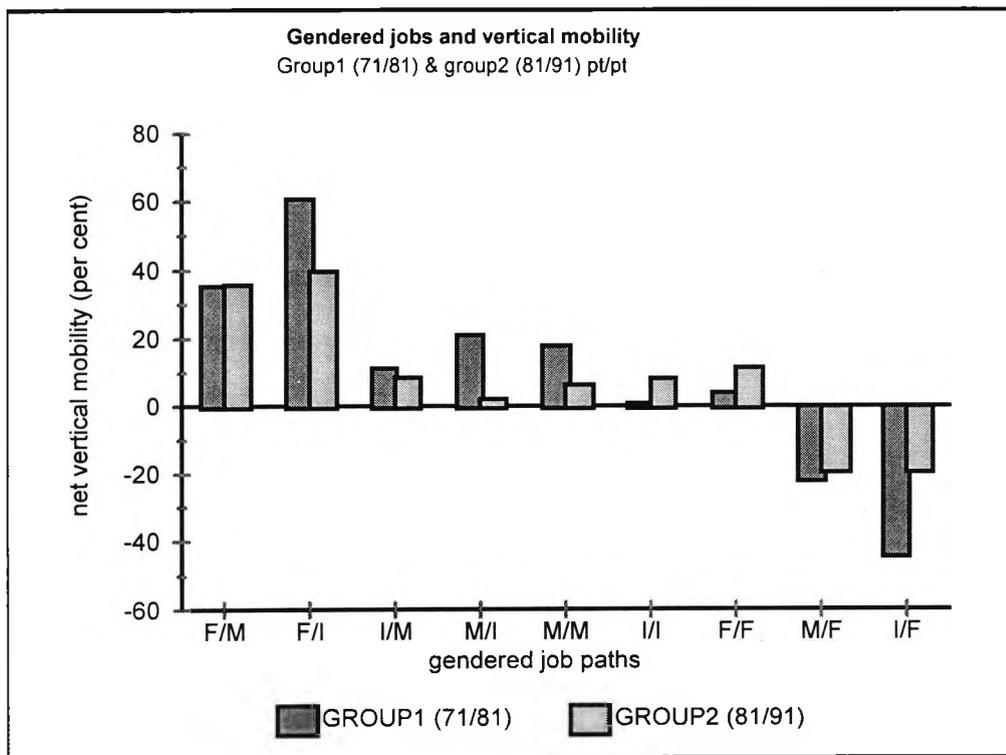
Source: ONS Longitudinal Study

Figure 7.22



Source: ONS Longitudinal Study

Figure 7.23



Source: ONS Longitudinal Study

full-time in 1991 (the full-time/full-timers and the part-time/full-timers). There was more net upward mobility for group 2 women who were part-time in 1981 and full-time in 1991 if they stayed within male, mixed or female occupations.

In group 1 women who shifted to part-time work in 1981 from full-time work in 1971 had the highest levels of downward mobility. This was also true for group 2 women, though less so than for women in group 1 (figure 7.21). The group 2 women were also more likely to be upwardly mobile if they moved into male occupations from mixed ones, whilst for group 1 most of these moves were downward.

### **7.5 Summary and conclusions**

LS members' occupational mobility over the 70s and 80s was conditioned by characteristic features of the British occupational structure and, more specifically for women, the concentration of part-time jobs at the bottom of the occupational hierarchy. When women switched from full-time to part-time work (often over child-rearing) they experienced high levels of downward mobility. The majority of women work part-time at some point in their employment careers. These experiences were common to women born in the 30s, 40s and 50s.

At the beginning of this chapter was a list of questions, unanswered in existing research. These can now be answered:

8. *To what extent are moves to more feminised occupations also the downward moves?*

For the groups followed here, moves away from female-typed occupations were mostly upward shifts for women and men. Moves into female-typed occupations were mostly downwardly mobile. Shifts into integrated occupations from either male or female-typed directions were more likely to be upward than downward moves. Thus there was no simple, linear relationship between vertical and horizontal segregation. Shifts in a more *feminised direction* were not always typically downward moves, but shifts to *the feminised extreme* usually were. Although mixed occupations have more women in them than male-typed ones, they are not necessarily lower in the jobs hierarchy.

9. *How many of these transitions also involve part-time work?*

This thesis underlines the continued concentration of female-typed occupations at the bottom of the jobs hierarchy, and within those, the lion's share of part-time jobs. However, part-time jobs were also located at the bottom of the vertical hierarchy within male and mixed jobs. This explains why shifts between mixed and male-typed jobs were typically upward moves, except when made by women changing from full-time to part-time status. The second decade analysis of group 2 suggested that this may be changing; there was some net upward mobility for the relatively few women moving from full-time mixed jobs to part-time male ones. The best way to switch to part-time hours and avoid downward mobility would be to start out in, and then leave, female-typed occupations. However this only accounted for around 4 per cent of moves from full-time to part-time work.

There were characteristic paths of downward mobility, mainly into female-typed work, taken by those who switched to part-time hours. This typically coincided with child-rearing. These downward moves usually involve lower pay, loss of status, poorer conditions of employment, skills atrophy and further disadvantages relative to former occupations (Joshi and Newell, 1987, Elias, 1988). At the same time there is a growing labour force attachment amongst women both with and without children. This research found a reversal of the earlier changes when women resumed full-time hours. Then, they were typically upwardly mobile, often out of female-typed work.

10. *Do women full-timers who worked continuously through the family formation phase of their lives fare differently, in terms of occupational attainments and segregation, to those full-timers who worked part-time when they had young children?*

11. *How do the experiences of consistent full-time workers and those with both full-time and part-time jobs recorded compare to women who are not observed in any paid work at this time?*

These two questions can be answered together. Women who worked full-time at all three censuses attained higher status jobs and experienced less occupational sex segregation than those who are known to have worked part-time or intermittently. Section 7.3.3 compared

the 71/91 mobility patterns of women who were all working full-time in 1971 and 91. Those who also worked full-time in 1981 ended up in higher status jobs than the 1981 part-timers, who in turn fared better than the 1981 housewives. Thus part-time employment acted to some extent as a buffer against the higher levels of downward 71/91 mobility experienced by women who were housewives in 1981. Further, working full-time in 1981 was most beneficial to those who started off in 1971 either at the top of the jobs hierarchy, in professional occupations, or at the bottom, in semi- and unskilled occupations.

5. *Are these patterns changing over time?*

Women and men in group 2, born in the 40s and 50s and hence on average better educated, seemed to fare better in the 1980s than group 1 had in the 1970s. They were more likely to work in the professional and managerial and technical classes than group 1 had been. These differences reflect change in the shape of the jobs hierarchy over the 1980s, discussed below, rather than a new position for 20-39 year-olds within it.

Part-time work had the same effect on women in group 2 as on group 1. However, whichever full-time/part-time employment path group 2 took in 81/91, they typically experienced more upward mobility and less downward mobility than group 1 had in 71/81. In particular they were more likely to stay in the top two classes than group 1 had been, and were more likely to ascend from skilled and semi- and unskilled occupations.

6. *What influence has change in the industrial structure had on these patterns of occupational mobility?*

Vertical mobility patterns were influenced by two important changes in the occupational structure over the 70s and 80s. First, there was sustained growth in occupations at the top of the jobs hierarchy: in the professions, and, in particular, in managerial and technical jobs (table 4.3). New entrants to the labour force benefitted most from this development, which explains the advantages, in terms of occupational attainments, of group 2 relative to group 1 (section 7.2.3). Thus in the snakes and ladders metaphor adopted for the title of this chapter, there were more occupational ladders, offering upward mobility, for women embarking on their employment career in the 80s than in the 70s. There were also fewer

snakes.

The second major development was increased polarisation in terms of pay, skills and qualifications between full-timers and part-timers. This meant that the occupational snakes which women encountered when they switched from full-time to part-time work were longer in the 80s than they had been in the 70s.

7. *How do the patterns of occupational mobility for women compare to those for men?*

Women's experiences of employment over the life course can be described as dynamic. In contrast, men's employment careers are much more stable. Men's employment continuity, not surprisingly, is rewarded by more upward occupational mobility than women experience, which reinforces overall patterns of vertical sex segregation.

**Notes**

1. This fall can be traced to the 1980 reclassification of occupations, which reorganised the top of the jobs hierarchy. People classified as technologists and chemists in the 1970 classification, and located in the professional class, were classified with teachers in 1980 and coded to social class 2. This downgrading affected a quarter of the men who were in social class 1 in 1971. The effect was greater for women; a half of group 1 women in the professional occupations in 1971 were reclassified in this way.

2. The 1981 distributions in figures 7.3 and 7.4 differ from those in figures 7.1 and 7.2 because they describe the social classes of different, but overlapping, groups. Figures 7.1 and 7.2, 7.3 and 7.4 all include LS members born between 1931 and 51. However the 1981 distributions in figures 7.1 and 7.2 refer to LS members who worked in 1971 and 81, including those not in employment in 1991. Conversely figures 7.3 and 7.4 include LS members with all 1971 employment statuses. They therefore include women 'returners' to paid employment, who were housewives in 1971.

## **CHAPTER 8 OVERVIEW**

### **8.1 Introduction**

The analyses presented in this thesis and summarised in this final chapter address gaps in existing theory. The latter is largely based on segregation patterns in the US, where part-time work features less prominently. At the end of the chapter, the broader theoretical implications are discussed.

### **8.2 How can we explain the link between occupational sex segregation and part-time work?**

Three theoretical accounts were considered: the human capital approach, segmented labour markets and queuing. The human capital and queuing theories did not tackle the relationship between part-time work and segregation in a satisfactory way. The former is more concerned with employment intermittency, reflecting the US model of maternal employment. Part-time work features in applications of the queuing theory in a minor way. The most satisfactory treatment using queuing is Rubery and Fagan's (1993) analysis of sex segregation in the European Union. This developed a typology to describe the way women negotiate paid work and motherhood. Britain was described as a 'returner' country, the typical pattern being labour market withdrawal followed by part-time returns. Segmented labour market theory provides most insight into the relationship between part-time work and segregation, though important questions, listed in chapter 1, remain unanswered.

The three explanations occupy different places on the continuum between agency-based perspectives and those emphasising structural constraints. The human capital approach sees segregation as the outcome of rational choices made within the family about the best use of women's time and energy. In segmented labour markets gendered structures combine to constrain women's occupational options, particularly if they have young children. Women are often confined to 'secondary-type' employment, associated with low skills, low pay and job insecurity. Entry to the primary sector, which usually offers better pay and conditions, is restricted and typically bars women returners. Queuing theory is

more flexible, permitting the relative influences of individual agency and structural constraints to vary over time and place. However, this flexibility may also weaken the explanatory power of the approach. This is because it draws, often implicitly, on broader theories without satisfactorily explaining or reconciling them. For example, queuing has been used to explain both sex and race segregation, but explaining how both combine has so far proven too complicated (Reskin and Roos, 1990, p7).

The 'choice' dimension is important because it determines whether equal opportunities interventions are necessary or appropriate. If women's occupational outcomes reflect freely-made choices then their concentration in low-paid, feminised work is not a problem. If, on the other hand, women are denied access to (or driven out of) certain types of occupations, then opportunities are not equal.

### **8.2.1 The 'problem' of part-time work**

In different countries, the size of the part-time labour force varies and part-time work has different meanings. At the simplest level, there is disagreement about how it should be defined (OECD, 1994, Hakim, 1997). Chapter 3 illustrated that it also involves different labour market experiences. In France, part-time work is often a reluctant compromise accepted by workers (mostly women) as they enter and leave the labour market. In Britain it is a way of combining paid work and child-rearing, commonly involving downward occupational mobility. In both countries it is mainly low status and highly feminised.

Chapter 5 discussed the (in)visibility of women's work generally in official statistics, and in occupational classification schemes in particular. For historical reasons women may be engaged in fewer occupations than men. Their work may be less skilled, or under-valued compared to men's. Women's profile in official statistics may reflect their past (and current) subordinate status, which classificatory conservatism helps to perpetuate. The poverty of segregation theory and methodology in relation to part-timers may be accounted for in a similar fashion. It was recently argued that part-timers should be excluded from segregation research because of their low commitments to and investments in paid work. Sociologists' failure to recognise qualitative differences between women part-timers and

women who work full-time, continuously is said to do little to discourage undifferentiating treatment, in the form of statistical discrimination, by employers (Hakim, 1991b, p115).

However, not all part-time work is low-skilled and low-paying, performed by marginal workers with low work commitments. There are two types of part-time work. Firstly, employer-led part-time work, associated with low pay, low skills and poor promotion prospects. Secondly, individual strategy part-time work, which is at a similar level to full-time work and, although not offering the same promotion prospects, does not tend to involve downward occupational mobility. French men in particular were found to be engaged in this second type.

There is another compelling reason for focusing on part-time work in segregation research. Chapter 6 showed that most women in Britain encountered part-time work during their employment careers. It is therefore important to understand its impact on their segregation experiences and on the aggregate, national level of segregation.

### **8.3 Research design**

Two contrasting perspectives, cross-national and longitudinal, were adopted. The neglect of part-time work in existing research meant that this thesis had to develop the existing methodology for measuring segregation.

The contribution that part-time work makes to segregation was measured. In previous research this has been done indirectly, for example by comparing segregation between all women and men with that between women full-timers and men. An innovative approach was to compare segregation between women full-timers and men with that between women part-timers and men. Thus, six different indices compared the segregation in France and the UK using 1991 LFS data. This comparison was important theoretically because of differences in the amount and nature of part-time work in the two countries.

The Gini Index, used in conjunction with segregation curves, was considered the most satisfactory measure in comparisons involving compositional differences. It was therefore

used to track segregation changes in England and Wales in 1971, 81 and 91. This second analysis contextualised the longitudinal analysis which followed.

The longitudinal analysis considered how part-time work influenced women's experiences of occupational sex segregation. The ONS Longitudinal Study permitted an analysis of occupational mobility at different stages of the life course. Cohort comparisons highlighted changes over time, in patterns of child-rearing, part-time work and occupational segregation. Segregation patterns were recorded using a threefold model of male, mixed and female-typed occupations.

#### **8.4 Segregation and part-time work in the comparative context.**

This cross-national comparison showed that women's occupational choices and career decisions have to be interpreted within their societal context. National differences in levels of part-time work reflect contrasting philosophical approaches to maternal employment. In France, women's continuous employment is supported by a range of social policies. In the UK, a 'hands-off' state approach makes it difficult for women, particularly the low-paid, to maintain full-time employment when their children are young.

The overriding significance of the social policy context is illustrated by the contrasting employment paths followed by women in high-status jobs. Human capital predictions suggest that, having invested more in their careers, they are more likely to work continuously than women in low-skilled jobs. The literature supports this (Dex, Walters and Alden, 1993, p83). However it also revealed more continuous workers among the lowest-skilled in France than among the most highly-skilled in Britain (p85).

A basic assumption in Reskin and Roos' queuing model is that women and men evaluate jobs according to the same criteria. However, national differences in women's relationship to paid work over child-rearing, revealed in Rubery and Fagan (1993), suggest that women in different countries evaluate jobs differently, and that those evaluations are gendered. In France and the UK women's evaluation of jobs is influenced by the broader context, including social policy and the ideology surrounding maternal employment. This is

reflected in the different sizes of the part-time labour forces and in part-timers' job satisfaction. Higher dissatisfaction among French part-timers makes the concept of 'involuntary' part-time work relevant in a way that does not apply to the UK. Only a small minority of men in both countries accept part-time jobs. Mason (1984) suggests that the queuing model and the concept of labour market segmentation could be combined to recognise separate male and female job and gender queues. A further revision suggested in this thesis would be separate full-time and part-time job and worker queues.

Segregation levels between women and men (estimated in chapter 3) were almost identical in the two countries. This was despite the fact that 44 per cent of the female labour force worked part-time in the UK, compared to 24 per cent in France. Women's total share of employment was similar, at 45 per cent in France and 43 per cent in the UK.

In both countries, women part-timers were more segregated from men than women full-timers. However, larger numbers of part-timers in the UK did not lead to higher occupational sex segregation for women full-timers, as would be implied through statistical discrimination. The reverse was true. Women full-timers in the UK were less segregated from men than French women full-timers. Segregation between women part-timers and men was very slightly higher in France. Segregation between all women and men was similar in the two countries because the UK had fewer women full-timers than France and the higher proportion of women part-timers made a bigger positive impact on overall segregation.

The association between part-time work and the secondary sector was stronger in the UK than in France. There were more French part-timers of both sexes higher up in the jobs hierarchy than in the UK. However French part-timers were more polarised, with women part-timers very heavily concentrated in the most feminised, low-paying jobs.

## **8.5 Segregation and part-time work in women's lives**

### **8.5.1 Contextualising women's occupational transitions: structural change over the 70s and 80s**

Chapter 4 charted contemporary changes in the structure of the labour market. Since the second world war there has been a significant shift away from manufacturing, towards service sector employment. Deindustrialization accelerated during the severe recession which began in 1979. At the same time the labour force was becoming increasingly feminised. Most of the growth in women's employment from the 1950s to the mid-1980s is attributable to the increased participation of married women doing part-time work, and is associated with the general expansion of services. The decline in manufacturing hit men's full-time work hardest, whilst women's part-time work continued to grow. Between 1971 and 1991, the number of women part-timers rose by a third, the number of women full-timers rose by 9 per cent and men's employment fell by 14 per cent. To some extent demand-side preferences, particularly the 1980s drive towards employment deregulation, were compatible with women's desire for part-time hours to accommodate family responsibilities. Although part-time jobs are mainly low-status, over two-thirds of the new part-time jobs created in the 70s and 80s were in either professional, managerial and technical, or skilled occupations.

Between 1971 and 1991 occupational segregation between women and men fell, from 0.81 to 0.77 (Gini Index). By 1991 both women full-timers and women part-timers had occupational distributions that were closer to men's, though the biggest difference was amongst women full-timers. Occupational segregation between women full-timers and men fell from 0.78 to 0.73 between 1971 and 91. For women part-timers and men, the fall was marginal, from 0.85 to 0.84. However these figures almost certainly understate the real extent of the fall because the 1991 index uses a finer occupational classification scheme than the 1971 index.

These results contrast with other research which suggests that the gender segregation of women's full-time and part-time employment have moved in opposite directions (Hakim,

1993b). They also show that the gap between segregation for women full-timers and men and women part-timers and men widened. This resonates with research, reviewed in chapter 4, showing that pay, skills and status gaps between women full-timers and part-timers also widened over these two decades. The demise of women part-timers' skills, pay and status relative to men's was checked by polarisation within the male workforce.

### **8.5.2 The longitudinal analysis**

Chapters 6 and 7 described the occupational transitions of two groups of LS members. The first group was (born in the 1930s and 40s) aged 20-39 in 1971 (group 1). The second group, which overlaps with group 1, were (born in the 1940s and 50s) aged 20-39 in 1981 (group 2). For group 1, 1971/81 and 1981/91 occupations and mobility patterns were compared to reveal experiences of occupational segregation through different stages of the life-course. Both groups were broken down into their composite ten-year cohorts in some cross-tabulations. The results for group 1 in the first decade were compared with group 2 in the second to show how these patterns changed for later cohorts.

Part-time work, rather than motherhood, affects women's experiences of segregation. Chapter 6 showed that when women had children they typically switched from full-time to part-time work, or became housewives. Shifts into part-time work tended to lead women into more feminised jobs. However, whilst this relationship between full-time/part-time transitions and segregation dominated for all groups of women, whether they had children or not, the relationship between motherhood and segregation depended on the employment paths that mothers followed.

Women who maintained full-time employment attained higher-status jobs and experienced less occupational sex segregation than those who worked part-time or intermittently. Section 7.3.3 compared the 1971/91 mobility patterns of women who were all working full-time in 1971 and 1991, but who were full-time, part-time and housewives in 1981. Those who worked full-time at all three censuses ended up in higher status jobs than 1981 part-timers, who in turn fared better than 1981 housewives. Further, working full-time in 1981 was most beneficial to those who started off in 1971 either at the top of the jobs

hierarchy, in professional occupations, or at the bottom, in semi- and unskilled occupations.

Women who became mothers at a later age were more likely to maintain employment, either full-time or part-time, over child-rearing. Thus fewer were penalised for labour market withdrawal (section 6.4.2 and figures 6.13 and 6.14).

Chapter 7 included cross-tabulations of vertical and horizontal occupational mobility for group 1 over the 1970s and group 2 over the 1980s. These revealed the nature of the relationship between the status of occupations and their sex composition. Moves into female-typed occupations tended to be downward moves. Moves into mixed and male-typed occupations were more likely to involve upward than downward mobility, especially for those leaving female-typed occupations. Moves from male to mixed occupations are in a more feminised direction, but these were more likely to involve upward than downward mobility (except when coinciding with shifts from full-time to part-time work). Women and men who stayed in either male, mixed or female-typed occupations were more likely to move up than down. Different patterns emerged when transitions between full-time and part-time employment were taken into account.

Because of its strongly segmented nature shifts into part-time work were most likely to involve downward mobility into very feminised jobs. The best way for women moving from full-time to part-time work to avoid downward mobility was to move into male or mixed occupations from female-typed occupations. All other transitions between male, mixed and female occupations were more likely to be downward than upward moves if they also involved shifting to part-time work, except for those remaining in male occupations at both censuses. For those full-time in both 1971 and 81 as well as part-timers in 1971 with either sort of job in 1981, moves between male and mixed occupations were more likely to involve upward mobility. For those shifting from full-time in 1971 to part-time in 1981 however, these moves were mainly downward. This was because even within male and mixed destinations, part-time jobs tended to be low-status.

There were important differences between groups 1 and 2 in child-bearing and employment participation patterns. Group 2, born in the 40s and 50s, were less likely to have dependent children in the household in 1981 and 91 than group 1, born in the 30s and 40s, in the previous decade. They were less likely to work part-time or withdraw from the labour force with child-care responsibilities. Those who did have dependent children were less likely to be housewives.

Despite these changes, working group 2 women were more likely to be in female-typed occupations than group 1 had been. This was because of broader patterns of occupational feminisation. Clerical occupations are an important example because this single occupation employed more women and men than any other, and it shifted from being mixed in 1981 to being female-typed in 1991.

However group 2 women had more upward mobility over the 1980s than group 1 in the 1970s, reflecting both greater employment continuity and structural change. This may be particularly important for the longer-term prospects of group 2 women, given the impact that occupational downgrading over child-rearing has on future pay and occupational attainments (Elias, 1988, Joshi, 1990b).

Women's experiences of employment over the life course can be described as dynamic. In contrast, men's employment careers are much more stable. Men's employment continuity, not surprisingly, is rewarded by more upward occupational mobility than women experience, which reinforces existing patterns of vertical sex segregation.

The human capital explanation for occupational sex segregation assumes occupational immobility over the life-course. It envisages distinctive occupational paths in either male or female-dominated jobs, depending on anticipated participation patterns. This was investigated in the LS by considering whether women who worked intermittently or part-time after having children were more likely to have started out in female-dominated occupations than those who were consistent full-timers.

Those who worked initially in female-typed occupations were more likely than those in male or mixed to go on to part-time work or withdraw from the labour force completely. However whether this association is strong enough to support the human capital account is questionable. The latter suggests that those intending to work full-time, continuously, opt for and stay in male-typed jobs. However, continuous employment among women starting out in male-typed occupations was only slightly higher than amongst those in mixed and female occupations. There are other possible explanations. Full-time employment over child-rearing may be easier to maintain in male-typed occupations, if they offer better maternity leave and provisions, or pay more.

The human capital assumption of occupational immobility is also challenged by high mobility out of female-typed occupations when LS women switched from part-time to full-time work. A more plausible explanation is that women get thrown off their career paths when they have young children. They have varying degrees of success in resuming the same type of work when their children get older. Teaching and nursing stood out as occupations which women can return to, either part-time or full-time, after career breaks. In these occupational internal labour markets the qualifications women hold are passports for re-entry and thus encourage mature returners.

### **8.6 Occupational sex segregation and part-time work- towards an integrated approach**

The relationship between part-time work and occupational sex segregation is not satisfactorily explained by a dichotomous approach, which emphasises either individual agency or structural constraints. Women's occupational choices are constrained by gendered structures, particularly if they have young children. For example, the education system, childcare provision and promotion policies within organisations all shape the opportunities open to working mothers. However there is also some scope for variation in the way that women respond to those constraints, evidenced by diversity in the employment and occupational paths they follow over child-rearing.

Structure can be interpreted as an articulation of existing social relations, within which

women and men actively create their own biographies (Crompton and Harris, 1998). Giddens' structuration theory emphasises the linkages between structure and agency (Giddens, 1984). The two perspectives need to be synthesised. Such an approach not only enriches and informs empirical analysis, but it also informs theoretical discussion of the relationship between agency, structure and culture which is under-developed in the context of gender.

The comparative perspective is valuable because it places both structure and agency and the social relations they represent within their specific societal contexts. This thesis found US-based segregation theory to be wanting for application elsewhere precisely because it did not accommodate the possibility of alternative models. The human capital approach explained employment intermittency with little regard to part-time work and the queuing theory conceptualises job and gender queues on the basis of a US model of maternal employment, ignoring important culturally-specific differences (in this case hours of work) in the way that groups of women and men evaluate jobs.

Just as agency, structure and social relations are linked and vary geographically, so they are not set in stone. They are dynamic, though the extent and direction of change are conditioned by existing practice. Part-time work does not by definition fuel segregation, although it is more sex segregated than full-time work. Mainly done by women, it is concentrated in Britain at the bottom of the jobs hierarchy. Yet the association between part-time jobs and 'secondary-type' characteristics is being challenged in two respects. Firstly, part-time work is growing in higher-status occupations. Some transitions to part-time work do not involve downward occupational mobility. Secondly, characteristics such as low pay, low status and job insecurity can increasingly describe many full-time jobs, including those done by men. In addition, the link between high levels of sex segregation and part-time work is weakened by the rapid increase in numbers of male part-timers, albeit from a very low base.

One reason that segregation research has polarised around the structure/agency debate is because it determines the relevance of equal opportunities interventions. This thesis shows

that women's productive skills are under-utilised and often wasted when they work part-time. Despite disagreement in the literature about the extent to which this represents individual choice or reluctant compromise, the France/UK comparison suggests that a more supportive social policy framework would increase continuous employment, and reduce skills atrophy, amongst mothers. Whether this would lead to a fall in occupational sex segregation is unclear, given its apparently stable and universal nature.

### APPENDIX A3.1 International Standard Classification of Occupations

<u>Sex ratio</u>		<u>ISCO 68 Classification</u>
UK	Fr	
.49	.43	<b>1. Professional, technical and related workers</b>
.43	.33	01 Physical scientists and related technicians
.11	.09	02 Architects, engineers and related technicians
0	0	04 Aircraft and ship's officers
.36	.19	05 Life scientists and related technicians
.82	.63	06 Medical, dental, veterinary and related technicians
.21	.22	08 Statisticians, mathematicians, systems analysts and related technicians
0*	.32	09 Economists
.23	.49	11 Accountants
.37	.39	12 Jurists
.60	.60	13 Teachers
.20	0	14 Workers in religion
.44	.41	15 Authors, journalists and related writers
.46	.39	16 Sculptors, painters, photographers and related creative artists
.32	.26	17 Composers and performing artists
.35	.25	18 Athletes, sportsmen and related workers
.74	.57	19 Professional and technical workers not elsewhere classified
.36	.14	<b>2. Administrative and managerial workers</b>
.29	.24	20 Legislative officials and government administrators
.36	.11	21 Managers
.71	.69	<b>3. Clerical and related workers</b>

.64	.43	30 Clerical supervisors
.47	.57	31 Government executive officials
.99	.98	32 Stenographers, typists and card and tape punching machine operators
0*	.78	33 Bookkeepers, cashiers and related workers
.72	.44	34 Computing machine operators
.11	.19	35 Transport and communications supervisors
.09	.11	36 Transport conductors
.17	.25	37 Mail distribution clerks
.89	.88	38 Telephone and telegraph operators
.73	.65	39 Clerical and related workers not elsewhere classified
.50	.49	<b>4. Sales workers</b>
.33	.34	40 Managers (wholesale and retail trade)
.34	.49	41 Working proprietors (wholesale and retail trade)
.68	.23	42 Sales supervisors and buyers
.18	.25	43 Technical salesmen, commercial travellers and manufacturers' agents
.30	.27	44 Insurance, real estate, securities and business services salesmen and auctioneers
.73	.76	45 Salesmen, shop assistants and related workers
0*	.98	49 Sales workers not elsewhere classified
.69	.70	<b>5. Service workers</b>
.41	.57	50 Managers (catering and lodging services)
.46	.52	51 Working proprietors (catering and lodging services)
.70	.21	52 Housekeeping and related services supervisors
.76	.44	53 Cooks, waiters, bartenders and related workers
.98	.98	54 Maids and related housekeeping service workers not

		elsewhere classified
.75	.79	55 Building caretakers, charworkers, cleaners and related workers
.75	.43	56 Launderers, dry-cleaners and pressers
.82	.82	57 Hairdressers, barbers, beauticians and related workers
.13	.08	58 Protective service workers
.76	.78	59 Service workers not elsewhere classified
.15	.33	<b>6. Agricultural, animal husbandry and forestry workers, fishermen and hunters</b>
.15	.13	60 Farm managers and supervisors
.08	.39	61 Farmers
.17	.20	62 Agricultural and animal husbandry workers
0	0.5	63 Forestry workers
0	.21	64 Fishermen, hunters and related workers
.16	.15	<b>7. Production and related workers, transport equipment operators and labourers</b>
.19	.06	70 Production supervisors and general foremen
.04	.03	71 Miners, quarrymen, well drillers and related workers
.09	.14	72 Metal processors
.16	.16	73 Wood preparation workers and paper makers
.14	.22	74 Chemical processors and related workers
.41	.54	75 Spinners, weavers, knitters, dyers and related workers
.45	.25	76 Tanners, fellmongers and pelt dressers
.31	.19	77 Food and beverage processors
.50	.33	78 Tobacco preparers and tobacco product makers
.77	.79	79 Tailors, dressmakers, sewers, upholsterers and related

		workers
.47	.58	80 Shoemakers and leather goods makers
.13	.16	81 Cabinetmakers and related wood workers
0*	.10	82 Stone cutters and carvers
.10	.07	83 Blacksmiths, toolmakers and machine tool operators
.06	.05	84 Machinery fitters, machine assemblers and precision instrument makers (except electrical)
.14	.15	85 Electrical fitters and related electrical and electronics workers
.25	.29	86 Broadcasting station and sound equipment operators and cinema projectionists
.03	.13	87 Plumbers, welders, sheet metal and structural metal preparers and erectors
.29	.36	88 Jewellery and precious metal workers
.28	.25	89 Glass formers, potters and related workers
.23	.32	90 Rubber and plastics product makers
.44	.56	91 Paper-and-paperboard products makers
.22	.27	92 Printers and related workers
.02	.01	93 Painters
.49	.30	94 Production and related workers not elsewhere classified
.02	.02	95 Bricklayers, carpenters and other construction workers
.06	0	96 Stationary engines and related equipment
.07	.23	97 Material-handling and related equipment operators, dockers and freight handlers
.05	.05	98 Transport equipment operators
.31	.27	99 Labourers not elsewhere classified
.06	.09	Armed forces

\* There were no workers of either sex on these OUGs in the UK

### **Appendix A3.2 Cross-tabulation of French and UK ratio groups**

The sex-typing of OUGs in France and in the UK can be compared for the 81 groups of the ISCO using the following table. The rows of this table represent the ten ratio groups, or percentage female deciles, which are based upon the gender composition within OUGs in the 1991 Labour Force Survey. The columns represent the ratio groups for the French results of the LFS. The main diagonal shows the number of OUGs which were in the same ratio group in both France and the UK. Of most interest are the off-diagonal outliers, for these are the OUGs which have quite different sex-typing in the two countries. The outliers in this table (excluding those which appear in adjacent ratio groups) are listed below.

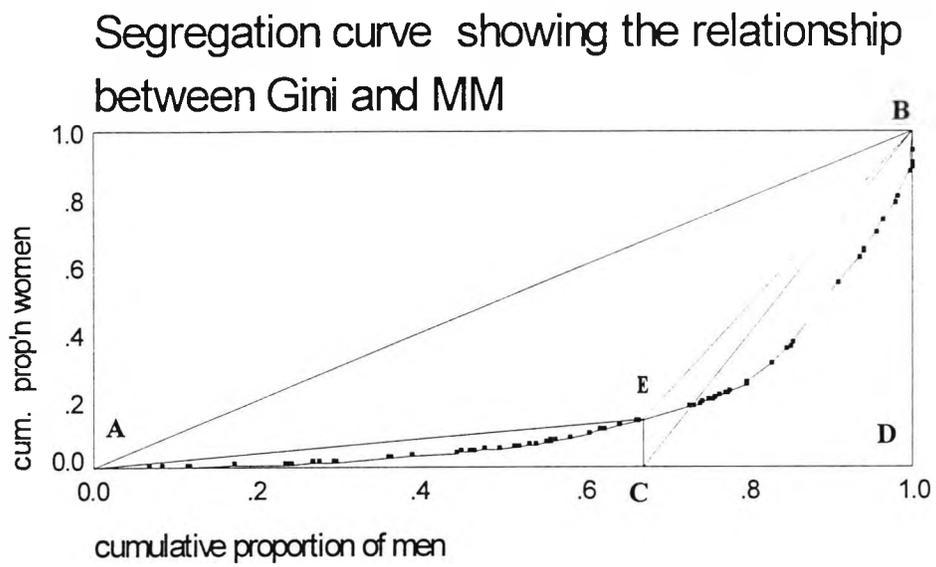
		FRANCE									
		1	2	3	4	5	6	7	8	9	10
UK	1	10	3	2	1						
	2	4	6	3							
	3			6	2	1					
	4		3	3	2	1					
	5			2	3	1	6				
	6						1				
	7			2		1					
	8					3	1	1	4		
	9							1		2	
	10										2
	*	1				1				1	

\*The French/UK results include 4 OUGs for which there are no workers in the UK, including economists, bookkeepers, sales workers not elsewhere classified, stone cutters and carvers. The absence of workers in these groups probably arises because of small

sample sizes and classificatory differences.

<b>Table a3.2 France/UK mis-matched OUGs</b>			
<b>Cell</b> (UK:Fr)	<b>Occupational Unit Groups</b>	<b>Percentage female</b>	
		UK	France
1:3	Fishermen, hunters & related workers	0	21
	Materials handling/dockers	7	23
1:4	Farmers	8	39
3:5	Accountants	23	49
4:2	Food & beverage processors	31	19
	Managers (admin.)	36	11
	Life Scientists & related workers	36	19
5:3	Tanners, fell mongers	45	25
7:3	Sales supervisors & buyers	68	23
	Housekeeping & related workers	70	21
7:5	Clerical supervisors	64	43
8:5	Computing machine operators	72	44
	Launderers, dry cleaners	75	43
	Cooks, waiters, bartenders	76	44
8:6	Prof & tech not elsewhere classified	74	57
9:7	Medical, dental, veterinary & related technicians	82	63

Figure A3.3.1



### Appendix A3.3 Relationship between the segregation curve, marginal matching and the Gini index

Lampard has already established the relationship between marginal matching, the segregation curve and the Gini index (Lampard, 1994). Lampard's proof of the relationship between the indices involved another variant of the segregation curve, in which the cumulative total of women workers was plotted against the cumulative total of all workers, given occupations ordered by percentages female. Following the same logic, the proof can be adapted for the curves used in this analysis.

In chapter 2 the mathematical form of the MM index was given as;

$$MM = \frac{M_m F_f - F_m M_f}{FM}$$

Figure A3.3.1 shows a segregation curve which has been constructed in the same way as the others in this chapter; the ratio of the area between the curve and the diagonal to the area under the diagonal is equal to the Gini index. The MM index can be shown to be an approximation to the Gini index, and is represented graphically as the ratio of the area of triangle AEB to the area under the diagonal, which equals that of triangle ABD. Point E on the segregation curve occurs where the cumulative proportion of men coincides with number of men in male occupations,  $M_m$ , and the cumulative proportion of women coincides with the number of women in male occupations,  $F_m$ .

The area of triangle ACE is equal to  $F_m M_m / 2$

The area of triangle BCE is equal to  $F_m M_f / 2$

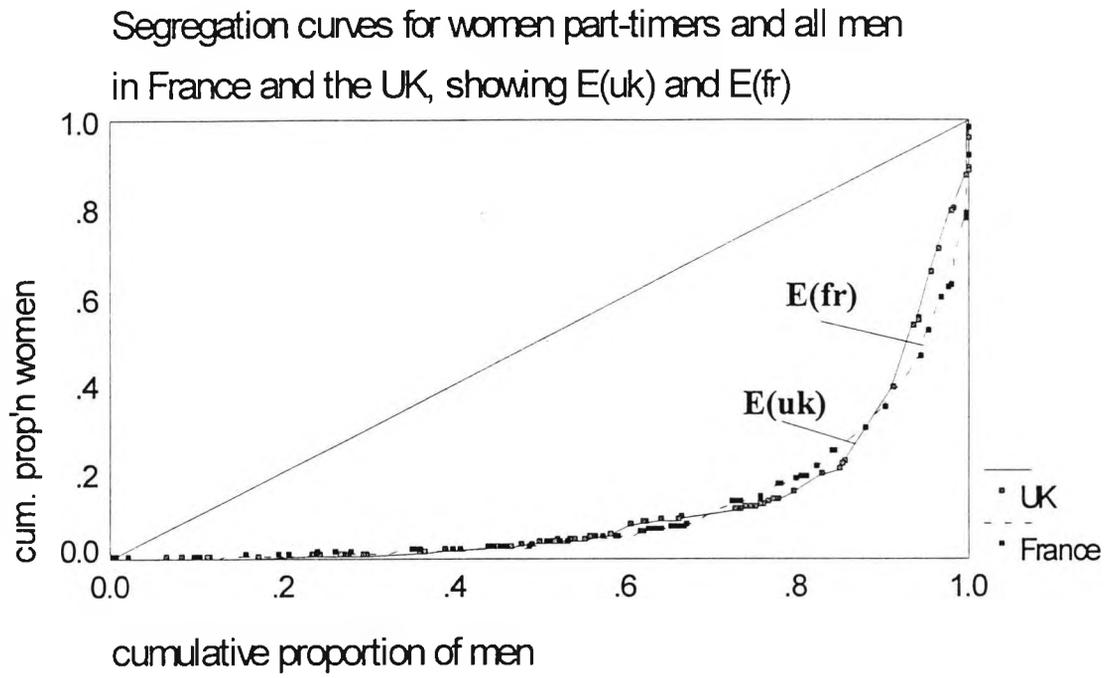
The area of triangle ACB is equal to  $M_m F / 2$

Thus the area of triangle AEB is equal to areas ACB- (ACE+BCE)

That is,

$$AEB = M_m F/2 - [(F_m M_m / 2) + (F_m M_f / 2)]$$

Figure A3.3.2



$$\frac{AEB}{ADB} = \frac{M_m F / 2 - [(F_m M_m / 2) + (F_m M_f / 2)]}{MF / 2} = \frac{M_m F - [(F_m M_m) + (F_m M_f)]}{MF}$$

Which is equal to  $\frac{M_m F - F_m M_m - F_m M_f}{MF}$

This can be expressed as  $\frac{M_m (F - F_m) - F_m M_f}{MF}$

Given that  $F - F_m$  is equal to  $F_f$  (see the basic segregation table, table 3.10), this can also be expressed as

$$\frac{M_m F_f - F_m M_f}{FM} = MM$$

Figure A3.3.2 illustrates the sensitivity of the MM index where the slope of the segregation curve is very flat or, in this case, very steep. Despite the multiple crossings of the French and UK curves, the MM index relies solely upon the relative positions of the two curves at points  $E_{UK}$  and  $E_{Fr}$ . Arguably, this makes the MM index overly dependent upon the levels of occupational concentration at these crucial points and can lead, as in this example, to the production of counter-intuitive results. Although the Gini index appears to be superior in that it can take greater account of all levels of occupational concentration, at all points along the curve, as a summary measure it does not deal very well with curves which cross and needs to be used in conjunction with the segregation curve.

### **Appendix A4.1 Vertical segregation measures**

Chapter 2 described how vertical segregation can be measured using segregation curves and a suitable index; the Gini index is one possibility (section 2.8). Cumulative proportions of men are plotted against cumulative proportions of women in occupations ranked according to some measure of inequality. This produces a vertical segregation curve, from which the Gini index (using Somer's D) could be calculated to give a measure of vertical segregation.

The aim was to create and compare vertical segregation curves for 1971, 81 and 91 to see the extent to which inequalities in the occupational distributions for women and men and women full-timers and part-timers had changed over the 70s and 80s. The preferred criterion for ranking occupations was earnings levels, but machine-readable data on earnings coded to the classifications used in the LS, and providing rates for full-timers and part-timers, were not easily available.

Cambridge scores, available for LS members, were chosen as an alternative ranking variable. Cambridge scores are based on friendship patterns, and assume that within occupations individuals interact with people who are socially similar (Prandy, 1990). LS members' Cambridge scores are determined by their occupation and employment status, and different scores are usually given to women and men with the same employment status and in the same occupation. This reflects the possibility that although classified within the same OUG, women and men may do different work. Otherwise identical jobs may also fit differently in the career structures of women and men.

However an examination of LS members' Cambridge scores raised doubts about their suitability in this context. Within occupations, women had higher scores than men with the same employment status. The gap was typically bigger in higher-level occupations. One reason may be that married men's scores are pulled down by the lower status of their wives' occupations, whilst women's are raised by the higher status of their husband's occupations. The tendency is for couples' scores to be equalised. Whilst

this acknowledges similarities in married couples' social standing, it obscures gender inequalities in occupational status which the vertical segregation curves seek to describe and summarise.

As a compromise, male Cambridge scores only were used to rank both women and men. These rankings were used to construct a vertical segregation curve for women and men in 1991 (not shown here). Lying mainly above the diagonal, it suggests that women are typically ranked higher than men. This inaccurate picture arises because of the inadequacy of using men's scores (of social standing) to measure occupational inequality. For example female clerks, the largest occupational group, are given a score based on male clerks' social interactions. As noted above, this fails to recognise that female clerks often do different jobs to male clerks, and that clerical work often has different meaning in women's and men's employment careers.

Vertical segregation curves for women full-timers and men were, appropriately, closer to the diagonal than those for women part-timers and men. It was not possible to interpret the direction of change from the curves for all women and men in 1971, 81 and 91. Given the problems associated with using Cambridge score rankings, this method was not pursued any further.

#### **Appendix A4.2 Sex ratios in the 1971, 81 and 91 occupations**

Workers are allocated to ten ratio groups on the basis of the percentage of women workers in their occupation defined at the detailed level of the 'unit group'. For the analysis of 1971 and 1981, the sex composition of occupations in the 10 per cent sample published tables for Great Britain (Census Economic Activity Tables 4 [1971 and 81]) were used to calculate these ratios. These were thought to be more reliable than percentages based on the 1 per cent of the population in the LS, particularly where smaller occupations were concerned. However, it was necessary to use the LS to attribute ratios for the 1991 data, for the following reasons.

The 1991 data in the LS are coded to both the Standard Occupational Classification (SOC 1990) and to the ONS Classification of Occupations (COS 1980). This double-coded sample permits:

- 1) an analysis of both the 1981 and 1991 data, coded to COS (1980), which enables comparison free from the difficulties due to reclassification, as presented in Chapter 5, and
- 2) a comparison of the 1991 results under the two classifications, so that the effect of the 1990 reclassification can be quantified and compared for different sub-groups. This work is beyond the scope of this thesis.

In this analysis of the all-age LS workforce in Chapter 4, the 1980 coding of the 1991 data has been used to generate a 1981/91 comparison which is not complicated by reclassification. Percentages female had to be based on the 1 per cent LS sample because 1991 distributions coded to the 1980 classification were not available in the 10 per cent sample published tables.

To check on the comparability of percentages female drawn from the LS and from the 10 per cent published tables, the 1971 and 1981 LS data were used to define percentages female and these were compared with the percentages for the same unit groups drawn from the published tables.

The concern was whether the percentages female derived from the LS tended to place LS members in different ratio group to those defined by the 10 per cent published tables. In particular it was necessary to establish whether the three-way categorisation of male, mixed and female-typed occupations was sensitive to the smaller sample. The percentages female used for the 1971 and the 1981 results are, elsewhere in this thesis, always based upon the 10 per cent sample.

Ratio groups based on the 10 per cent sample and on the LS differed for 9.1 per cent of LS members in 1971 and 9.7 per cent in 1981. This was largely a 'boundary problem', for example 1971 occupational group 170 'hospital or ward orderlies: ambulance men' was 42.0 per cent female in the LS and 38.3 per cent female in the published tables. This placed it in ratio groups 5 and 4, respectively.

There are several explanations for these differences. Both sources contain sampling error, though sampling errors for ratio groups derived from the published tables would be smaller than those from the LS because of the larger sample size. The published tables refer to Great Britain, whilst the LS represents England and Wales. A further discrepancy arises because the 1971 published tables included economically active students, whilst they were excluded from the 1981 published tables and the LS data.

When the ten ratio groups were reduced to the three-fold 'male', 'mixed' and 'female' categories, differently-assigned cases fell to 2.5 per cent in 1971 and 5.0 per cent in 1981. This level of difference was considered small enough not to seriously undermine the comparability of 1971, 1981 and 1991 ratio groups used in Chapters 5, 6 and 7. However it does add another source of fuzziness to the measurement of occupation, whose reporting and coding is not completely reliable (see section 5.3.2).

**Appendix 5.1 The effect of reclassification on the detailed (549-title) 1980 occupational classification scheme**

The basic, 351-title form of the 1980 Classification of Occupations (ONS, 1981) can be expanded to create a 549-title version. The additional detail derives from the separation of supervisory and non-supervisory staff in the expanded version. Women tend to be under-represented in the higher-grade occupational groups. There were only a handful of cases where the higher-grade OUGs in the expanded version were more feminised than the corresponding, inclusive (supervisory and non-supervisory combined) groups in the 351-title classification. Most notable amongst these exceptions were 'supervisors of stores and despatch clerks' and 'supervisors of inspectors, sorters in paper production, processing and printers' who were all women, whilst the non-supervisory OUGs included men.

The extra detail in the 549-title version tends, therefore, to reveal higher segregation. For example 58 per cent of OUGs in the 549-title 1980 classification were in ratio group 1 (0-10 per cent female), compared to 51 per cent in the 351-title 1980 classification and 50 per cent in the 223-title 1970 classification. However the increased concentration of ratio groups is not matched in terms of male workers because these supervisory groups employ relatively few men. In both the detailed and condensed versions of the 1980 classification, 61.0 per cent of men are in ratio group 1. The percentage of women in ratio group 1 falls from 3.5 (351-title) to 3.4 per cent (549-title).

1970/80 ratio group mismatching was higher when the expanded 1980 classification was used, rising to 24.6 per cent for men (compared to 22.9 per cent in the 351-title version) and 26.3 per cent (up from 22.6) for women.

**Appendix A6.1 Full-time/ part-time transitions and gendered job mobility for group 2 women 1981/91 and group 1(71/81)/group 2(81/91) comparison**

The tables which can be used to make adjustments for the 1980 reclassification (Chapter 5, Tables 5.14 and 5.15) are based upon the working population as a whole. There are probably differences between the occupational structure of the 1 per cent sample and that of the 20 to 39 year olds in this analysis. Because there is no data on age for the one per cent sample, it would be very time-consuming to generate adjustment tables for this group. In any case, the small amount of artefactual change involved would not justify the task. Therefore the adjustment tables for all ages have been used, with the caveat that further adjustments would, ideally, compensate for the differences in the occupational structure of younger workers.

<b>Table a6.1 1971 to 1981 gendered occupations shifts for women and men in group 1, adjusted for the effects of reclassification</b>					
Men		1981			
1971		MALE	MIXED	FEMALE	Total
	MALE	68.5	6.9	1.0	76.5
	MIXED	7.7	11.9	0.2	19.9
	FEMALE	1.5	0.8	1.4	3.7
	Total	77.7	19.5	2.7	100.0
Total no. workers= 56332					
Women		1981			
1971		MALE	MIXED	FEMALE	Total
	MALE	6.3	1.9	2.7	11.0
	MIXED	2.8	24.9	9.7	40.5
	FEMALE	3.5	11.6	33.4	48.5
	Total	12.7	41.5	45.8	100.0
Total no. workers= 21118					

notes This table refers to LS members present in the LS and working in both 1971 and 1981

**Appendix A6.2. Comparability of self-definition and hours worked for classifying part-time work and LS/WES comparisons.**

The 1971 census form asked how many hours were worked each week and this data was used to define 1971 career-types; full-timers were those working at least 31 hours per week (25 hours for teachers) and part-timers worked up to 30 hours per week (up to 24 hours for teachers). The 1981 census used self-definition of employment status, except for the self-employed. For the latter, hours worked was used, adopting the 1971 criteria. Comparability of the two methods is indicated by the Women and Employment Survey findings.

In the Women and Employment Survey, 6 per cent of women who described themselves as part-timers actually worked more than 31 hours each week (Martin & Roberts, 1984, p34). In this analysis of the LS the difference would tend to inflate the number of LS women working part-time in 1981, at the expense of the full-time workers. No adjustment has been made to correct for this.

The table below shows the proportion of cohort 1 women in the 1971/81 analysis who worked full- and part-time (based on self-definition) at the 1981 census. These results are compared to the full-time/part-time profiles (also based on self-definition) which were reported by the Women and Employment Survey (WES) of 1984. Data for the WES was collected in 1980. The 3 per cent difference between the results is statistically significant at the 0.05 level. Possible explanations include geographical differences as the WES covered Great Britain and the LS refers to just England and Wales. Missing data in the LS may account for some of the difference. The different methodologies may also be responsible; women were interviewed for the WES, whilst LS data is derived from census forms. These were not necessarily completed by the women themselves. This would compound the scope for disagreement when employment status is based on 'self-definition.

<b>Table a6.2 F/t and p/t distributions; the LS and the WES compared</b>			
<b>Longitudinal Study</b>		<b>Women &amp; Employment Survey</b>	
<b>Date: 1981</b>		<b>Date: 1980</b>	
<b>Age band 30-49 yrs</b>		<b>Age band 30-49 yrs</b>	
<b>Working women</b>	<b>35468</b>	<b>Working women</b>	<b>1702</b>
<b>% full-time</b>	<b>48</b>	<b>% full-time</b>	<b>45</b>
<b>% part-time</b>	<b>52</b>	<b>% part-time</b>	<b>55</b>

(Adapted from Table 2.16, p17 in Martin & Roberts, 1984)

**Appendix A6.3. Employment routes for women in group 1 present and either working or housewives at all three censuses.**

1971 status	1981 status	1991 status	percentage
FT	FT	FT	10.7
FT	FT	PT	2.4
FT	FT	HW	1.4
FT	PT	FT	2.9
FT	PT	PT	3.8
FT	PT	HW	0.9
FT	HW	FT	2.7
FT	HW	PT	5.7
FT	HW	HW	4.0
PT	FT	FT	3.5
PT	FT	PT	1.2
PT	FT	HW	0.5
PT	PT	FT	2.0
PT	PT	PT	4.3
PT	PT	HW	1.3
PT	HW	FT	0.5
PT	HW	PT	1.2
PT	HW	HW	1.4
HW	FT	FT	5.7
HW	FT	PT	1.6
HW	FT	HW	1.1
HW	PT	FT	6.0
HW	PT	PT	9.9
HW	PT	HW	3.3
HW	HW	FT	3.6
HW	HW	PT	6.6
HW	HW	HW	12.0
Total			44422

Full-time workers are those working more than 30 hours per week, 25 hours for teachers.

**Appendix A6.4 1971 to 1981 gendered occupations shifts for group 1 women, by career-type**

<b>Table a6.3 1971 to 1981 gendered occupations shifts for group 1 women, by career-type</b>					
Full-time/full-time		1981			
		MALE	MIXED	FEMALE	total
1971	MALE	6.3	3.8	2.7	12.7
	MIXED	5.7	32.2	8.0	46.0
	FEMALE	4.2	11.6	25.6	41.4
	total	16.2	47.6	36.3	100.0
More feminised 14.5		same 64.0	Less feminised 21.5		
Total no. workers= 8562					
Full-time/part-time		1981			
		MALE	MIXED	FEMALE	total
1971	MALE	1.8	2.6	5.4	9.8
	MIXED	3.1	18.6	20.3	42.0
	FEMALE	2.6	9.2	36.5	48.2
	total	7.4	30.3	62.2	100.0
More feminised 28.3		same 56.8	Less feminised 14.9		
Total no. workers= 3893					
Part-time/full-time		1981			
		MALE	MIXED	FEMALE	total
1971	MALE	3.2	3.9	3.3	10.4
	MIXED	3.6	21.2	8.7	33.6
	FEMALE	6.0	19.0	31.1	56.0
	total	12.8	44.1	43.1	100.0
More feminised 15.9		same 55.4	Less feminised 28.6		
Total no. workers= 2909					
Part-time/part-time		1981			
		MALE	MIXED	FEMALE	total
1971	MALE	1.9	2.4	4.7	9.0
	MIXED	1.6	13.3	11.8	26.7
	FEMALE	3.1	10.4	50.8	64.3
	total	6.5	26.1	67.3	100.0
More feminised 18.9		same 66.1	Less feminised 15.1		
Total no. workers= 4054					

**Notes**

\* 71/81 mobility is based upon the occupational transitions of group 1 women who were present in the LS in 1971 and 1981 and who worked full-time or part-time at each census (33 per cent of the total)

**Full-time and part-time workers were defined in 1971 on the basis of hours worked; those working more than 31 hours per week, 25 hours for teachers, were classified as full-timers.**

**In 1981, workers were classified as full-time or part-time on the basis of self-definition.**

**Comparability of the two methods of classifying full-time and part-time work are discussed in Appendix 6.2**

**Mobility is determined by movements between occupations which are male, mixed and female-typed. Mixed occupations are 30-70 per cent female.**

**Appendix A6.5 1981 to 1991 gendered occupations shifts for group 1 women, by career-type**

Table a6.4 1981 to 1991 gendered occupations shifts for group 1 women, by career-type					
Full-time/full-time		1991			
		MALE	MIXED	FEMALE	total
1981	MALE	6.4	5.2	3.0	14.7
	MIXED	4.5	26.1	17.7	48.3
	FEMALE	2.8	8.6	25.6	37.0
	total	13.7	40.0	46.3	100.0
More feminised 25.9		same 58.2	Less feminised 15.9		
Total no. workers= 9358					
Full-time/part-time		1991			
		MALE	MIXED	FEMALE	total
1981	MALE	2.6	4.0	7.0	13.5
	MIXED	1.9	16.8	24.6	43.2
	FEMALE	1.7	7.2	34.3	43.2
	total	6.2	27.9	65.9	100.0
More feminised 35.6		same 53.7	Less feminised 10.8		
Total no. workers= 2370					
Part-time/full-time		1991			
		MALE	MIXED	FEMALE	total
1981	MALE	2.7	2.8	2.3	7.9
	MIXED	2.6	14.2	14.4	31.2
	FEMALE	2.6	17.6	40.7	60.9
	total	8.0	34.6	57.4	100.0
More feminised 19.5		same 57.6	Less feminised 22.8		
Total no. workers= 4893					
Part-time/part-time		1991			
		MALE	MIXED	FEMALE	total
1981	MALE	1.4	1.5	2.6	5.6
	MIXED	1.2	8.0	15.6	24.9
	FEMALE	1.6	9.1	58.9	69.6
	total	4.2	18.6	77.2	100.0
More feminised 19.7		same 68.4	Less feminised 11.9		
Total no. workers= 8147					

**Notes**

81/91 mobility is based upon the occupational transitions of group 1 women who were present in the LS in 1971, 81 and 91 and who worked full-time or part-time in 1981 and 91 (45.9 per cent of the total).

In 1981 and 91, workers were classified as full-time or part-time on the basis of self-definition. The exception was self-employed workers in 1991, for whom hours worked was used. For this latter group the 1971 criteria were applied; those working more than 31 hours per week, 25 hours for

teachers, were classified as full-timers. Comparability of the two methods of classifying full-time and part-time work are discussed in Appendix 6.2

Mobility is determined by movements between occupations which are male, mixed and female-typed. Mixed occupations are 30-70 per cent female.

**Appendix A6.6 1971 to 1991 gendered occupations shifts for group 1 women, by career-type**

Table a6.5 1971 to 1991 gendered occupations shifts for group 1 women, by career-type					
Full-time/full-time		1991			
		MALE	MIXED	FEMALE	total
1971	MALE	4.0	4.3	3.2	11.6
	MIXED	4.8	22.7	18.8	46.2
	FEMALE	3.9	11.5	26.8	42.2
	total	12.8	38.5	48.8	100.0
More feminised 26.3		same 53.4		Less feminised 20.2	
Total no. workers= 7245					
Full-time/part-time		1991			
		MALE	MIXED	FEMALE	total
1971	MALE	1.1	2.3	6.0	9.5
	MIXED	2.2	11.7	28.8	42.8
	FEMALE	1.8	8.0	38.0	47.8
	total	5.1	22.0	72.9	100.0
More feminised 37.1		same 50.9		Less feminised 12.0	
Total no. workers= 5235					
Part-time/full-time		1991			
		MALE	MIXED	FEMALE	total
1971	MALE	2.5	3.7	3.3	9.6
	MIXED	3.3	14.4	14.5	32.2
	FEMALE	5.6	17.1	35.5	58.2
	total	11.4	35.3	53.3	100.0
More feminised 21.5		same 52.4		Less feminised 26.0	
Total no. workers= 2670					
Part-time/part-time		1991			
		MALE	MIXED	FEMALE	total
1971	MALE	1.2	2.2	5.0	8.5
	MIXED	1.4	8.3	18.1	27.8
	FEMALE	2.6	10.4	50.7	63.8
	total	5.3	20.9	73.8	100.0
More feminised 25.3		same 60.2		Less feminised 14.4	
Total no. workers= 2911					

**Notes**

71/91 mobility is based upon the occupational transitions of group 1 women who were present in the LS in 1971, 81 and 91 and who worked full-time or part-time in 1981 and 91 and who were either in work or housewives in 1981 (33.5 per cent of the total)

Full-time and part-time workers were defined in 1971 on the basis of hours worked; those working more than 31 hours per week, 25 hours for teachers, were classified as full-timers.

In 1991, workers were classified as full-time or part-time on the basis of self-definition. The

exception was self-employed workers in 1991, for whom hours worked was used. For this latter group the 1971 criteria were applied. Comparability of the two methods of classifying full-time and part-time work are discussed in Appendix 6.2

Mobility is determined by movements between occupations which are male, mixed and female-typed. Mixed occupations are 30-70 per cent female.

**Appendix A6.7 1981 to 1991 gendered occupations shifts for group 2 women, by career-type**

Table a6.6 1981 to 1991 gendered occupations shifts for group 2 women, by career-type					
Full-time/full-time		1991			
		MALE	MIXED	FEMALE	total
1981	MALE	6.9	5.2	2.7	14.8
	MIXED	5.5	24.5	17.5	47.5
	FEMALE	3.6	9.7	24.5	37.7
	total	15.9	39.4	44.7	100.0
More feminised 25.4		same 55.9		Less feminised 18.8	
Total no. workers= 12330					
Full-time/part-time		1991			
		MALE	MIXED	FEMALE	total
1981	MALE	2.4	3.6	6.1	12.1
	MIXED	1.9	14.8	27.1	43.8
	FEMALE	1.7	8.3	34.2	44.1
	total	6.0	26.6	67.4	100.0
More feminised 36.8		same 51.3		Less feminised 11.9	
Total no. workers= 5185					
Part-time/full-time		1991			
		MALE	MIXED	FEMALE	total
1981	MALE	2.3	2.7	2.4	7.4
	MIXED	2.9	14.5	14.0	31.4
	FEMALE	2.4	18.2	40.5	61.1
	total	7.7	35.4	56.9	100.0
More feminised 19.1		same 57.4		Less feminised 23.5	
Total no. workers= 4593					
Part-time/part-time		1991			
		MALE	MIXED	FEMALE	total
1981	MALE	1.4	1.6	3.1	6.0
	MIXED	1.4	8.2	15.2	24.9
	FEMALE	2.0	10.6	56.5	69.1
	total	4.8	20.4	74.8	100.0
More feminised 19.9		same 66.1		Less feminised 14.0	
Total no. workers= 8147					

Notes

81/91 mobility for group 2 is based upon the occupational transitions of women who were present in the LS in 1981 and 91 and who worked full-time or part-time in 1981 and 91 (41.5 per cent of the total).

In 1981 and 91, workers were classified as full-time or part-time on the basis of self-definition. The exception was self-employed workers in 1991, for whom hours worked was used. For this latter group the 1971 criteria were applied; those working more than 31 hours per week, 25 hours for

teachers, were classified as full-timers. Comparability of the two methods of classifying full-time and part-time work are discussed in Appendix 6.2

Mobility is determined by movements between occupations which are male, mixed and female-typed. Mixed occupations are 30-70 per cent female.

### Appendix A7.1 Variables included in the GLIM analysis

Table a7.1 Variables included in the GLIM analysis		
Variable	Description	
DOWN	The number of women who experienced downward 1971/81 occupational mobility. This variable was derived by comparing 1971 and 1981 social classes (see OCC71 below) This was the numerator used by GLIM to calculate the response variable (p), the proportion who were downwardly mobile in each cell.	
UPDO	The total number who were upwardly and downwardly mobile, and who were in the same social class in 1971 and 1981. This was the denominator used to construct (p).	
SEG	Shows 1971/81 changes in the sex composition of LS members' occupational unit groups. 1971 and 1981 OUGs were classified as; Male-typed ; 0-30 % female Mixed; 30-70 % female Female-typed; 70-100 % female	
	SEG	Description
	1	Into female-typed occ's
	2	Into mixed occ's
	3	Into male-typed occ's
	4	No change
	71/81 type	
		male/female mixed/female
		male/mixed female/mixed
		mixed/male female/male
		male/male mixed/mixed female/female
CARTYP	Shows 1971/81 changes in the number of hours that LS members worked	
	CARTYP	71/81 status
	1	full-time/part-time
	2	full-time/full-time
	3	part-time/full-time
	4	part-time/part-time

Note: Women who were housewives at either census were excluded, as these women did not have an OUG for both census dates. Similarly cases for which there were other missing values were also omitted. The data file included 11,897 women.

**Appendix A7.2 The GLIM model**

<b>Table a7.2 Glim Model</b>				
<b>MODEL</b>	<b>DEVIANCE</b>	<b>D.F.</b>	<b>DIFFERENCES</b>	
			<b>Deviance</b>	<b>d.f.</b>
<b>1</b>	<b>3435</b>	<b>166</b>		
<b>Add SEG</b>			<b>-1937</b>	<b>-3</b>
	<b>1498</b>	<b>163</b>		
<b>Add CARTYP</b>			<b>-480</b>	<b>-3</b>
	<b>1018</b>	<b>160</b>		

<b>Table a7.3 Effects of career-type and horizontal segregation on downward mobility</b>		
<b>Parameter</b>	<b>Estimate</b>	<b>Standard Error</b>
<b>1</b>	<b>1.084</b>	<b>0.06042</b>
<b>SEG(2)</b>	<b>-2.094</b>	<b>0.08977</b>
<b>SEG(3)</b>	<b>-1.581</b>	<b>0.09821</b>
<b>SEG(4)</b>	<b>-2.255</b>	<b>0.05911</b>
<b>CARTYP(2)</b>	<b>-1.277</b>	<b>0.06068</b>
<b>CARTYP(3)</b>	<b>-0.9636</b>	<b>0.08665</b>
<b>CARTYP(4)</b>	<b>-0.4114</b>	<b>0.07507</b>

## **BIBLIOGRAPHY**

- Aitkin, M., Anderson, D., Francis, B. and Hinde, J. (1990) Statistical Modelling in Glim, Clarendon Press: Oxford.
- Albelda, R. (1986) 'Occupational Segregation by Race and Gender, 1958-81', Industrial and Labor Relations Review, 39:404-11.
- Allatt, P., Keil, T., Bryman, A. and Blytheway, B. (1987) Women and the Lifecycle, London: Macmillan.
- Allen, J. & Massey, D. (1988) The Economy in Question, London : Sage.
- Anderson, M. (1994) '(Only) White men have class', Work and Occupations, 21.1:5-32.
- Arber, S. and Gilbert, N.(eds) (1992) Women and Working Lives: Divisions and Change, Basingstoke: Macmillan.
- Atkinson, J. (1984) 'Manpower Strategies for flexible organisations', Personnel Management, August:28-32.
- Baron, J. And Bielby, W. (1980) 'Bringing the Firms Back In: Stratification, Segmentation, and the Organisation of Work', American Sociological Review, 45 (October):737-765.
- Barrere-Maurisson, M. (1989), 'Concepts, categories and nomenclatures in international comparisons', in Hantrais, L., (ed) Franco-British Comparisons of Family and Employment Careers, Birmingham: Aston University:44-49.
- Barrett, M. and Mc Intosh, M. (1982) The Anti-Social Family, London : Verso.
- Barron, R.D. and Norris, G.M. (1976) 'Sexual divisions and the dual labour market' in Barker, D.L. and Allen, S. (eds) Dependence and Exploitation in Work and Marriage, London : Longman.
- Becker, G.S. (1991) A Treatise on the Family, Cambridge, Massachusetts: Harvard University Press.
- Beechey, V. (1978) 'Women and production: a critical analysis of some theories of women's work' in Kuhn, A. and Wolpe, A., Feminism and Materialism, Routledge and Kegan Paul.
- Beechey, V. (1989a) 'Rethinking the Definition of Work', in Jenson, J., Hagan, E., and Reddy, C. Feminization of the Labour Force, Cambridge: Polity.
- Beechey, V. (1989b), 'Women's employment in France and Britain: problems of comparability from a British perspective', in Hantrais, L.,(ed) Franco-British Comparisons of Family and Employment Careers, Birmingham: Aston University:34-44.

- Beechey, V. and Perkins, T. (1987) A Matter of Hours- Women, Part-time Work and the Labour Market. Oxford: Polity.
- Beechey, V. And Whitelegg, E. (1988) Women in Britain Today. Milton Keynes: Open University Press.
- Beller, A. (1982) 'Occupational Segregation by Sex: Determinants and Changes', Journal of Human Resources, 17:371-92.
- Beller, A. (1984) 'Trends in Occupational Segregation by Sex and Race 1960-1981' in Reskin, B.F. (ed) Sex Segregation in the Workplace: Trends, Expectations, Remedies. Washington D.C.: Washington Academy Press.
- Bielby, D.D. and Bielby, W.T. (1988) 'She Works Hard for the Money: Household Responsibilities and the Allocation of Work Effort', American Journal of Sociology, 93.5:1031-59
- Bielby, W.T. (1986) 'Women and Men at Work: Sex Segregation and Statistical Discrimination', American Journal of Sociology, 91.4:759-99.
- Bielby, W.T. and Baron, J.N. (1984) 'A Women's Place Is With Other Women: Sex Segregation Within Organisations' in Reskin, B.F. (ed) Sex Segregation in the Workplace. Washington: National Academy Press.
- Blackburn, R.M. (1997), personal correspondence
- Blackburn, R.M. and Jarman, J. (1997) 'Occupational Gender Segregation', Social Research Update, 16, Surrey University, Department of Sociology.
- Blackburn, R.M., Jarman, J. and Siltanen, J. (1993a)'International Comparisons in Occupational Gender Segregation: Assessing Two Popular Measures', Sociological Research Group, University of Cambridge Working Paper No.9.
- Blackburn, R.M., Jarman, J. and Siltanen, J. (1993b) 'The Analysis of Occupational Gender Segregation over time and place: considerations of measurement and some new evidence', Work, Employment and Society, 7.3.335-362.
- Blackburn, R.M., Jarman, J. and Siltanen, J. (1994) 'A Reply to Lampard', Work, Employment and Society, 8.3.413-19.
- Blackburn, R.M., Siltanen, J., and Jarman, J. (1990) 'Measuring Occupational Gender Segregation', Working Paper 3, Cambridge Sociological Research Group, 3:1.
- Blackburn, R.M., Siltanen, J., and Jarman, J. (1992) 'An analysis of occupational gender segregation: considerations of Measurement and some new evidence', Work, Employment and Society, 7.3: 335-62.

- Blossfeld, H.P. (1987) 'Labour Market Entry and the Sexual Segregation of Careers in the Federal Republic of Germany', American Journal of Sociology, 93:89-118.
- Blossfeld, H.P. and Hakim, C. (1997) Between Equalisation and Marginalisation. Oxford: Oxford University Press.
- Borooah, V.K. & Lee, K.C. (1988) 'The effect of changes in Britain's Industrial Structure on female relative pay and employment', Economic Journal, 98.818-832.
- Borooah, V.K. and McKee, P. (1996) 'How Much Did Working Wives Contribute to Changes in Income Inequality Between Couples in the UK?', Fiscal Studies, 17.1:59-78.
- Boston, G. (1980) 'Classification of Occupations', Population Trends, 20, London: OPCS:9-11.
- Bradshaw, J. and Pichaud, D. (1980) Child Support in the European Community, London Bedford Square, Occasional Papers in Social Administration No.66.
- Brannen, J. (1989) 'Childbirth and Occupational Mobility: evidence from a longitudinal study', Work, Employment and Society, 3.2, 179-201.
- Brinton, B. And Ngo, H (1993) 'Age and Sex in the Occupational Structure: A United States-Japan Comparison', Sociological Forum, 8.1:93-111.
- Brouillaguet-Bernard, P. and Gauvin, A. (1988) 'Women, the state and the family in France: contradictions of state policy for women's employment', in Rubery, J. (ed) Women and Recession, London: Routledge & Kegan Paul.
- Brown, W. (1993) 'The Contraction of Collective Bargaining in Britain', British Journal of Industrial: Relation, 31.2.189-200.
- Bruegel, I. and Perrons, D. (1995) 'Where do the costs of unequal treatment for women fall? An analysis of the incidence of the costs of unequal pay and sex discrimination in the UK', in Humphries, J. and Rubery, J. The Economics of Equal Opportunities, Manchester: Equal Opportunities Commission.
- Bryman, A., Blytheway, B., Allatt, P. And Keil, T. (1987) Rethinking the Life Cycle, London: Macmillan
- Burchell, B. (1996) Gender Segregation, Size of Workplace and the Public Sector', Gender, Work and Organisation, 3.4:227-235.
- Burchell, B., Dale, A. and Joshi, H. (1997) 'Part-Time Work among British Women', in Blossfeld, P. and Hakim, C. (eds), Between Equalization and Marginalization. Oxford: Oxford University Press.
- Burchell, B., Elliott, J. And Rubery, J. (1994) 'Perceptions of the Labour Market: An

Investigation of Differences by Gender and by Working-Time' in Rubery, J. And Wilkinson, F. (eds) Employer Strategy and the Labour Market. Oxford: Oxford University Press.

Burchell, B. and Rubery, J. (1994a) 'Divided Women: Labour Market Segmentation and Gender Segregation' in Scott, A. (ed) Gender Segregation and Social Change. Oxford: Oxford University Press.

Burchell, B. and Rubery, J. (1994b) 'Internal Labour Markets from Managers' and Employees' Perspectives' in Rubery, J. and Wilkinson, F. (eds) Employer Strategy and the Labour Market. Oxford: Oxford University Press.

Burnette, J. (1996) 'Testing for Occupational Crowding in Eighteenth-Century British Agriculture', Explorations in Economic History, 33:319-345.

Cockburn, C. (1983) Brothers- male dominance and technological change. London : Pluto Press.

Cockburn, C. (1987) Two-track training- sex inequalities and the YTS. London : Macmillan.

Cohn, S. (1985) The Process of Occupational Sex-Typing: The Feminization of Clerical Labour in Great Britain. Pennsylvania: Temple University Press.

Connell, R.W. (1987) Gender and Power. Cambridge:Polity.

Corcoran, M., Duncan, G.J. and Ponza, M. (1984) 'Work Experience, Job Segregation and Wages', in Reskin, B.F. (ed), Sex Segregation in the Workplace: Trends, Explanations, Remedies. Washington D.C.: National Academy Press.

Cotter, D. DeFiore, J. Hermsen, J., Kowalewski, B. and Vanneman, R. (1995) 'Occupational Gender Segregation and the Earnings Gap: Changes in the 1980s', Social Science Research, 24:439-454.

Coutrot, L., Kieffer, A. and Lelievre, E. (1993)'Family Cycle and Growth of Part-time Female Employment in France: Boon or Doom?', Bremmen Conference Papers. December.

Craig, C, Garnsey, E. and Rubery, J. (1984) Labour Market Structure. Industrial Organisation and Low Pay. Research Paper No. 48 (Department of Employment).

Craig, C., Garnsey, E. And Rubery, J. (1985) Payment Structures in Smaller Firms: Women's Employment in Segmented Labour Markets. Research Paper No. 48, London: Department of Employment

Crompton, R., (1993) Class and Stratification. Cambridge:Polity.

- Crompton, R., Gallie, D. and Purcell, K. (1996) Changing Forms of Employment, London: Routledge.
- Crompton, R., Hantrais, L. and Walters, P. (1990) 'Gender relations and Employment', British Journal of Sociology, 41.3:329-349.
- Crompton, R. and Harris, F. (1998) 'Employment, Careers and Families: the significance of 'choice' and 'constraint' in women's lives', paper presented to the Gender, Work and Organization Conference, UMIST, January.
- Crompton, R. and Le Feuvre, N. (1992) 'Gender and Bureaucracy: Women in Finance in France and Britain' in Savage, M and Witz A (eds) Gender and Bureaucracy, Oxford: Blackwell.
- Crompton, R. and Mann, M. (1986) Gender and Stratification , Cambridge: Polity.
- Crompton, R. and Sanderson, K. (1990a) Gendered Jobs and Social Change London: Unwin Hyman.
- Crompton, R. and Sanderson, K. (1990b) 'Credentials and Careers' in Payne, G. and Abbott, P. (eds) The Social Mobility of Women: Beyond Male Mobility Models, London: Falmer Press.
- Crouchley, R. (ed) (1987) Longitudinal Data Analysis, Aldershot: Avebury.
- Coutrot, L., Fournier, I., Kieffer, A. and Lelievre, E. (1997) 'The Family Cycle and the Growth of Female Part-Time Employment in France: Boon or Doom?' in Blossfeld, H. and Hakim, C. (eds) Between Equalisation and Marginalisation, Oxford: Oxford University Press
- Dale, A. (1985) The Role of Theories of Labour Market Segmentation in Understanding the Position of Women in the Occupational Structure, Occasional Papers in Sociology and Social Policy, No. 4, University of Surrey.
- Dale, A. (1987) 'Occupational Inequality, Gender and Life Cycle', Work, Employment and Society, 1.3:326-352.
- Dale, A. Gilbert, G.N., and Arber, S. (1985) 'Integrating Women into Class Theory', Sociology, 19:384-409.
- Dale, A. and Glover, J. (1990) An Analysis of Women's Employment Patterns in the UK, France and the USA, Research Paper No. 75, London: Department of Employment.
- Dale, A. and Joshi, H. (1992) 'The Economic and Social Status of British Women', in Butler, G., Heilig, G., and Schmidt-Rink, G. (eds) Acta Demographica, Heidelberg: Physica Verlag:27-46.

David, M. And Starzec, C. (1992) 'Women and Part-Time Work: France and Great Britain Compared' in Folbre, N., Bergmann, B., Argawal, B. And Floro, M. (eds) Women's Work in the World Economy, New York: New York University Press.

Davies, R.B. (1987) 'The limitations of cross sectional analysis' in Crouchley, R. (ed) Longitudinal Data Analysis, Aldershot: Avebury

de Neubourg, C. (1985) 'Part-time work: An international quantitative comparison', International Labour Review, 124.5:559-576.

Department of Employment (1972) Classification of Occupations and Directory of Occupational Titles, London: HMSO.

Dex, S. (1984) Women's Work Histories: an Analysis of the Women and Employment Survey, Research Paper No. 46 (Department of Employment).

Dex, S. (1987) Women's Occupational Mobility, London: Macmillan.

Dex, S. (1988) 'Gender and the Labour Market', in Gallie, D. (ed) Employment in Britain, Oxford: Blackwell.

Dex, S. (1990) 'Occupational Mobility over Women's Lifetime', in Payne, G. and Abbott, P. (eds) The Social Mobility of Women Basingstoke: Falmer Press.

Dex, S. , Joshi, H. and Macran, S. (1996) 'A Widening Gap between Britain's Mothers', Oxford Review of Economic Policy, 12.1 (in press).

Dex, S. and Mc Culloch, A. (1995) Flexible Employment in Britain: A Statistical Analysis, Manchester: EOC.

Dex, S. and Puttick, E. (1988) 'Parental Employment and Family Formation' in Hunt, A. (ed) Women and Paid Work, London: Macmillan.

Dex, S. and Shaw, L.B. (1986) British and American Women at Work, London: Macmillan.

Dex, S. and Walters, P. (1989) 'Women's Occupational Status in Britain, France and the USA: explaining the difference' Industrial Relations Journal, 20:203-212

Dex, S., Walters, P. and Alden, D. (1993) French and British Mothers at Work, London: Macmillan.

Disney, R., Gosling, A. and Machin, S. (1995) 'British Unions in Decline: Determinants

of the 1980s Fall in Union Recognition', Industrial and Labour Relations Review, 48.3:403-419.

Dobson, A. (1994) An Introduction to Generalised Linear Models. Chapman & Hall: London.

Doeringer, P. B. and Piore, M.J. (1971) Internal Labour Markets and Manpower Analysis. Massachusetts: Heath Lexington.

Duncan, O.D. and Duncan, B. (1955) 'A Methodological Analysis of Segregation Indices', American Sociological Review, 20: 200-17.

Elias, P. (1988) 'Family Formation, Occupational Mobility and Part-time Work', in Hunt, A. (ed) Women and Paid Work. London : Macmillan.

Elias, P. (1991) 'Part-time Work and Part-time Workers: Keeping Women In or Out?', in McRae, S. (ed) Keeping Women In. London: PSI.

Elias, P. and Purcell, K. (1988) 'Women and Paid Work: A Cross-National Comparison', in Hunt, A. (ed) Women and Paid Work. London : Macmillan.

England, P. (1981) 'Assessing Trends in Occupational Sex Segregation, 1990-1976', in Berg, I. (ed), Sociological Perspectives on Labour Markets. Washington D.C.: Academic Press.

England, P. (1982) 'The Failure of Human Capital Theory to Explain Occupational Sex Segregation', Journal of Human Resources, 17.3:358-370.

England, P. (1985) 'Occupational Segregation: Rejoinder to Polachek', Journal of Human Resources, 20.3:441-443.

England, P., Herbert, M., Kilbourne, B.S., Reid, L. and Megdal, L.M. (1994) 'The Gendered Valuation of Occupations and Skills: Earnings in 1980 Census Occupations', Social Forces, 73.1:65-99

Ermisch, J.F., Joshi, H.E., and Wright, R.E. (1990) 'Women's Wages in Great Britain', Birkbeck Discussion Paper in Economics, 90/7.

Ermisch, J.F. and Wright, R.E. (1992) 'Differential Returns to Human Capital in Full-time and Part-time Employment', in Folbre, N., Bergmann, B. Agarwal, B. And Floro, M. (eds) Women's Work in the World Economy. New York: New York University Press.

Estes, S.B. and Glass, J.L. (1996) 'Job Changes Following Childbirth', Work and Occupations, 23.4:405-436.

European Foundation for the Improvement of Living and Working Conditions (1991)

Part-time Work in the European Community: Laws and Regulations, Luxembourg: OPEC.

European Foundation for the Improvement of Living and Working Conditions (1993) Part-time Work in the European Community: The Economic and Social Dimension, Luxembourg: OPEC.

Eurostat (1993) Labour Force Survey Results 1991, Luxembourg: SOEC.

Eurostat (1992) Women in the European Community A Statistical Portrait, Luxembourg: Office for the Official Publication of the European Communities.

Fagan, C. and Rubery, J (1994) 'Divided Women: Labour market segmentation and Gender Segregation' in Scott, A (ed) Gender Segregation and Social Change, Oxford: Oxford University Press.

Fagan, C. and Rubery, J. (1996) 'The Saliency of the Part-time Divide in the European Union', European Sociological Review, 12.3:227-250.

Felmlee, D.H. (1995) 'Causes and Consequences of Women's Employment Discontinuity, 1967-73', Work and Occupations, 22.2:167-187.

Ferguson, M. (1989), 'Male perceptions of the division of family and employment roles in France and Britain', in Hantrais, L.,(ed) Franco-British Comparisons of Family and Employment Careers, Birmingham: Aston University.

Filer, R.K. (1985) 'Male-Female Wage Differences: the Importance of Compensating Differentials', Industrial and Labor Relations Review, 38.3:426-437.

Fine, B. (1992) Women's Employment and the Capitalist Family, London: Routledge.

Fine, B. (1987) 'Segmented Labour Market Theory- A Critical Assessment', Birkbeck Discussion Papers in Economics, no 87/12.

Fine, B. (1997) Labour Market Theory: A Constructive Reassessment (forthcoming)

Gallie, D. (1991) 'Patterns of Skill Change: Upskilling, Deskilling or the Polarisation of Skills?', Work, Employment and Society, 5.3.319-351.

Gallie, D. (1996) 'Skill, Gender and the Quality of Employment' in Crompton, R., Gallie, D. and Purcell, K. (eds) Changing Forms of Employment, London: Routledge.

Gallie, D. and White, M. (1994) 'Employer Policies, Employee Contracts, and Labour-Market Structure' in Rubery, J. and Wilkinson, F. (eds) Employer Strategy and the Labour Market, Oxford: Oxford University Press.

- Giddens, A. (1984) The Constitution of Society. Cambridge: Polity Press.
- Glover, J. (1989), 'The classification of occupations in cross-national research: issues relating to the secondary analysis of large national data sets', in Hantrais, L., (ed) Franco-British Comparisons of Family and Employment Careers, Birmingham: Aston University: 80-83.
- Glover, J. (1994) 'Women Teachers and White Collar Workers: Domestic Circumstances and Paid Work', Work, Employment and Society, 8.1, 87-100.
- Gordon, D.M., Edwards, R. and Reich, M. (1982) Segmented Work, Divided Workers. Cambridge: Cambridge University Press.
- Gornick, J.C and Jacobs, J.A. (1996) 'A cross-national analysis of the wages of part-time workers: evidence from the United States, The United Kingdom, Canada and Australia', Work, Employment and Society, 10.1:1-27.
- Gosling, A., Machin, S. and Meghir, C. (1994) 'What Has Happened to Men's Wages since the Mid-1960s?', Fiscal Studies, 15.4. 63-87.
- Gregory, A. (1989), 'Comparing female part-time workers and patterns of working time in large-scale grocery retailing in France and Britain', in Hantrais, L.,(ed) Franco-British Comparisons of Family and Employment Careers, Birmingham: Aston University :97-106.
- Gregory, A. and O'Reilly, J. (1996) 'Checking out and cashing up- the prospects and paradoxes of regulating part-time work in Europe' in Crompton, R., Gallie, D. and Purcell, K. (eds) Changing Forms of Employment. London: Routledge.
- Gross, E. (1968) 'Plus ca change? The sexual structure of occupations over time', Social Problems, 16, 198-208.
- Hakim, C. (1978) 'Sexual Divisions in the Labour Force: Occupational Segregation', Employment Gazette, 86: 1264-1279.
- Hakim, C. (1979) Occupational Segregation: A Comparative Study of the Degree and Pattern of the Differentiation between Men and Women's Work in Britain, the United States and Other Countries, Research Paper No. 9, London: Department of Employment.
- Hakim, C. (1985) 'Social monitors: population censuses as social surveys' in Bulmer, M. (ed), Essays on the History of British Sociological Research. Cambridge: Cambridge University Press.
- Hakim, C. (1991a) 'Cross-national Comparative Research on the European Community: the EC Labour Force Surveys', Work, Employment and Society, 5: 101-117.
- Hakim, C. (1991b) 'Grateful Slaves and Self-made Women: Fact and Fantasy in Women's Work Orientation', European Sociological Review, 7: 101-121.

- Hakim, C. (1992) 'Explaining Trends in Occupational Segregation: the Measurement, Causes and Consequences of the Sexual Division of Labour', European Sociological Review, 8: 127-152.
- Hakim, C. (1993a) 'The Myth of Rising Female Employment', Work, Employment and Society, 7:97-120.
- Hakim, C. (1993b) 'Segregated and Integrated Occupations: A New Approach to Analysing Social Change', European Sociological Review, 9.3:289-314.
- Hakim, C. (1994a) 'A century of change in occupational segregation 1891-1991', Journal of Historical Sociology, 7.4: 435-454.
- Hakim, C. (1994b) Key issues in the Analysis of Occupational Segregation, paper presented to the colloquium on Occupational Segregation, Institute for Employment Research of the Federal Employment Services, Nurnberg.
- Hakim, C. (1995) 'Review Article: Workforce Restructuring in Cross-National perspective', Work, Employment and Society, 9.2:379-388.
- Hakim, C. (1996) Female Heterogeneity and the Polarisation of Women's Employment. London: Athlone.
- Hamnett, C., McDowell, L. and Sarre, P. (eds) (1989) The Changing Social Structure. London: Sage Publications.
- Harkness, S. (1996) 'The Gender Earnings Gap: Evidence from the UK', Fiscal Studies, 17.2:1-36.
- Harrop, A. and Moss, P. (1995) 'Trends in parental Employment', Work, Employment and Society, 9.3:421-44.
- Hattersley, L. and Creeser, R. (1995) Longitudinal Study 1971-91, History, organisation and quality of data. London: HMSO.
- Hills, J. (1995) Inquiry into Income and Wealth, York : Joseph Rowntree Foundation.
- Higgs, E. (1983) 'Domestic Servants and households in Victorian England', Social History, 8, 201-210.
- Higgs, E. (1987) 'Women, Occupations and Work in the Nineteenth Century Censuses', History Workshop Journal, 23 :59-80.
- Historical Supplement, Employment Gazette, 102.10, October 1994.
- Holden, K.C. and Hansen, L. (1987) 'Part-Time Work, Full-Time Work, and Occupational

- Segregation' in Brown, C. and Pechman, J.A. (eds) Gender in the Workplace, Washington: The Brookings Institute.
- Holtermann, S. (1995) 'The Costs and Benefits to British Employers of Measures to Promote Equality of Opportunity' in Humphries, J. and Rubery, J., The Economics of Equal Opportunities, Manchester : EOC
- Horrell, S. and Rubery, J. (1991) 'Gender and working time: an analysis of employers' working time policies', Cambridge Journal of Economics, 15: 373-391
- Horrell, S., Rubery, J. and Burchell, B. (1994) 'Gender and Skills' in Penn, R., Rose, M. and Rubery, J. (eds) Skill and Occupational Change, Oxford: Oxford University Press.
- Humphries, J. (1995) 'Economics, Gender and Equal Opportunities' in Humphries, J. and Rubery, J. (eds) The Economics of Equal Opportunities, Manchester: EOC.
- Humphries, J. and Rubery, J. (1984) 'The Reconstitution of the supply side of the labour market', Cambridge Journal of Economics, 8:331-346.
- Humphries, J. and Rubery, J. (1992) 'The Legacy for Women's Employment: Integration, Differentiation and Polarisation', in Michie, J. (ed) The Economic Legacy, London : Academic Press.
- Humphries, J. and Rubery, J. (eds) (1995) The Economics of Equal Opportunities, Manchester: Equal Opportunities Commission
- Hunt, A. (ed) (1988) Women and Paid Work, London: Macmillan,
- Hunter, L. & Rimmer, S. (1995) 'An Economic Exploration of the UK and Australian Experiences', in Humphries, J. & Rubery, J. (eds) The Economics of Equal Opportunities, Manchester : Equal Opportunities Commission.
- Hutchens, R.M. (1991) 'Segregation Curves, Lorenz Curves , and Inequality in the Distribution of People and Occupations', Mathematical Social Sciences, 21:31-51.
- Irvine, J. (ed) (1979) Demystifying Social Statistics, London: Pluto Press
- Jacobs, J.A. (1987) 'Long-Term Trends in Occupational Segregation by Sex', American Journal of Sociology, 95.1:160-173.
- Jacobs, J.A. (1989a) Revolving Doors, Stanford: Stanford University Press.
- Jacobs, J. A. (1989b) 'Long-term Trends in Occupational Segregation by Sex', American Journal of Sociology, 95: 106-173.
- Jacobs, J.A. (1993) 'Theoretical and Measurement Issues in the Study of Sex Segregation in the Workplace: Research Note', European Sociological Review, 9.3:325-30.

- Jacobs, J.A. and Powell, B. (1985) 'Occupational Prestige: a sex-neutral concept?', Sex Roles, 12, 1061-71.
- Jacobs, S.C. (1995) 'Changing Patterns of Sex Segregated Occupations Throughout the Life-Course', European Sociological Review, 11.2:157-171.
- Jacobsen, J. (1994) 'Sex Segregation at Work: Trends and Predictions', Social Science Journal, 31.2:153-169.
- James, D.R. and Taueber, K.E. (1985) 'Measures of Segregation', in Tuma, N.B. (ed), Sociological Methodology, San Fransisco: Josey-Bass.
- Jenkins, S. & Cowell, F. (1994) 'Dwarfs and Giants in the 1980s: Trends in the UK Income Distribution', Fiscal Studies, 15.1.99-118.
- Jenson, J. (1986) 'Gender and Reproduction: or Babies and the State', Studies in Political Economy, vol. 20: 260-80.
- Jenson, J. (1988) 'The Limits of 'and the' Discourse- French Women as Marginal Workers' in Jenson, J., Hagen, E. and Reddy, C. (eds) (1988) Feminisation of the Labour Force: Paradoxes and Promises, Cambridge: Polity Press.
- Jenson, J. (1989) 'The talents of women, the skills of men: flexible specialization and women' in Wood, S. (ed) The Transformation of Work, London: Unwin Hyman.
- Jenson, J., Hagen, E. and Reddy, C. (eds) (1988) Feminisation of the Labour Force: Paradoxes and Promises, Cambridge: Polity Press.
- Jonung, C. (1983) 'Patterns of Occupational Segregation by Sex in the Labor Market' in Schmid, G. and Wertzel, R. (eds) Sex Discrimination and Equal Opportunity: The Labour Market and Employment Policy, Berlin: WZB Publications.
- Joshi, H. (1984) Women's Participation in Paid Work: Further Analysis of the Women and Employment Survey, London: Department of Employment Research Paper No.45.
- Joshi, H. (1985) Measuring Socio-demographic change, Occasional Paper 34, British Society for Population Studies.
- Joshi, H. (1990a) 'Changing Roles of Women in the British Labour Market and the Family', in Deane, P. (ed) Frontiers of Economic Science, London: Macmillan.
- Joshi, H. (1990b) 'The Cash Opportunity Cost of Childbearing: an approach to estimation using British evidence', Population Studies, 44, March 1990:41-60.
- Joshi, H. (1997) The Opportunity Cost of Childbearing: More than Mothers' Business, Presidential address to the European Society for Population Economics, Uppsala.

Joshi, H. and Hinde, A. (1993) 'Employment after Childbearing in Post-War Britain: Cohort-Study Evidence on Contrast within and across Generations', European Sociological Review, 9.3:203-227.

Joshi, H. and Newell, M-L. (1987) 'Job Downgrading after Childbearing' in Uncles, M.D. (Ed) Longitudinal Data Analysis: Methods and Applications, London : Psion.

Joshi, H. and Owen, S. (1987) 'How long is a piece of elastic? The Measurement of female activity in the British Census, 1951-71', Cambridge Journal of Economics, 11:55-74.

Joshi, H., Paci, P. and Makepeace, G. (1994) Pay Gaps facing Men and Women born in 1958: Differences within the Labour Market, Paper prepared for the EOC Seminar on the Economics of Equal Opportunities, London:City University.

Kilbourne, B., Farkas, G., Beron, K., Weir, D. and England, P. (1994) 'Returns to Skill, Compensating Differentials, and Gender Bias: Effects of Occupational Characteristics on the Wages of White Women and Men', American Journal of Sociology, 100.3: 689-719.

Kohn, M.L. (1987) 'Cross-National Research as an Analytic Strategy', American Sociological Review, 52:713-731.

Lampard, R. (1994) 'Comment on Blackburn, Jarman and Siltanen:MM and the Gini Coefficient', Work, Employment and Society, 8.3. 407-411.

Lane, C. (1993) 'Gender and the Labour market in Europe: Britain, Germany and France compared' , Sociological Review, 41.2:274-301.

Macran, S. Joshi, H. and Dex, S. (1995) 'Employment after Childbearing: A Survival Analysis', NCDS Working Paper 40, London: SSRU.

Main, B. (1988) 'Women's Hourly Earnings: the Influence of Work Histories on Rates of Pay', in Hunt, A. (ed) Women and Paid Work, London : Macmillan.

Marsh, C. (1988) 'Unemployment in Britain', in Gallie, D. (ed), Employment in Britain, Oxford: Blackwell.

Marsh, C. (1988) Exploring Data, Oxford: Polity.

Martin, J., Bushnell, D. Campanelli, P. and Thomas, R. (1995) 'A comparison of interviewer and office coding of occupations', OPCS, Survey Methodology Bulletin, 37: London:HMSO 21-27.

Martin, J. and Roberts, C. (1984) Women and Employment: A Lifetime Perspective, London: HMSO for the Department of Employment.

Mason, K. Oppenheim (1984) 'Commentary: Strober's Theory of Occupational Sex Segregation' in Reskin, B.F. (ed) Sex Segregation in the Workplace: Trends, Explanations,

Remedies, Washington D.C: Washington Academy Press.

Maurice, M. Sorge, A and Warner, M. (1980) 'Societal Differences in Organising Manufacturing Units: A Comparison of France, W. Germany and G. Britain', Organisation Studies, 1.1:59-86.

McRae, S. (1991) 'Occupational Change over Childbirth: evidence from a national survey' Sociology, 25.4:589-605.

McRae, S. (1995) Part-time work in the European Union- the gender dimension, Dublin: The European Foundation for the Improvement of Living and Working Conditions.

Michie, J. , ed, (1992) The Economic Legacy, 1979-1992, London: Academic Press.

Middleton, C. (1988) 'Gender divisions and wage labour in English history' in Walby, S. (ed) Gender Segregation at Work, Milton Keynes: Open University Press.

Millward, N. and Woodland, S. (1995) 'Gender Segregation and Male/Female Wage Differences' in Humphries, J. and Rubery, J. (eds) The Economics of Equal Opportunities, Manchester: Equal Opportunities Commission.

Mincer, J. and Polachek, S. (1974) 'Family Investments in Human Capital: Earnings of Women', Journal of Political Economy, 82:s76-s108.

Model, S. and Lapido, D. 'Context and Opportunity: Minorities in London and New York', Social Forces, 75.2:485-510.

Murgatroyd, L. (1988) 'Gender and Occupational Stratification', Sociological Review, 30 :574-602.

Nicole-Drancourt, C. (1989) 'Conceptual equivalence: female strategies, trajectoires and part-time work', in Hantrais, L.,(ed) Franco-British Comparisons of Family and Employment Careers, Birmingham: Aston University: 67-71.

OECD, (1983) 'Part-time Employment in OECD Countries', Employment Outlook, Paris: OECD, 43-52.

OECD,(1988) 'Women's Activity, Employment and Earnings: A Review of Recent Developments', Employment Outlook, Paris: OECD, 129-172.

OECD (1994) Women and Structural change- New Perspectives, Paris:OECD

O'Muircheartaigh, C.A. and Payne, C. (1977) Model Fitting, Pitman:Bath.

ONS (1996) Population Trends, 84 & 85.

OPCS, (1970) Classification of Occupations 1970, HMSO.

OPCS, (1980) Classification of Occupations 1980, HMSO

O'Reilly, J. (1994) Banking on Flexibility, Aldershot: Avebury.

Oyen, E. (1990) Comparative Methodology. Theory and Practice in International Social Research, London: Sage.

Paci, P. and Joshi, H. (1996) Wage Differentials Between Men and Women - Evidence from cohort studies, Research Report 71, Sheffield: Department for Education and Employment.

Paci, P., Joshi, H. and Makepeace, G. (1995) 'Pay Gaps Facing Men and Women Born in 1958: Differences Within the Labour Market' in Humphries, J. and Rubery, J. (eds) The Economics of Equal Opportunities, Manchester: EOC.

Padavic, I. (1991) 'Attractions of Male Blue-collar Jobs for Black and White Women: Economic Need, Exposure and Attitudes', Social Science Quarterly, 72.1:33-49

Padavic, I. (1992) 'White-collar Work Values and Women's Interest in Blue-collar Jobs', Gender and Society, 6:215-30.

Penn, R. (1992) 'Flexibility in Britain during the 1980s: Recent Empirical Evidence' in Gibert, N., Burrows, R. and Pollert, A. (eds) Fordism and Flexibility, London : Macmillan.

Phillips, A. (1992) 'Feminism, Equality and Difference' in McDowell, L. And Pringle, R., Defining Women, Cambridge: Polity.

Phillips, A. and Taylor, B. (1980) 'Sex and Skill: notes towards a feminist economics', Feminist Review, 6, 79-88.

Polachek, S.W. (1976) 'Occupational Segregation: An Alternative Hypothesis' Journal of Contemporary Business, Winter Issue :1-12.

Pollert, A. (1988) 'The 'Flexible Firm': Fixation or Fact?', Work, Employment and Society, 2.3.281-316.

Penn, R. (1992) 'Flexibility in Britain during the 1980s: Recent Empirical Evidence' in Gilbert, N., Burrows, R. and Pollert, A. (eds), Fordism and Flexibility, London : Macmillan.

Prandy, K. (1990) 'The Revised Cambridge Scale of Occupations', Sociology, 24.4:629-655.

Procter, I. and Ratcliffe, P. (1992) 'Employment and Domestic Work: A Comparison of Samples of British and French Women' in Arber, S. and Gilbert, N. (eds) Women and Working Lives, London : Macmillan.

Ragin, C. (1981) 'Comparative Sociology and the Comparative Method', International Journal of Sociology, 1.2: 102-20.

Ragin, C. (1987) The Comparative Method, California: University of California Press.

Rees, T. (1992) Women and the Labour Market, London : Routledge.

Reich, M., Gordon, D. And Edwards, R. (1980) 'A Theory of Labour Market Segmentation' in Amsden, A. (ed) The Economics of Women and Work, Harmondsworth: Penguin.

Reskin, B. F. (ed) (1984) Sex Segregation in the Workplace: Trends, Explanations, Remedies, Washington DC: National Academy Press.

Reskin, B. (1988) 'Bringing the men back in: sex differentiation and the devaluation of women's work', Gender and Society, vol 2.1, 58-81.

Reskin, B.F. and Hartmann, H.I., eds, (1986) Women's Work, Men's Work- Sex Segregation on the Job, Washington D.C.: National Academy Press.

Reskin, B. and Padavic, I. (1994) Women and Men at Work, California : Pine Forge Press.

Reskin, B.F. and Roos, P.A. (1990) Job Queues, Gender Queues: Explaining Women's Inroads into Male Occupations, Philadelphia: Temple University Press.

Roos, P. (1985) Gender and Work: A Comparative Analysis of Industrial Societies, Albany: SUNY Albany Press.

Rosenfeld, R.A. (1984) 'Job Changing and Occupational Sex Segregation: Sex and Race Comparisons' in Reskin, B.F. (ed), Sex Segregation in the Workplace: Trends, Explanations, Remedies, Washington D.C.: National Academy Press.

Rosenfeld, K.A. and Spenner, K.I. (1992) 'Occupational Segregation and Women's Early Career Job Shifts' Work and Occupations, 19.4:424-449.

Rubery, J. (1978) 'Structured labour markets, worker organisation and low pay', Cambridge Journal of Economics, 2.17:17-36.

Rubery, J. (ed) (1988) Women and Recession, London: Routledge & Kegan Paul.

Rubery, J. (1996) 'The Labour Market Outlook and the Outlook for Labour Markets' in Crompton, R, Gallie, D and Purcell, K., eds, Changing Forms of Employment, London: Routledge.

Rubery, J. and Fagan, C. (1993) Occupational Segregation of Women and Men in the European Community, Synthesis Report of the Network of Experts on the Situation of Women in the Labour Market, University of Manchester.

- Rubery, J. and Fagan, C. (1995) 'Gender Segregation in Societal Context', Work, Employment and Society, 9.2:213-240.
- Rubery, J., Horrell, S., and Burchell, B. (1994) 'Part-time Work and Gender Inequality in the Labour Market' in Scott, A. (ed), Gender Segregation and Social Change, Oxford: Oxford University Press.
- Rubery, J. and Tarling, R. (1988) 'Women's Employment in Declining Britain' in Rubery, J. (ed) Women and Recession, London: Routledge & Kegan Paul.
- Rubery, J. and Wilkinson, F. (eds) Employer Strategy and the Labour Market, Oxford: Oxford University Press.
- Rytina, N. and Bianchi, S. (1984) 'Occupational Reclassification and changes in distribution by gender', Monthly Labor Review, vol 107-3, 11-17.
- Savage, M. (1992) 'Women's expertise, men's authority: gendered organisations and the contemporary middle classes' in Savage, M. and Witz, A. (eds) Gender and Bureaucracy, Oxford: Blackwell.
- Schoer, K. (1987) 'Part-time employment: Britain and West Germany', Cambridge Journal of Economics, 11:83-94.
- Scott, A. (1994) Gender Segregation and Social Change, Oxford: Oxford University Press.
- Scott, A. and Burchell, B. (1994) 'And never the twain shall meet? Gender Segregation and Work Histories', in Scott, A. (ed) Gender Segregation and Social Change, Oxford: Oxford University Press.
- Shirahase, S. and Ishida, H. (1994) 'Gender Inequality in the Japanese Occupational Structure- A Cross-National Comparison with Great Britain and the US', International Journal of Comparative Sociology, 35.3-4:188-206
- Siltanen, J. (1990a) 'Social Change and the measurement of Occupational Segregation by Sex: An Assessment of the Sex Ratio Index', Work, Employment and Society, 4.1:1-29.
- Siltanen, J. (1990b) 'Further Comment on the Sex ratio Index', Work, Employment and Society, 4.4:599-603.
- Siltanen, J. (1994) Locating Gender, London: UCL Press.
- Siltanen, J., Jarman, J. and Blackburn, R.M. (1992) Gender Inequality in the Labour Market: Occupational Concentration and Segregation, a Manual on Methodology, Geneva: International Labour Organisation.
- Solberg, E. And Laughlin, T (1995) 'The Gender Pay Gap, Fringe Benefits and Occupational Crowding', Industrial and Labor Relations Review, 48.4:692-708.

- Stewart, A., Blackburn, R.M. and Prandy, K. (1980) Social Stratification and Occupations, London: Macmillan
- Strober, M.H. (1984) 'Towards a General Theory of Occupational Sex Segregation: The Case of Public School Teaching', in Reskin, B.F. (ed), Sex Segregation in the Workplace: Trends, Explanations, Remedies, Washington D.C.: National Academy Press.
- Sztompka, P. (1988) 'Conceptual Frameworks in Comparative Inquiry: Divergent or Convergent?', International Sociology, 3.3:207-218.
- Thomas, R. (1986) 'Classification of Women's Occupations', OPCS, Survey Methodology Bulletin, 18, London: HMSO :5-16.
- Thomas, R. and Elias, P. (1989), 'Development of the Standard Occupational Classification', OPCS, Population Trends, 55, London:HMSO :16-21.
- Tilly, L.A. and Scott, J.W. (1987) Women, Work and Family, 1987, New York:Methuen.
- Tzannatos, Z. (1990) 'Employment Segregation: Can We Measure It and What Does the Measure Mean?', British Journal of Industrial Relations, 28:105-111.
- Vogler, C. (1994) 'Segregation, Sexism and Labour Supply' in Scott, A., (ed) Gender Segregation and Social Change, Oxford: Oxford University Press.
- Walby, S. (ed) (1988) Gender Segregation at Work, Milton Keynes: Open University Press.
- Walby, S. (1988) 'Segregation in employment in social and economic theory' in Walby, S. (ed) Gender Segregation at Work, Milton Keynes: Open University Press.
- Walters, P. and Dex, S. (1992) 'Feminisation of the Labour Force in Britain and France', in Arber, S. and Gilbert, N.(eds), Women and Working Lives: Divisions and Change, Basingstoke: Macmillan.
- Ward, C. and Dale, A. (1991) "Modelling categorical data from the OPCS Longitudinal Study using GLIM", LS User Guide No.5, London: SSRU, City University.
- Watts, M. (1990) 'The Sex Ratio Index Revisited', Work, Employment and Society, 4.4:595-603.
- Webb, S. (1993) 'Women's Incomes: Past, Present and Prospects', Fiscal Studies, 14.4:14-36.
- White, M. and Gallie, D. (1994) 'Employer Policies and Individual Life Chances' in Rubery, J. and Wilkinson, F. (eds) Employer Strategy and the Labour Market, Oxford: Oxford University Press.
- Zabalza, A. and Tzannatos, Z. (1985a) 'The effect of Britain's anti-discrimination

legislation on relative pay and employment', Economic Journal, 95.679-699.

Zabalza, A. and Tzannatos, Z. (1985b) Women and Equal Pay, Cambridge: University Press.