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**Part-time work in Britain 1992-2006:
From Periphery to Core?**

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Abstract

The work and labour market situation of female part-time workers have been a central focus of contrasting sociological interpretations of the labour market. These share in common a view that part-timers occupy jobs with lower levels of skill and lower pay than full-timers, but provide very different accounts of why this should be the case. However, the major perspectives adopt a relatively static view of the labour market, implicitly assuming that the relativities between full-timers and part-timers are likely to remain relatively constant across time. This paper shows that the skill position of female part-timers workers has improved significantly since the early 1990s. While this has benefited some sectors of part-timers more than others, there is no consistent evidence of polarisation. There is still a significant skills gap, but the changes over time cast doubt over the view that female part-timers should be regarded as a quite distinct peripheral sector of the workforce.

Key Words: part-time work; skills; pay; polarisation

Interpretations of Part-time Work

It is generally recognised that part-time work differs from full-time work along dimensions other than the length of working hours. Rubery (1998) suggests that 'part-time jobs constitute a different employment form, organised on different principles, and on different terms and conditions to full-time jobs'. If male full-timers can be viewed as constituting the 'core' workforce in the segmented structure of contemporary labour markets, female part-timers have been depicted as the largest component of a quite distinct 'flexible', 'secondary' or 'peripheral' workforce (Barron and Norris, 1976; Hakim, 1987; Beechey and Perkins, 1987). While such characterisations are questionable in terms of job insecurity, part-time work clearly involves well-documented disadvantages with respect to both skill and pay.

A number of empirical studies have pointed to the disadvantaged nature of part-time work in terms of the skill contents of the job. It has been widely observed that part-time workers possess lower levels of general and specific skills than full-time workers. Using a range of skills measures, Horrell, Rubery and Burchell (1990) found a substantial skills gap between male and female workers that could be largely attributed to the low skill level of female part-time jobs. Gallie et al (1998) showed that part-timers in Britain in the early 1990s were characterised by relatively low skill levels, restricted opportunities for skill improvement, and very poor career opportunities. This is reinforced by evidence that moves into part-time work are often accompanied by downward skill mobility (Connolly and Gregory, 2008)

Aside from skills, the economic consequences for women of being in part-time rather than full-time employment have also been shown by a large number of studies. It has been repeatedly found that part-timers earn lower hourly wages than full-timers, even after taking into account employee and workplace characteristics (Rosenfeld and Kalleberg, 1990; OECD, 1994; Paci et al, 1995; Gornick and Jacobs, 1996, Tilly, 1996; Ferber and Waldfogel, 1998). Drawing on the 2001 New Earnings Survey, Manning and Petrongolo (2008) find that the average hourly earnings of British female part-time workers are 26% below those of female full-time workers. Their analysis of the Labour Force Survey for the same year suggests a somewhat lower, though still substantial, gap of 22%. Although it has been widely found that much of the part-time wage disadvantage

stems from differences between part- and full-time workers in job characteristics, preferences and accumulated skills, most studies conclude that a part-time penalty remains even after controlling for worker and job attributes. For instance, drawing on the 2000 Labour Force Survey, Harkness (2002) estimated that, even after controlling for employee and work context characteristics, British female part-timers' pay is 8% lower than their full-time counterparts, while Manning and Petrongolo (2008) find a gap of 3%.

The two most common within-country interpretations of the differential rewards of full-time and part-time work emphasise respectively the role of employers in designing the job structure and the influence of individual characteristics, in terms of either human capital or work attitude differences (McGinnity and McManus, 2007). The job structure approach starts from the assumption that it is employers that define the characteristics of jobs and that these typically are offered as distinctive bundles. Thus jobs with specific working hours will tend to come with predefined levels of skill, pay and other rewards. Women's choices in the labour market will then be heavily constrained. If they are unable to afford adequate childcare, they may need to take jobs with more convenient hours even though these are of lower skill and offer fewer opportunities for career progression than they would have wished. Thus employers may design a job sector on the basis of low skill and low pay, with a view to enhancing their profits, knowing that they have a relatively captive labour force. This view of the British labour market has received some support from comparative studies, although these usually emphasise the importance of the institutional context in which employers take their decisions. For instance, O'Reilly's (1994) case studies of the French and British banking industry showed how employers in the two countries provided rather different task structures and employment conditions for part-timers in broadly comparable work settings. The French were more likely to emphasise functional flexibility and part-timers were less likely to be used to meet short-term fluctuations in work load. McGinnity and McManus (2007:126) found that whereas occupational location provided little explanation of part-time work wage disparities net of human capital in Germany (and only a small part of the explanation in the United States) it had a much stronger effect in Britain 'where women are likely to shift into low paid occupation when they take up part-time work'.

The second approach would see the job structure as largely adaptive to the skills and preferences of the workforce. Employers seeking to recruit will design jobs in a way that fits with the characteristics of those available to take them. The growth of a low skill, low pay, sector of employment could then reflect the fact that available labour tends to have relatively low human capital, whether as a result of poor initial qualifications or of loss of experience due to periods of interruption of employment. An alternative version of the individual characteristics approach points to differences in attitudes to work between different sets of employees. Part-time workers are seen as drawn primarily from people for whom work is a less central life orientation and who therefore attach less importance to the intrinsic quality of work and to its scope for career development than to the opportunity it gives for an acceptable work-life balance. The differentials in rewards experienced by part-timers can then be seen as a result of choice rather than constraint (Hakim, 1997:43). The two arguments are closely interconnected in that educational level is thought to be an important predictor of the importance that people attach to their careers.

Few studies from either perspective provide much discussion of scenarios of change in the position of part-time workers. Yet arguably, while many of the factors underpinning the part-time differentials are likely to be rather stable, the underlying assumptions of both major positions do incorporate some factors with the potential to lead to change. Employers may have started to recruit part-timers into jobs at higher occupational levels. This may have been accentuated by changes in regulative structures. The European Union's part-time work directive (implemented in 2000) might be expected to have led to a stronger concern for the equal treatment of part-timers and their integration into the mainstream workforce. Moreover, given the strong association recorded between low pay and part-time work, part-timers could be expected to have benefited particularly from the introduction of minimum wage legislation in 1999. Arguably this may have affected not only the pay but also the skills of part-timers. If employers are obliged to pay more for low-skilled workers, they may have had an incentive to upgrade their skills. Similarly, there have been significant changes with respect to human capital attainment of women that may have affected the position of part-timers. The last two decades have seen a marked rise in the educational qualifications of

women and this might be expected to have influenced their attitudes to work, in particular their commitment to remaining in employment. A first issue then is whether the predominant factors that generate major differentials between full-timers and part-timers have tended to be fairly stable or have changed in a way that has contributed to an improvement in the position of the part-time workforce.

If there has been an overall improvement in the position of part-timers, this raises the issue of whether it applies to part-timers in general or to specific categories of part-timers. A general rise in skills could be associated with a polarisation in experiences between different categories of part-timers. One potential line of division within the part-time work force relates to the length of hours worked. The importance of this has been pointed to by a number of writers (Schoer, 1987; Tilly, 1991, Meulders et al, 1993; Meulders et al, 1994). Blossfeld and Hakim (1997) have suggested that those in 'reduced hours' (usually involving over 30 hours a week) or in 'half-time' work (of around 15-29 hours a week) are likely to be in jobs organised on a long-term basis. In contrast those in 'marginal work', involving less than 10 or 15 hours, can be excluded from statutory employment rights or employer benefits, thus benefiting employers in terms of low compensation and scheduling flexibility. If so this is likely to have important implications for skill development. Employers are more likely to invest in the skills of longer-term employees than in those employed on a short-term basis. Compared to many other countries, there is a particularly wide spread of hours among British part-timers and it is possible that experiences differ sharply between those with relatively short hours and those with longer hours.

A second potential line of polarisation between part-timers is with respect to occupational level. A regular finding in studies of training is that employers tend to invest more in the training of more highly skilled employees. Hence it may be particularly among part-timers in higher level occupations that job skill requirements have been rising, with lower skilled part-timers left behind. Similarly, changing expectations driven by rising educational levels are likely to have primarily affected part-timers in higher level occupational positions. The European Directive with its emphasis upon facilitating transition between full-time and part-time work, may have been particularly beneficial for women in higher occupational classes for whom there were previously fewer part-time

work opportunities. Against this, the minimum wage legislation was primarily designed to benefit the least well off, and may have contributed to rising skills among those in lower-level occupations.

The central issues that we address in this paper are then:

1. Whether there have been changes in the relative position of part-timers with respect to either skill or pay compared to male full-time employees who are commonly regarded as constituting the ‘core’ workforce.
2. Whether, if there have been changes, these are best accounted for changes in individual human capital (and by extension employment commitment) or by factors relating to the structure of jobs.
3. Whether, if there have been changes, they have been relatively general across the part-time work force or have affected primarily particular segments of it, leading to either a compression of differentials or to polarisation between part-timers in different occupational positions or with different working hours.
4. Whether any improvement in the position of part-timers has been sufficient to fully erode the part-time differential with respect to skills and pay, taking account of differences in human capital characteristics and work contexts.

Data

In addressing these issues, we draw on a series of national surveys that have been carried out between 1992 and 2006 - the ‘Skills Survey’ series. There was a high level of overlap in the questionnaires of the different surveys, providing the possibility of direct comparison over the period as a whole. In particular, the surveys included a common set of questions designed to tap the broad skills of jobs, as well as comparable information on pay, occupation, industry, establishment size and job preferences. The first survey – the Employment in Britain survey – was conducted in 1992. It achieved a response rate of 72% and a resulting sample of 3469 employed individuals. This was followed by the Skills Surveys of 1997, 2001 and 2006. The response rates for these surveys were 67%, 66% and 62% respectively, with obtained sample sizes of 2467, 3990, and 4800. Comparison of the occupational distribution from the surveys with the Labour Force

Surveys for each year shows a high level of correspondence both for the overall workforce and for the part-time workforce.

An initial issue that any study of part-time work has to address is how part-time work is to be defined. There are two rather different ways in which this is typically done in the literature. The first is based on the number of hours worked. Although such 'hours based' classifications differ between countries, part-time work is usually defined in terms of work that involves less than 30 hours or less than 35 hours. The alternative approach is to rely on employees' self-definitions of their employment status. While there is a high level of overlap between those covered by the two definitions, they are not identical. We have selected the less than 30 hours definition as this is the most commonly used in British official statistics. We have however examined the robustness of the conclusions using other definitions of part-time work and our conclusions remain essentially the same.

Changes in the Individual and Work Context Characteristics of Part-time Work

The proportion of both the overall workforce and the female workforce in part-time jobs changed relatively little between 1992 and 2006. In 1992 they represented 20% of all employees and 41% of female employees; in 2006 the proportions were respectively 19% and 39%. However there were some potentially important shifts over the period in both the individual and work characteristics of female part-timers.

Taking first individual characteristics, as can be seen in Table 1, our data show a marked rise, especially from 2007, in the educational qualifications of female part-timers. There was a sharp decline in the proportion without any qualifications at all (from 33% in 1992 to 11% in 2006) and a marked rise of 11.6 percentage points in the proportion of female part-timers with Level 3 (A Level equivalent) and of 6 percentage points with Levels 4 and 5 (Degree Level or higher) qualifications.

In terms of work context, there was a notable shift in the occupational distribution of part-time work. In 1992 the largest concentration of part-timers was in elementary occupations, followed at some remove by administrative/secretarial and sales work. In 2006 part-timers were more evenly distributed across the occupational structure. In general this reflected an upward shift in occupational level. A considerably higher

Table 1: Trends in Selected Characteristics of Female Part-Time Employees

	1992	1997	2001	2006
Educational qualifications				
No qualifications	33.0	28.5	20.6	11.3
Level 1	5.1	9.6	13.1	11.9
Level 2	33.7	35.2	28.3	30.5
Level 3	10.3	12.7	16.5	22.1
Level 4/5	17.8	14.1	21.6	24.2
Education index	9.1	7.5	10.9	12.3
Occupation				
Managers	3.2	0.4	2.1	3.9
Professionals	6.4	6.7	8.8	9.4
Associate professionals & technicians	7.5	6.4	10.3	11.4
Admin & secretarial	20.0	19.0	21.2	16.9
Skilled trades	1.4	2.7	1.6	2.7
Personal services	12.3	12.1	15.3	19.5
Sales	17.6	24.3	18.2	16.5
Operatives	2.2	2.4	2.7	2.0
Elementary	29.4	26.1	20.0	17.8
Industry				
Manufacturing	7.7	5.2	3.9	3.3
Electricity	0.0	1.0	0.2	0.1
Construction	0.9	0.6	0.8	1.4
Wholesale	19.0	23.7	21.8	17.5
Hotels	5.8	6.7	7.1	8.0
Transport	2.5	2.9	3.2	2.1
Finance & business services	23.1	9.1	11.2	11.2
Public administration	4.4	6.8	6.7	9.3
Education	19.2	14.0	19.5	17.2
Health	10.5	23.3	21.4	22.7
Other services	6.9	5.6	3.8	6.6
Establishment size				
Size 1-24	47.9	48.9	46.8	46.7
Size 25-99	23.6	24.4	25.4	26.0
Size 100-499	15.6	18.4	18.1	15.6
Size 500+	12.9	8.3	9.4	11.6
Unwtd Ns	643	436	814	904
(Wtd Ns)	(647)	(413)	(757)	(801)

Note: Figures on characteristics of part-timers are weighted.

proportion of part-timers were working in professional and associate professional positions in 2006. Conversely there was a small decline in the proportion both in administrative and secretarial work and in sales work and a marked decline in the proportion in elementary occupations.

There were also changes with respect to industry. In 1992 part-timers were concentrated particularly in wholesale and retail, finance and business services, and education. By 2006, the proportions in wholesale and retail and education had remained relatively stable. But there had been a decline in part-time employment in finance and business services and a rise in the proportion employed in the health industry. Finally it should be noted that one important feature of part-time work changed very little across the period. Part-timers remained disproportionately concentrated in small establishments (with less than 24 employees).

Changes in the Skills of Female Part-timers

The first question we address is whether the frequently noted differential in job skills between full-time and part-time workers has proved highly persistent or has changed over time. This immediately raises the issue of the measures of skill to be adopted. The 'skills survey' research programmes started from the assumption that, at a very general level, the idea of relative skill level or task complexity is best proxied by the learning time necessary to develop the knowledge required to be able to do the job¹. At least three distinct types of knowledge acquisition have to be taken into account: general education, vocationally specific training and knowledge acquired on the job. Any single summary measure of skill level then is unlikely to be adequate, given the diversity of relevant knowledge and the sources for acquiring them.

The surveys provide three principal measures designed to tap the skill requirements of jobs. The first is the qualification level required for the job. The question

¹ Compare William Form who argues that, in the absence of objective and representative skill measures of jobs: 'probably the best indicator is the total preparation time a job requires for an average worker to attain an average level of performance' (Form 1987). Interestingly, a careful comparison of self-report job measures and so-called objective measures collected from work sites by trained occupational analysts suggest they correspond well (Gerhardt 1988). Spenner (1990) also concludes that overall empirical studies support the view that respondents are relatively accurate reporters.

is specifically focused on the current requirements of the job itself rather than on the individual's own past qualifications. People were asked: 'If they were applying today, what qualifications, if any, would someone need to get the type of job you have now?' The highest qualification given was subsequently allocated to one of five broad qualification categories². The second measure is concerned with the length of training time the person had received for the particular type of work they were currently involved in, asking people 'Since completing full-time education, have you ever had or are you currently undertaking, training for the type of work you currently do?' If people had or were receiving training, they were then asked 'how long in total did (or will) that training last?' The third measure addresses the issue of the on-the-job learning required when entering the job, asking 'How long did it take for you after you first started doing this type of job to learn to do it well?' A summary index has been constructed for each measure by scoring the responses for the levels of required qualifications and for the length of training and on-the-job learning times³.

What picture did these different indicators give of the relative level of female part-timers skills compared to male full-timers and the way this has evolved over time? Focusing on the three indices, as providing the best overview of the pattern for each year, it is clear from Table 2 that at each time period part-time employees had lower skill scores than male full-time employees whether male and female and whichever skill index is taken. But it notable that there was also a marked increase in the index scores for female part-time workers on each of the three skill measures. The required qualification index increased from 1.19 in 1992 to 1.66 in 2006, the training time index from 1.25 to 2.26 and the learning time index from 2.42 to 2.89. Even more striking, the point increase for female part-timers was greater than that for male full-timers. For required qualifications, the index rose by 0.47 for female part-timers, while there was virtually no change (-.03) among male full-timers. The pattern was similar for the training time index, with a rise of 1.01 for female part-timers, compared with -0.01 for male full-timers. The on-the-job learning time index rose by 0.47 for female part-timers, but by only 0.16 for

² These are broadly: no qualifications, poor lower secondary, lower secondary, upper secondary, non-degree higher education and degree-level higher education.

³ The qualifications required index ran from 0 for no qualifications to 4 for Level 4/5; and the training and on the job learning indexes from 1 for less than a month to 6 for over two years.

male full-timers. This indicates that part-timers not only benefited from a general rise in skills over the period, but that they experienced a particularly strong process of upskilling that led to an improvement in their position relative to male full-timers.

Table: 2 Mean Scores for the Required Qualifications, Training Time and Learning Time Indices for Female Part-Timers and Male Full-Timers (Higher Scores=Higher Skill)

	Female part-timers	Male full-timers
Required QI		
1992	1.19	2.19
1997	1.21	2.09
2001	1.44	2.27
2006	1.66	2.16
Training TI		
1992	1.25	2.66
1997	1.65	2.81
2001	1.70	2.43
2006	2.26	2.65
Learning TI		
1992	2.42	3.81
1997	2.48	3.89
2001	2.64	3.96
2006	2.89	3.97

A stricter test of whether there is evidence of skill convergence between female part-time work and male full-time work can be made through regression analyses, in which interaction terms are entered to estimate whether the effect for female part-time work, compared to male full-time work, was significantly different in 2006 than in 1992. In doing so, it is important to distinguish between ‘overall female part-timer’ disadvantage and ‘contract-specific’ disadvantage. An overall measure of the disadvantage of female part-timers is affected by potential change in two factors: the disadvantage that people experience in their jobs as women and the disadvantage due to their part-time contract status. It may be that the improvement in the position of female part-timers reflects a more general improvement in the position of women in the labour market that affects female full-timers as well. The contract-specific effect is the net effect once the gender

effect has been taken into account. Both are important in assessing the disadvantages experienced by female part-timers, but they convey rather different information.

Our first model in Table 3 (row one) presents change in the overall female part-time effect, which takes account of both gender and contract disadvantage. It is notable that the coefficient is positive and highly significant for both required qualifications and training times in 2006. The coefficient for post-job entry learning time is also positive in 2006, but it is not significant. Overall the pattern confirms that there was a significant convergence of female part-timers with male full-timers by 2006 on two of three skill measures⁴.

Table 3: Change in Part-Time Effects on Skills (2006 vs. 1992), Relative to Male Full-Time Employees, with and without Controls

	Required qualifications		Training time		Learning time	
	Coeff	Sig	Coeff	Sig	Coeff	Sig
<i>A. Change in:</i>						
Overall female part-time effect	0.49	***	0.64	***	0.18	n.s.
Female part-time effect controlling for sex	0.25	*	0.27	*	0.10	n.s.
<i>B. Individual characteristics</i>						
+ Human capital	0.35	**	0.25	n.s.	0.08	n.s.
+ Human capital & employment commitment	0.31	*	0.26	*	0.13	n.s.
<i>C. + Work context characteristics</i>						
+ Occupational class	0.27	*	0.26	*	0.10	n.s.
+ Occupational class, industry and establishment size	0.29	*	0.24	n.s.	0.10	n.s.
<i>D. + Individual and work context characteristics</i>						
	0.29	n.s.	0.21	n.s.	0.09	n.s.

Note: Ordered Logit Coefficients. Sig: ***=p<0.001; **=p<0.01; *=p<0.05.

The second row of Table 3 shows the contract-specific change effect for female part-timers once the sex effect has been taken into account. Over the period there had been a

⁴ There was a similar trend for female full-timers although the coefficients were notably smaller.

similar trend for female full-timers to converge on male full-timers, although it was less marked. It can be seen that the contract-specific change effect is substantially lower than the overall female part-time effect. The general improvement in women's job skills accounted for 45% of the female part-time effect with respect to required skills and as much as 59% with respect to training. Nonetheless, there remains a significant effect for both qualifications and training required, showing that part of the improvement in female part-timers' position was attributable to factors that were specific to their part-time status.

How far was the improvement in the skill position of female part-timers due to changes in their individual characteristics? It is possible that the change was an employer response to higher levels of human capital in the part-time workforce. Our indicators of human capital include highest educational level, time in the labour market since finishing full-time education, age and tenure (as well as time in the labour market and tenure squared to take account of possible non-linearity). Our data showed a rise in educational levels, although there was less evidence of change in other indicators of human capital such as work experience or tenure. When these factors are introduced as controls (Table 3, row 3), the relative improvement in skill for part-timers is still clearly evident with respect to required qualifications, although the changing human capital of female part-timers does appear to account for the rise in the training requirement of their jobs.

Female part-time workers' skill experiences might also be affected by other types of individual factor relating to their motivation for work. To examine this, we introduced a measure of employment commitment that was available in the surveys for 1992 and 2006. People were asked; 'If you were to get enough money to live as comfortably as you like for the rest of your life, would you continue to work, not necessarily in your present job or would you stop working?'. Those who would continue working were then asked 'Ideally how many hours a week would you like to work if you didn't need the money?'. The two items were combined to create a typology reflecting the strength of employment commitment, distinguishing between those who would stop working; those who would wish to continue working but for less than 20 hours a week; those who would wish to work between 20 and 29 hours and finally those who would wish to work 30 hours or more. Employment commitment was certainly highly associated with both qualifications and training required for the job ($p < 0.001$) and marginally with learning time ($p = 0.07$).

But, controlling for changes in employment commitment (Table 3, row 4) did not reduce the significance of female part-timers' improvement with respect to required qualifications and indeed it strengthened the significance of the effect for training time.

An alternative possibility is that the change in the relative position of part-timers can be accounted for by changes in occupational structure. Did the upskilling of part-timers reflect the shift in the occupational structure with a growth of the more skilled and a decline of the least skilled occupations in which part-timers had been previously particularly heavily concentrated? The fifth and sixth rows of Table 3 shows that taking account of occupational change on its own leaves the part-time effect unchanged, but when taken together with controls for industry sector and establishment size the coefficient for relative improvement in training time is no longer significant.

Overall, it is clear that much of the improvement in the relative position of female part-timers reflects an improvement in the skills of women's jobs more generally. However, the skills of female part-timers' jobs, as reflected in the qualifications and training time required for jobs, improved even more than those of female full-timers. With respect to required qualifications, this cannot be accounted for either by changes in the individual characteristics of part-timers or by work context factors taken separately. But controls for human capital and work context (but not for employment commitment) did take away the significance of the training effect. Moreover, in our final model (Table 3, row 7), which combines both individual characteristics and work context factors, neither of the skill change effects remain statistically significant at the $p < 0.05$ level. The relative improvement in the skills of female part-timers reflects then a combination of a general improvement in the position of female employees, together with changes in human capital and work context characteristics that are more specific to female part-timers.

Polarisation between part-time jobs?

It has been suggested that there are quite distinct categories of part-time worker, with those working relatively long part-time hours having a very different labour market situation than those with short hours. Similarly, the characteristics of part-time may vary substantially depending on type of occupation. Arguably, the improvement in the skill

position of part-timers may conceal an increased divergence between these types of part-time worker. Employers may have invested particularly in the skill development of jobs that were usually staffed by relatively long-hour part-timers, while neglecting those of 'marginal' part-timers who may have been regarded as less likely to remain in the workforce over an extended period of time or who were unduly costly to upgrade given their limited hours of work. Similarly, they may have treated differently those in higher level occupations (perhaps due to scarcer skills) and those in lower skilled work. Is there evidence of polarisation within part-time work itself on the basis of either hours of work or occupational level?

To examine the difference between female part-timers working different hours, part-time jobs have been grouped into a 'shorter hour' group involving less than ten hours work, a 'medium hour' group working 10 to 19 hours and a 'longer hour' group working 20 to 29 hours a week. The coefficients in the first panel of Table 4 show the change in job skills between 'working hour' categories between 1992 and 2006, taking 'shorter hours' workers as the reference category. It can be seen that there is indeed some evidence that those in 'marginal' part-time work (working less than ten hours a week) benefited less from improvement in job skills than those working longer hours. Those working between 20 to 29 hours were significantly more likely to have increased their skills on two of the three skill measures. Moreover, those working between 10 and 19 hours a week were also more likely to have experienced rising skills with respect to required qualifications.

Was there also polarisation between part-timers in different occupational groups? The second part of Table 4 contrasts the change of skills of female part-timers in various intermediary and higher occupational categories compared with those in elementary work. Two occupational categories stand out as having had a particularly marked rise in job skills over the period. The first is that of female part-time managers, who saw a substantially greater increase in the qualifications required for their jobs. However, even more strikingly, personal service workers stand out as having a marked increase in their relative skills on all three dimensions of skill. In short, while those in highest level occupations clearly benefited particularly from the process of upskilling, there was no simple process of skill polarisation. Personal service workers, which in the past have been

classified as relatively low skilled, are one of the groups of part-timers that have experienced the most striking rise in job skills over the period.

Table 4: Change in Part-Time Effect by Part-Time Hours and Occupational Class (2006 compared with 1992)

Change in part-time effect by year 2006	Required qualifications	Training time	Learning time
<i>Part-time working hour categories</i>			
Female part-time < 10 hours	Ref	Ref	Ref
Female part-time 10-19 hours	0.74*	0.47	0.47
female part-time 20-29	0.74*	0.49	0.71*
<i>Occupational groups</i>			
Managers	1.32*	0.70	0.84
Professionals	-0.80	0.72	-0.27
Associate professionals	-0.37**	-0.44	0.39
Administrative and secretarial	-0.04	0.26	-0.02
Skilled trades	-1.06	0.70	-0.80
Sales	0.47	0.44	-0.09
Personal service	0.99*	0.79*	0.69*
Operators	-0.31	-0.33	-0.75
Elementary	Ref	Ref	Ref

Note: Sig: ***=p<0.001; **=p<0.01; *=p<0.05. Analyses are based on female part-time employees only. The coefficients represent the interaction effects between ‘working hour’ or ‘occupational categories’ and year 2006, with 1992 as the reference year.

Overall there is stronger evidence of polarisation by working hour category than by occupational class. The benefits of rising skill levels went particularly to part-time workers working longer hours. However, they benefited occupational groups at quite disparate levels of the class hierarchy.

Skill Change and Pay

An extensive literature has pointed to the pay disadvantages experienced by part-time workers. Given that there was a significant rise in the job skills of female part-time workers over the period, was there also an improvement in part-timers’ relative pay? Our data (Table 5, first row) shows that, overall, there was no significant improvement in the

relative pay of part-timers, even before taking account of human capital and work context.

Given that skill trends benefited particularly specific types of part-timers, were those most affected by higher skill requirements also distinctive in terms of pay advantage? Skills rose particularly strongly among workers in longer hour part-time jobs, accentuating the difference with those in ‘marginal’ jobs of less than 10 hours. Consistently a significant improvement in pay was also only experienced by the longer-hour part-timers. This reinforces the conclusion that there has been increased polarisation between part-timers with different working times.

There was no clear cut evidence of polarisation between part-timers in different class positions, but specific categories did stand out as having seen particularly notable rises in relative skills – in particular managers on the one hand and personal service workers on the other. If skill change was driving relative pay, then these categories should have seen a significant improvement in their position.

Table 5: Change in Female Part -Time Effects on Log Gross Hourly Pay, Relative to Male Full-Time Employees, by Part-Time Hours and Occupational Class

Change female part-time cp 92	Coefficient	Sig
<i>Relative to male full-timers</i>		
Female part-timers 2006	0.02	
<i>Relative to female part-timers <10 hours</i>		
Female part-timers < 10 hours	Ref	
Female part-timers 10-19 hours	0.20	**
Female part-timers 20-29 hours	0.29	***
<i>Relative to female part-time elementary employees</i>		
Managers	0.53	***
Professionals	0.12	
Associate professionals	0.17	*
Administrative & secretarial	0.08	
Skilled trades	0.06	
Sales	0.05	
Personal service	0.05	
Operators	0.16	
Elementary	Ref	

Note: Sig: ***=p<0.001; **=p<0.01; *=p<0.05

As can be seen in the second panel of Table 5, the improved skill level of managers was indeed accompanied by an increase in their relative pay. However, there was no comparable increase for personal service workers. Further, none of the groups of part-timers in the lower reaches of the occupational hierarchy saw their relative position improve over time, as might have been expected from an effect of the minimum wage legislation. The relative rise in pay for part-timers appears to have benefited primarily those who were in higher occupational positions. While there is no clear evidence of polarisation by occupational level with respect to job skill requirements, there does appear to have been a widening pay gap.

A notable finding then is the marked discrepancy between the experiences of part-timers in managerial work and personal service work in the relationship between skill development and pay. The rise in job skills of those in managerial work was rewarded, but this was not the case for personal service workers. Why should this have been the case?

There is still insufficient evidence to be other than speculative, but it is possible that the pattern reflects rather different processes underlying the changes in skill and pay of part-time work in different occupational groups. Part-time employment has traditionally been relatively rare in higher level occupations, but over the period became significantly more common. This may have been facilitated by regulative changes, flowing from the European Directive, which made it easier for those in full-time positions to transfer to part-time status. Such transfers are more likely to be intra-organisational, making it difficult for employers to either reduce the skill requirements or to change their pay level of the jobs relative to full-time work. Research confirms that risks of skill downgrading on entering part-time work are lower among those who stay with, rather than change employer (Connolly and Gregory, 2008). Comparisons between the conditions for full-time and part-time work are likely to have been much more transparent than in the case of occupational groups in which part-timers have traditionally formed a substantial and distinct part of the workforce. An increase, then, in transfers between full and part-time status could be expected to raise both the skill and pay levels of part-timers, but primarily to the benefit of higher occupational categories.

In contrast, traditionally lower skilled personal service work has been organised on a part-time basis for a much longer period. The dynamics of change here are more likely to have reflected policy driven changes in skill requirements, in the context of established pay determination systems that were poorly designed to take account of changes in women's skills. The most substantial category of personal service workers was that of child care workers and research into the experience of this group may provide some insight into the processes underlying this pattern (Findlay et al. 2005; Findlay et al. 2007). When, after 1997, the Labour Government launched a significant expansion of formal childcare services, there was a strong emphasis on enhancing the qualifications and training of 'early years' workers. A large-scale study of nursery nurses in Scotland shows how their role was redefined to include educational development as well as the more traditional types of childcare, entailing regular inspection of performance. At the same time, they were required to become familiar with and put into operation an increasingly complex set of national and local authority specific set of standards. This led to increased levels of skill, responsibility, effort and work stress. Yet pay lagged behind to the point that it created low levels of morale and indeed eventually generated a major industrial dispute. In seeking to account for the lack of adaptation of pay to the new demands of these jobs, the authors point to the rigidities imposed by the prevailing job evaluation system. These were based on conceptions of skill in traditional industries, which gave very low weightings to the specific types of skills and responsibilities involved in responsibility for, communicating with and developing children. These biases in the institutional structure of pay determination effectively blocked the responsiveness of pay levels to changes in skill.

The Part-Time Skill Penalty in 2006

Given the improvements in their relative skill position, have part-timers now become integrated into the conditions characteristic of the full-time workforce in terms of their skills and pay position or do they continue to experience distinctive disadvantage with respect to skill and pay?

As shown earlier there can be different ways of estimating female part-timers' disadvantage. Table 6 gives estimates of the part-time penalty in 2006 under different

assumptions. In the first place, we distinguish between ‘overall’ disadvantage and ‘contract specific’ disadvantage, which is net of the gender effect. We then estimate effects with controls first for human capital, then for human capital and work context and finally for human capital, work context and employment commitment.

We take as a first measure the female part-time effect relative to full-time male workers, net of human capital characteristics. Taking the overall measure, it can be seen that relative to male full-timers there was still a strong negative overall female part-timer effect in 2006 with respect to two of the skill measures – required qualifications and on-the-job learning and also for pay. The contract-specific effect, which controls for the broader effect attributable to sex, is strongly negative for all four measures. For the required qualifications and training indicators of skill, it is actually stronger than the overall effect, because women in general are higher on these measures than men in full-time work. When this is taken into account, the penalty attached to working part-time emerges even more sharply.

When work context factors are controlled for, all of the negative coefficients for female part-time work are substantially reduced, indicating that an important factor in the difference between the jobs skills and rewards of female part-timers and male full-timers is the type of occupation, industry and workplace in which their occupations are located. But, despite this, the negative effect for both the required qualifications and the on-the-job learning dimensions of skill still emerge clearly. However, both the overall and the contract-specific estimates show that there is no longer a significant disadvantage with respect to the required training time indicator of job skill. It is also notable that the contract specific effect for pay is strongly reduced and is no longer significant when one takes account both of work context factors and of the more general pay disadvantage of being a female employee.

The final set of analyses examine whether the estimates of female part-timer disadvantage in 2006 are affected when account is taken of differential employment commitment in addition to human capital and work context factors. Arguably employers may offer female part-timers less good jobs, with respect to both job skills and pay, because such employees are less motivated to remain in employment over time. It can be

seen, however, that controlling for the level of employment commitment makes no difference to the previous results.

Table 6: The Job Skill and Pay Disadvantage of Female Part-Timers in 2006, Relative to Male Full-Time Employees

	Required qualifications		Training		Learning		Pay	
Controls for:								
<i>Human capital</i>								
Overall	-0.40	***	-0.14	n.s.	-0.94	***	-0.31	***
Contract specific	-0.53	***	-0.32	***	-0.55	***	-0.14	***
<i>Human capital + work context</i>								
Overall	-0.34	***	-0.10	n.s.	-0.77	***	-0.14	***
Contract specific	-0.25	**	-0.16	n.s.	-0.39	***	-0.03	n.s.
<i>Human capital + work context + employment commitment</i>								
Overall	-0.34	***	-0.08	n.s.	-0.77	***	-0.14	***
Contract specific	-0.24	**	-0.11	n.s.	-0.38	***	-0.03	n.s.

Note: Ordered logit regressions for the skill variables, OLS regressions for pay. Regressions in Block (A) control for occupational group, educational level, work experience, tenure with current firm, age, industry and establishment size. Regressions in Block (B) include these together with the importance of training opportunities in the person's selection of their current job Sig: ***=p<0.001; **=p<0.01; *=p<0.05.

Overall, although progress was made between 1992 and 2006 in reducing the disadvantage of part-timers, there still remained a distinctive penalty to part-time work on two of the three measures of job skill that could not be accounted for in terms of either individual or work context factors. Disadvantage with respect to training required and pay are sensitive to the measure of disadvantage selected. Female part-timers have a contract-based disadvantage for both taking account of human capital differences. But, if differences in work context are also controlled, this is no longer the case.

Conclusions

In contrast to the rather static portrayal in the literature of female part-timers as a distinct labour market sector with relatively low skill and pay, our evidence suggests that there has been a significant improvement in their position between 1992 and 2006. Their relative position grew better in terms of two out of three job skills measures. There was convergence with male full-timers both in terms of the qualifications required for entry into their jobs and the prior training time that was required. The exception was the measure of post-entry learning time to be able to do the job well, where there was little improvement in their position, possibly reflecting the continuing reluctance of employers to bear the costs of training part-timers.

A significant part of the change in the position of female part-timers reflected changes that affected the employment conditions of women more generally. But even when this was controlled for, female part-timers were distinctive in the extent to which the skill levels of their jobs rose relative to male full-timers. This could not be explained in terms of changes either in their individual characteristics (whether their human capital or their commitment to employment) or in their work contexts (their distribution across occupational classes, industries and workplaces of different size) taken separately. An adequate explanation of the distinctive rise in female part-timers' job skills requires taking account of both types of change.

Our evidence suggests that some types of female part-timer benefited from these improvements significantly more than others. There were differences between the experiences of part-timers who worked shorter and longer hours and between those in different occupational positions. These only partially supported the view that the period had seen a growing polarisation within part-time work. The clearest evidence for polarisation was respect to working hours. Part-timers working longer working hours were significantly more likely to have had a rise in skill levels than those in shorter hour 'marginal' part-time work. The picture with respect to occupational class however was more complex. Part-timers in managerial work were certainly distinctive in the rise in skill levels of their jobs, but this was also the case for personal service workers, who have tended to be viewed as a relatively low skilled category.

The rise in the relative skills of part-timers was also not reflected in their pay position. Overall, our evidence showed no relative pay improvement for part-timers. While improvements in skill proved to be more widely based than would fit well with any simple polarisation thesis, there was more consistent evidence of polarisation with respect to pay. Moreover, there was no straightforward relationship between the occupational categories that had seen a relatively strong rise in their skills and those that improved their relative pay position. The combination of a rise in relative pay and skills was confined to those in the highest occupational positions – managers. In contrast, although personal service workers also stood out in terms of the marked rise in the skill level of their jobs, this was not compensated by any significant improvement in their relative pay position. This may have reflected rather different processes underlying the improvement of skills in different types of part-time work. It is possible that the introduction of greater opportunities to transfer between full-time and part-time work was particularly beneficial for part-timers in higher occupational classes, where part-time work had been relatively rare. At the same time, it made skill/pay comparisons relatively transparent since such transfers frequently occurred on an intra-organisational basis. In contrast, the rise in the skills of personal service workers, particularly in the case of childcare, is likely to have reflected the impact of new policy initiatives on the skills of jobs that had long had a significant proportion of part-time workers. Skill change occurred in a context of long established pay determination systems that were poorly adapted to responding to changes in the skills of women's jobs.

Further, while the changes over the period 1992 and 2006 did make a significant difference to the part-time skill differential, they did not entail the disappearance of the disadvantages experienced by part-timers. Taking account of differences in human capital, there remained significant differences between female part-time and male full-time workers with respect to both skill and pay. Even taking account of differences in work context, and in employment commitment, part-timers remained at a disadvantage with respect to jobs skills. A substantial further process of convergence would be needed before part-timers could be regarded as fully integrated.

The evidence, however, that the conditions of part-time work can change over time points to the limitations of a conceptual framework that regards it as an inherently

distinct peripheral segment of the workforce. The changes that occurred in part-time work were clearly associated with more general trends affecting the nature of female employment. Rather than representing a sector of the workforce that was excluded from processes driving skill upgrading, it experienced them particularly strongly. While the disadvantages associated with part-time work need to be highlighted, they are not immutable and it is also important for research to monitor closely change in the relative position of part-timers.

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