

# **Achieving Equality in the Knowledge Economy**

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## Achieving Equality in the Knowledge Economy

**Kate Purcell and Peter Elias**

### **Abstract**

In 1988 the authors published a paper in an edited volume on women and paid work that brought together analyses of the statistical resources available to researchers at that time, including the recently-completed Women and Employment Survey, in which they assessed the impending prospects for greater gender equality in employment<sup>1</sup>. In this paper, they reassess this historical evaluation of prospects for gender equality in employment. Drawing on recent work, they investigate the impact of increased access to higher education on gender divisions of labour throughout the last 25 years. In the context of economic restructuring and the ICT revolution, they examine trends in participation in higher education and explore occupational change. From national survey data sources, including their own longitudinal surveys and interviews with graduates who entered the UK labour market in the latter half of the 1990s, they examine the relationship between higher education, employment, career development, partnership and family-formation. How far has increasingly equal access to educational opportunities resulted in equal employment outcomes a quarter of a century after the introduction of equal opportunities legislation? Why do we still find a gender pay gap between highly-qualified women and men? The evidence suggests that the achievement of equal opportunities remains a priority for highly-qualified young adults of both sexes, but the attainment of these raises work/life balance as the central issue facing them as individuals and as family members – and constitutes one of the most important social policy issues of ‘the knowledge society’.



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<sup>1</sup> Elias, P. and K. Purcell (1988) ‘Women and Paid Work: Prospects for Equality’ in A. Hunt (ed.) *Women and Paid Work*, Basingstoke: Macmillan.

## 1. Introduction

Large-scale social surveys, such as the 1980 Women and Employment Survey, have an invaluable role in informing research on the social and economic changes that impact upon and shape the way we live and work. It is important, though, to recognise that these research instruments are themselves influenced by prevailing cultural norms and contemporary perceptions of social roles. In this paper we step back to the early 1980s and reflect upon research we conducted at that time, based upon the 1980 Women and Employment Survey and its predecessor, the 1968 Survey of Women's Employment. What were the gender and equality issues that preoccupied us 25 years ago? How were these shaped by social and economic trends and the changing legal environment of that time? More importantly, when the 'evidence' was interpreted and extrapolated to envisage the future, how well did we predict the changes that would take place over the next 25 years? What do the prospects for equality look like a quarter of a century on?

## 2. Researching women's employment in the 1980s

The 1980 Women and Employment Survey was a path-breaking survey for a number of reasons. First, although it was designed to provide much-needed topical information on the way in which paid employment had become an integral part of women's lives, it recognised the interdependence between the public and private spheres of their lives. For this reason, a significant proportion of the data collection activities were targeted at women's male partners. Second, it recognised the need to interpret a woman's situation at the time of the survey in terms of the historical path that she had followed both within and outside the labour market. The survey took the bold step of collecting full work history details for each woman, despite the fact that such data collection and analysis would present unforeseen technical problems. Third, it built upon and drew analytical strength from the growing volume of detailed evidence describing the situation of women, their children, their families and the work situation.

In our earlier work, based upon the 1980 Women and Employment Survey and a variety of other sources<sup>2</sup>, we were strongly influenced by the social implications of the economic trends prevailing in the late 1970s and early 1980s. Two features of the UK economy stood out in this period; the move towards mass unemployment as the economy encountered fundamental restructuring from heavy, male-dominated labour intensive physical production to one based upon the production and exchange of information and the provision of business and consumer services, and the strong growth in part-time working associated with the latter. It seemed quite natural to interpret these related economic developments in term of their implications for men and women. Many men were losing full-time jobs in industries such as coal mining and steel production, vehicle production and assembly and appeared to have little chance of regaining full-time employment. At the same time, women's employment in part-time jobs continued to expand rapidly, albeit in fairly low paid occupations. The combined supply-side and demand-side influences on women's labour force participation, arising from pressures to maintain family incomes and to satisfy the burgeoning demand for flexible labour inputs in the service sector, were drawing many women back into employment after a period of family formation.

Figure 1 shows the trends in male and female employment over the last two decades, distinguishing between those in full-time and part-time employment. The decline in male full-time employment in the late 1980s and early 1990s is distinctive, as is the growth in part-time working. Given that the rise in female labour force participation was associated with the return to paid work after a period of family formation, we expressed concern in our earlier paper that this would lead to a growing mismatch between the prior skills and work experience of these 'women returners' and the quality of the part-time work to which they were returning. With some evidence of such a mismatch from the 1980 survey, we formulated a variety of

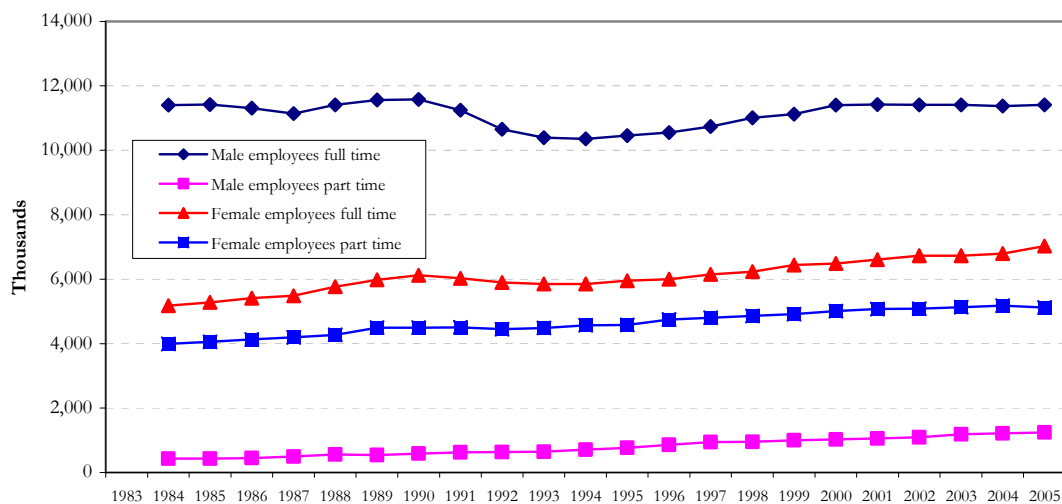
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<sup>2</sup> These include the 1975, '77 and '79 Labour Force Surveys, the General Household Surveys, the 1968 Survey of Women's Employment and the New Earnings Surveys.

recommendations designed to improve the quality of part-time jobs and to increase women's potential attachment to the labour market (Elias and Purcell *ibid.*: 208 – 218). These included adoption of the European Union Part-time Working Directive, the Parental Leave Directive, adequate provision of day and after-school care for children, independent taxation of men and women. Almost two decades after we argued for such changes, these and other measures to promote equality of opportunity for men and women have been implemented.

In retrospect, while these recommendations were necessary to facilitate equality, they were not sufficient to address some of the more deep-seated problems. They were based upon a somewhat blinkered view of subsequent labour market developments. From the mid 1990s, full-time employment for both men and women continued to grow steadily. This is apparent in Figure 1, which shows that for women, the growth in full-time employment from the mid 1990s onwards was stronger than the growth in part-time employment.

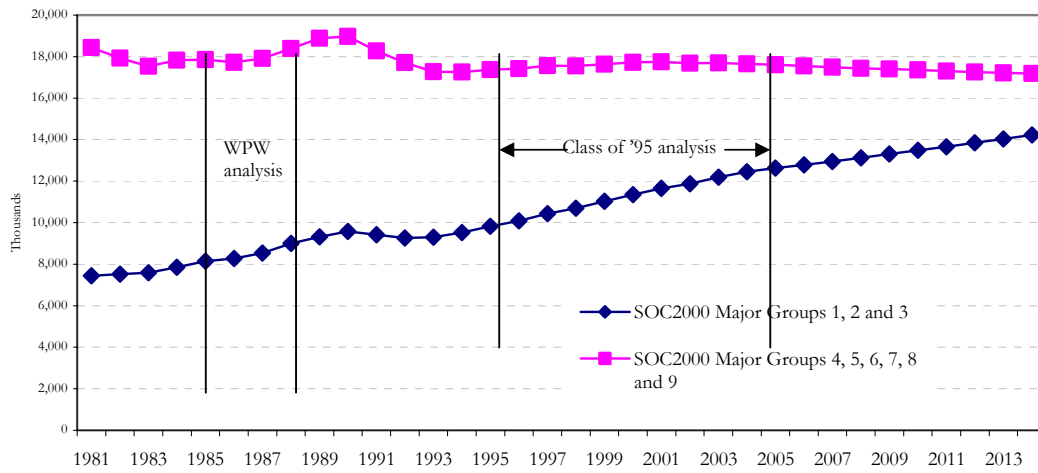
**Figure 1: Trends in employees in employment by hours worked and gender, GB, 1984 - 2005**



Source: [www.statistics.gov.uk/downloads/theme\\_labour/LMS\\_FR\\_HS/WebTable03.xls](http://www.statistics.gov.uk/downloads/theme_labour/LMS_FR_HS/WebTable03.xls)

More importantly though, we underestimated the impact that the changing occupational structure of the economy would have on the opportunities for both men and women to participate in employment. Some indication of the dramatic nature of these changes can be gained from Figure 2, in which we distinguish between the two major groups of occupations. The first of these covers Major Groups 1, 2 and 3 of the 2000 Standard Occupational Classification. This broad group covers managerial, professional and associate professional occupations, essentially those which are strongly connected with the growth of the 'knowledge economy' – jobs linked to the production and utilisation of knowledge rather than physical goods and low level services. From a base of approximately 8 million jobs in the late 1980s, this group of occupations now covers over 12 million jobs. While there have been offsetting compositional changes among the other group of occupations (Major Groups 4 to 9, covering administrative, secretarial, skilled trades, personal, sales and customer service, process, plant and machine operatives, elementary occupations), it is clear that the growth in the group of high level occupations is linked to the growth in full-time employment more generally.

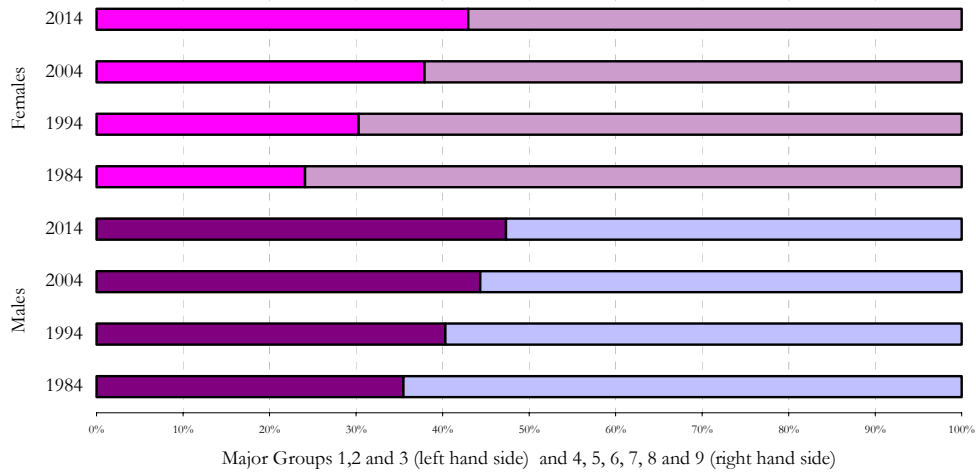
**Figure 2: Changing structure of occupations, UK, 1984-2014**



Source: Unpublished estimates and projections of employment: Warwick Institute for Employment Research / Cambridge Econometrics, 2005

Disaggregating the trends shown in Figure 2 by gender reveals that women were under-represented in the group of high level occupations in the early 1980s. Figure 3 shows that only 25 per cent of women were employed in this group in 1984, compared with 35 per cent of men. Since then, women have been catching up fast, with the corresponding ratios at 44 per cent for men and 38 per cent for women by 2004. Projections of employment by occupation indicate that this ‘catch-up’ is likely to continue, at least through the next decade.

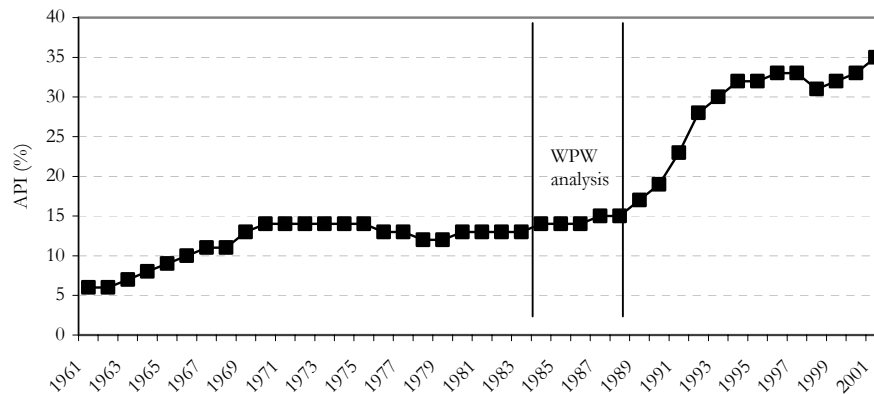
**Figure 3: Changing ratios of high and lower level occupations by gender, 1984 - 2014**



Source: Unpublished estimates and projections of employment: Warwick Institute for Employment Research / Cambridge Econometrics, 2005

Such growth would not have been possible without a corresponding increase in the acquisition of high-level qualifications associated with many of the jobs in this group of occupations. This coincided with the expansion of higher education generated by successive UK government and EU policies to raise skill levels, on the assumption that knowledge and technological sophistication rather than material resources will be the key to future success in the global economy. In our earlier analysis (*ibid.* 1988), undertaken between 1984 and 1988, we did not anticipate the extent to which women would increasingly acquire the credentials to enable them to access these jobs, the evidence for which can be seen in Figure 4, which shows the growth in the higher education age participation index for young people through the early 1990s.

**Figure 4: Participation by young people in Higher Education, Age Participation Index<sup>3</sup> (API) Great Britain, 1961 to 2001**



Source: Elias and Purcell (2004)

One of the key aspects of this growth in the changing level of qualifications of new entrants to the labour market has been the changing gender ratios of the graduate population, as a result of women's increasing participation in higher education. Table 1 shows that the rate of increase of

3 The Age Participation Index (API) measures the number of home domiciled young (aged under 21) initial entrants to full-time and sandwich undergraduate courses, expressed as a proportion of the average 18 to 19 year old Great Britain population.

women's participation in higher education has been more than double that for men, such that women now outnumber men in part-time and full-time undergraduate and postgraduate studies.

**Table 1: Students<sup>1</sup> in higher education<sup>2</sup>: by type of course and gender (UK, 1970/71 – 2000/01)**

	Thousands				
	Undergraduate		Postgraduate		All in higher education
	Full time	Part time	Full time	Part time	
<i>Males</i>					
1970/71	241	127	33	15	416
1980/81	277	176	41	32	526
1990/91	345	193	50	50	638
2000/01	511	228	82	118	940
<i>Change 1970/71 – 2000/01</i>	<i>212%</i>	<i>180%</i>	<i>248%</i>	<i>787%</i>	<i>226%</i>
<i>Females</i>					
1970/71	173	19	10	3	205
1980/81	196	71	21	13	301
1990/91	319	148	34	36	537
2000/01	602	320	81	124	1,128
<i>Change 1970/71 – 2000/01</i>	<i>348%</i>	<i>1684%</i>	<i>810%</i>	<i>4133%</i>	<i>550%</i>

Notes: 1 Home and overseas students.

2 At December each year. Includes Open University.

Sources: Department for Education and Skills; National Assembly for Wales; Scottish Executive; Northern Ireland Department for Employment and Learning.

The rapid growth in high level occupations, particularly for women, has been matched by their increased participation in higher education. With the benefit of hindsight, we conclude that our focus on the quality of part-time employment as a significant constraint on women's employment opportunities was short-sighted. While underutilisation of part-time employees' skills remains a key research issue (*e.g.* Grant *et al.* 2005), our recent and ongoing research on graduate employment enables us to reassess the prospects for equality for women who have acquired the credentials to compete for opportunities in the 'knowledge economy'. It is here we see the rapid growth in employment opportunities in general, with the growth of female employment in particular, exceeding that for males.

There are major controversies about the utility of the 'knowledge economy' concept and how 'knowledge work' might be defined, and there are conflicting estimates of graduate underemployment<sup>4</sup>, but our own research suggests although some take longer to access appropriate employment than others, the majority of recent graduates have found or are en route to employment that uses their higher education skills and knowledge and is related to their long term career plans 3-4 years after graduation (Purcell *et al.* 2005, Elias *et al.* 1999). Graduates now work in a much wider range of occupations than was the case 25 years earlier and a high proportion of these occupations involve the production, management or transfer of knowledge or information. To a large extent, this is because the nature of work has changed in ways that have both stimulated and accommodated the substantial expansion in higher education. In some areas of work this reflects the growth of sectors and occupations that make use of graduates (*e.g.* the information and communication technology sector, environmental and social welfare occupations). In other areas it relates to the perceived need within organisations to recruit those who have relevant high-level qualifications into occupations where no such pool of highly qualified labour previously existed (*e.g.* the wide range of junior and middle management and

<sup>4</sup> See Elias and Purcell (2004) and Purcell *et al.* (2004) for a discussion of these issues.

administrative jobs for which graduates are now recruited). In part it stems from the growth of particular occupational specialisms (*e.g.* in many areas of health care, education, construction, engineering, technical sales). A pathway through higher education is becoming the *de facto* standard for entry into these occupations, with women participating to a greater extent than men at this educational level.

It is for these reasons that we turn our attention to the prospects for gender equality in the knowledge economy. In so far as equal opportunities and equal pay legislation have succeeded in eliminating discrimination on the basis of gender and promoted culture change leading to equality of aspirations among women and men and their equal treatment by employers, it might be expected that we would find these highly-qualified labour market entrants, near to the start of their careers and mainly having been employed continuously in full-time employment to the same extent as their male peers, to be particularly well-equipped to take advantage of the changes. We begin by considering graduate earnings.

### **3. Gender differences in the earnings of graduates**

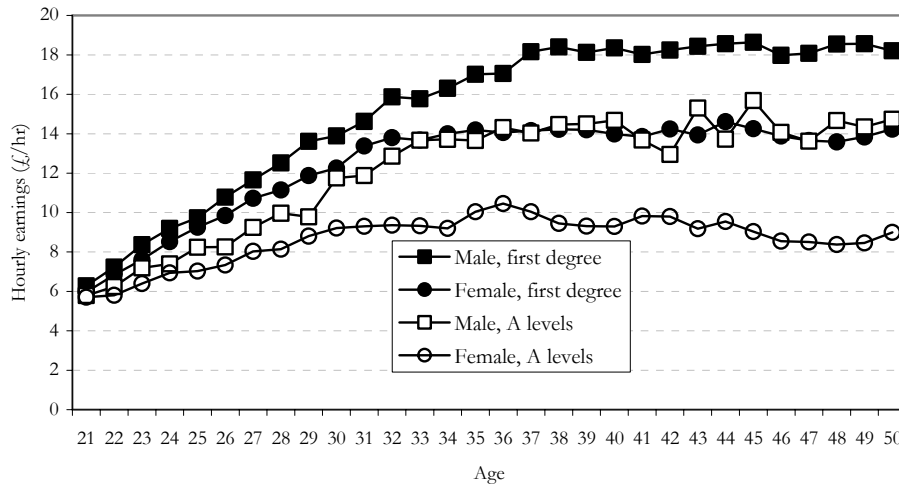
Gender differences in earnings are, in general, well researched<sup>5</sup>, but remain elusive in terms of our understanding of the processes through which they arise and the mechanisms that perpetuate them. Human capital theory posits a relationship between expected lifetime labour market experience, education and earnings, suggesting that women will invest less in human capital if they expect to withdraw from the labour market for reasons of family formation or caring responsibilities. Related to this theory, it has also been argued that some women's preferences for paid work are different from those of men, affecting their investment in careers and consequently, their earnings (Hakim, 2000, 2004). Others have argued that the reward structure reflects historically-embedded differences in the value accorded to women's and men's work, reflecting female dependency, established gendered divisions of labour (Cockburn 1991, Phillips and Taylor 1980, Crompton and Sanderson 1986) and gendered constraints arising from social roles and expectations. These act to restrict women's abilities to take advantage of employment and career development opportunities (McRae 2003, Ginn *et al.* 1996, Liddington and Norris 1978).

The relationship between gender differences in earning and education is less well researched. Some have argued that such a link is spurious, arising simply because particular types and levels of education are professional requirements, and it is the nature of the profession, through recruitment, promotion and retention policies, which gives rise to gender differences in earnings. Others have argued that higher levels of education give rise to patterns of assortative mating that reinforce gender roles (Blossfeld and Timm 2004). An indication of the scale of the gender difference in hourly earnings for graduates and well-qualified non-graduates is shown in Figure 5. This illustrates how the gender gap in hourly earnings varies with age, beginning to appear in the early 20s and reaching a maximum in the mid 40s. While graduates at any age earn significantly more than non-graduates, the emergence of the gender pay gap arises in a similar fashion for graduates and for non-graduates. We note also that the period covering the first ten years after graduation is critical in terms of the difference between the pay of graduates and non graduates. A gender difference is apparent even for the youngest graduates, initially at about 10 per cent, but rising to about 25 per cent by the time graduates reach their mid 40s.

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<sup>5</sup> See for example Walby and Olsen (2003), Sorensen (1989), Borjas (1996), Bergmann (1971),

**Figure 5: Average hourly earnings of graduates (first degree only) and non-graduates (A-levels only), by age and gender**



Source: Labour Force Surveys, 1999 - 2003.

*A longitudinal study of gender differences in earnings*

An important analytical problem in the study of gender differences in earnings is well illustrated in Figure 5. While we observe an apparent widening of the gender pay gap with age, this does not necessarily indicate the existence of a lifecycle phenomenon. The data underlying Figure 5 are cross-sectional – that is, they arise from respondents across the range of ages shown and over a specific time period (all Labour Force Survey earnings information collected between 1999 and 2003). They give a picture of the average situation prevailing in this period for all age groups, but give no indication of the earning path through which these average values arose. For this purpose we need longitudinal information – observations from the same individuals collected at different points in time. We make use of a longitudinal study we commenced in 1997/98, relating to a national sample of graduates who gained their first degrees in 1995. A second sweep of this sample of graduates was conducted in 2002/03. Further detailed interviews have been conducted as part of the research activities reported in this paper.

We expected that a longitudinal study of the evolution of the gender gap in pay would not yield such striking evidence as is revealed in the cross-sectional data presented above. In the cross-sectional picture, most of those in their early 40s had graduated 20 years earlier and could be on a different labour market trajectory than those who graduated more recently. Women who had graduated recently are perhaps more likely to be working in occupations which had embraced a commitment to equal opportunities in recruitment and promotion. Second, the graduates in the longitudinal survey were predominantly aged between 24 and 28 years at the time of the first survey and few had children. The impact of family formation and childcare responsibilities on career patterns was, therefore likely to be less significant for women in this age range.

It was surprising, therefore, to find a significant gender gap in earnings at this early stage in the career development of these 1995 graduates. Figure 6 shows the evolution of the gender gap in pay among 1995 graduates in full-time employment<sup>6</sup>: for their first main job after graduating in

6 For this and all subsequent analyses, our data are restricted to those who stated that they were in full-time employment or self-employment in 2002/03 and who were aged less than 30 years at the time they graduated in 1995. The exclusion of those aged over 30 years at the time of graduation was undertaken because of the lack of information in the survey about work experience prior to graduation.

1995 (as long as the job was started before January 1996), at the time of the first survey of this cohort (1998/99) and at the time of the second survey (2002/03)<sup>7</sup>.

**Figure 6: Average annual gross earnings of 1995 graduates by gender**



Source: *7 Years On: a survey of the career paths of 1995 graduates*

These comparisons reveal that the unadjusted earnings gap (without taking account of gender differences in subject studied, social class background, entry level qualifications, class of degree obtained, *etc.*) has been increasing steadily as careers evolve over the seven and a half year period since graduation. Women graduates reported full-time annual gross earnings in their first job after graduation that were, on average, 11 per cent less than those of male graduates. Three and a half years later this had risen to almost 15 per cent, then to over 18 per cent by 2002/03.

As a first approach to gaining a better understanding of the factors underlying the gender difference in earnings, we present in Appendix Table A1 results from a detailed multivariate analysis of the earnings of 1995 graduates, including only those in full-time employment, seven years after graduating with their first degree. From this analysis it can be seen that, although a number of factors show a powerful association with annual earnings, they do not necessarily contribute to a better understanding of the gender difference in pay. For example, graduates working in inner London experience a 25 per cent premium on their earnings. This highlights the fact that inner London employers pay higher wages to attract and retain employees who face higher living costs. If significantly more men than women in our sample worked in inner London, this would help us to understand the difference in that it would cause us to examine for factors relating to the gendered geographical dispersion of graduates. Examination of the mean values of these location variables for men and women shows that there is little difference between them. Location of employment and the pay differential associated with it is not, therefore, a factor underlying the gender difference in graduate earnings.

Gender differences in earnings do, however, appear to be associated with a number of factors that were investigated in the longitudinal survey. Most important among these are:

- weekly hours worked;
- the sectoral distribution of graduate jobs and public/private sector location;

<sup>7</sup> Sample attrition is a major problem with longitudinal surveys and our survey is no exception. Response rates in 1998/99 were just over 30 per cent. Only 70 per cent of these respondents gave permission to be recontacted. Of these, only 50 per cent responded. However, we are able to determine whether or not the respondents at the second survey are systematically different from those who responded at the first survey. We find little evidence of such systematic differences.

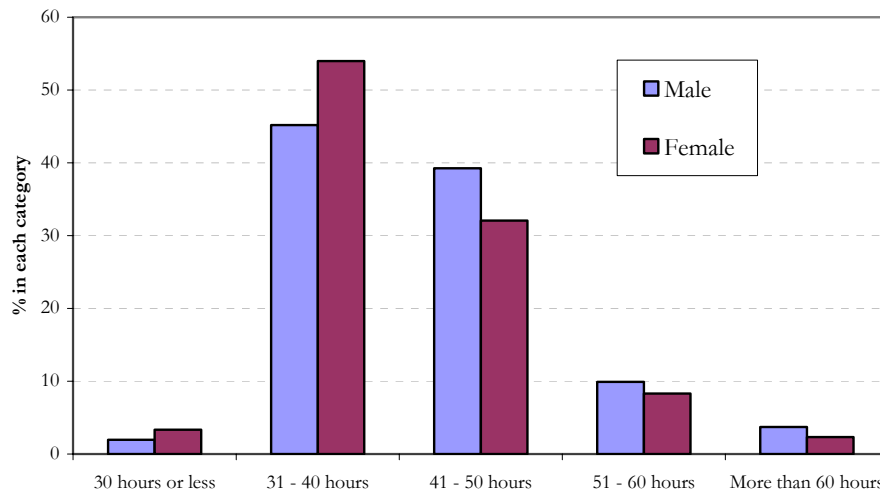
- the extent to which graduates are employed in workplaces where the type of job they do is segregated by gender;
- subject studied for their 1995 degree.

The following discussion presents these findings in detail.

### *Weekly hours worked*

The relationship found between annual earnings and hours worked per week is, as expected, positive – as weekly hours worked increase so do annual earnings. The regression coefficient shown in Appendix Table A1 implies that each additional weekly hour worked contributes to a one per cent increase in hourly earnings. This may not seem large, but the young male graduates in our sample report weekly hours that are significantly higher than for the women<sup>8</sup>.

**Figure 7: Distribution of hours worked per week by gender**



Source: *7 Years On: a survey of the career paths of 1995 graduates*

Figure 7 shows that over half of the men report working more than 40 hours per week. For women, only 43 per cent report weekly hours in excess of 40. While some may argue that this simply reflects fair compensation for longer hours of working, it raises the important question of why men work significantly longer hours and whether or not women’s hours are more constrained than men’s due to the gendered division of non-paid work. This is an issue we return to later in this paper.

### *The sectoral distribution of graduate jobs*

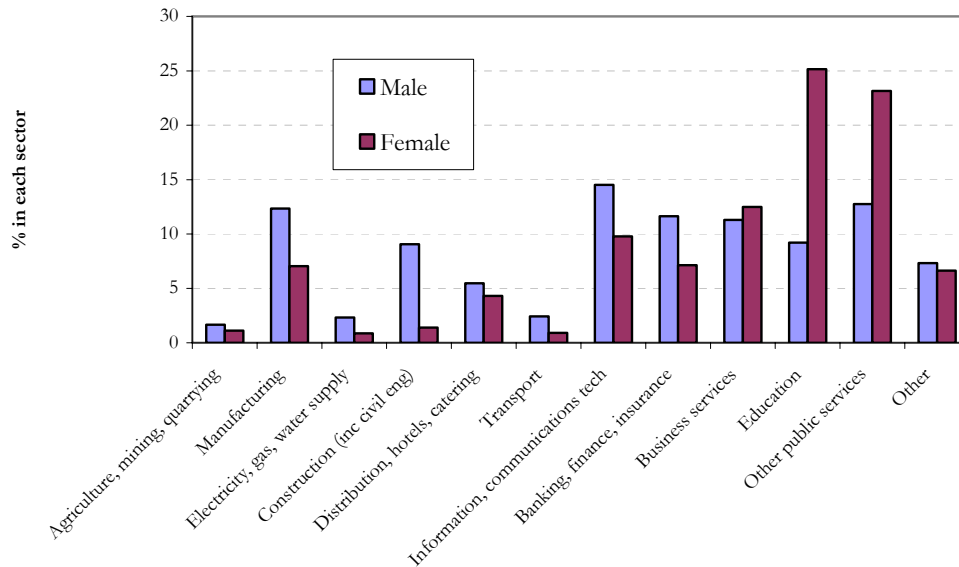
Average earnings vary by industry sector and this is clearly part of the explanation for the observed gender pay gap among the graduate sample. The reasons behind this are complex and varied, and may well reflect differential access to sectors of employment by men and women. The distribution of graduate employment by sector undoubtedly reflects choices made at an early stage in the development of graduate career paths. For example, those who had studied languages and humanities at school, then taken a degree in these subjects, are less likely to have obtained employment in the engineering sector than those with degrees in more quantitative subjects. Part of the explanation of sectoral pay differentials lies in the demand for and supply of particular skills. The information and communications sector is a good example of a sector

<sup>8</sup> NB. Those in full-time employment only.

where jobs, until recently, were in relatively short supply, leading to higher pay for those working in the sector. Additionally, public sector jobs typically pay less than equivalent private sector posts.

These factors combine to have a significant impact upon the pay of men and women. For example, those who work in banking, insurance, finance, the information and communications sector and business services have annual earnings which are approximately 15 per cent higher than the average.

**Figure 8: Industry of current job by gender**

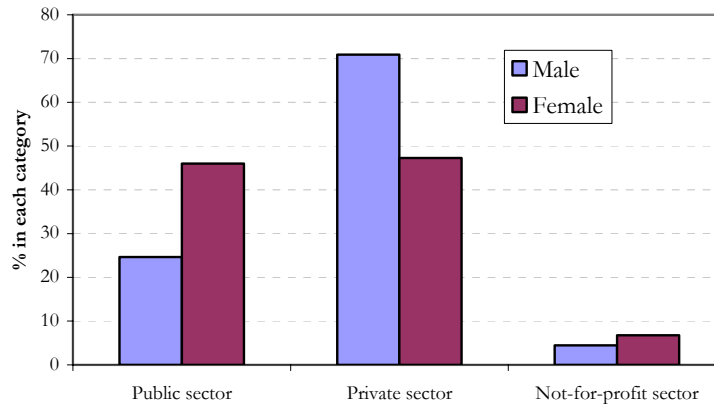


Source: *7 Years On: a survey of the career paths of 1995 graduates*

Figure 8 reveals that, while 29 per cent of the female graduates work in these sectors, almost 40 per cent of men have jobs in one of these three sectors. Similarly, well over a half of the female graduates work in education, health or other public services, compared with less than 30 per cent of the male graduates. Jobs in these sectors pay less on average, for both men and women, but the effect of such a negative pay differential is more significant for women given the higher proportion of women working in public sector jobs.

The public/private sector pay differential contributes significantly to the observed gender difference in pay. In addition to requesting information about the sector in which they are currently employed, we asked respondents to indicate whether their current employment was in the public sector, the private sector or ‘the not-for-profit’ (*e.g.* charitable institutions) sector. As can be seen from the regression results presented in Appendix Table A1, this distinction has a major impact upon annual gross earnings. Public sector jobs have earnings that are 10 per cent lower than private sector jobs, after having taken account of the sector in which a person works. Figure 9 shows that over half of the female graduates in full-time employment seven years after graduation are employed in the public or ‘not-for-profit’ sector, compared with only one third of male graduates.

**Figure 9: Public/private sector employment by gender**

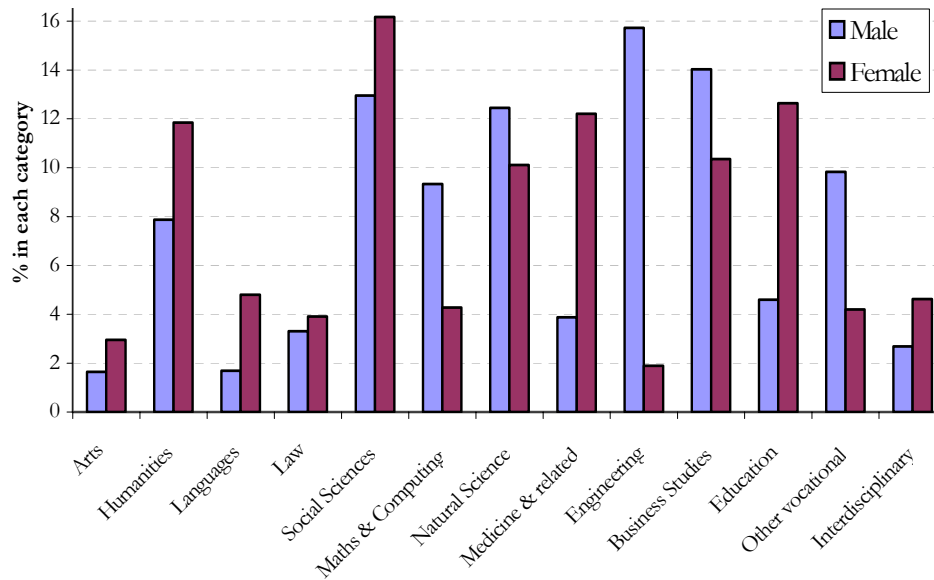


Source: *7 Years On: a survey of the career paths of 1995 graduates*

*Undergraduate Degree Subject*

Access to occupations is clearly restricted, if not substantially determined, by subject and discipline choices made at school and in higher education and the consequent skills developed. Boys and girls' secondary education subject choices and achievements at GCSE, 'A' level and equivalent public examinations are gendered, with boys more likely to have chosen science and numeracy-based subjects than girls and more likely to have gone on to higher education courses that require such a foundation (DfES 2002, HESA 2002). Seven and a half years after graduation, choice of subject studied at the undergraduate level remains a key factor that aids our understanding of the gender difference in earnings.

**Figure 10: Subject studied at undergraduate level by gender**



Source: *7 Years On: a survey of the career paths of 1995 graduates*

Figure 10 shows the higher proportion of male graduates who had studied the quantitative-based engineering, maths and computing, and other vocational subjects, with women studying in higher proportions in arts, humanities, languages, social sciences, medicine and related subjects and education. Those who took an arts degree earn 17 per cent less than law, social sciences, engineering, business studies or education graduates. Humanities and language graduates also continue to show a lower 'graduate premium' relative to these groups. In contrast, maths and computing graduates and those who studied engineering record annual earnings which are 10-12 per cent higher than the reference groups.

It is often assumed, not unreasonably, that degree subject studied is indicative of aptitudes and skills developed and, perhaps less reasonably, that specialisation in either numeracy or literacy-based skills is likely to be correlated with low development of the other skill-set. Skills, and the market values they are accorded, are socially constructed in particular socio-economic contexts, and it is very clear in our graduate sample that possession of different types of degree is differentially rewarded. For example, employers report shortages of graduates with numerical skills (Forth and Mason 2004, AGR 2002); the gender premium has been found to vary according to subject (Walker and Zhu 2003) and the average earnings of those with numeracy-based degrees was higher than those where the skills developed were literacy-based. Thus, subject differences clearly go some way towards explaining the gender pay gap.

#### *Workplace segregation by gender*

Other factors correlated with work and labour market context are clearly related to processes that link gender to earnings. A revealing finding from the results shown in Appendix Table A1 relates to the gender mix at the workplace. A question we included in the most recent survey asked:

*In your workplace, is your type of job done ...*  
*... mainly by men?*  
*... by a fairly equal mixture of men and women?*  
*... mainly by women?*  
*... almost exclusively by women?*

Figure 11 shows the response to this question, revealing the extent of occupational gender segregation at the workplace for all graduates in full-time employment and who were aged under 30 at the time of the survey.

**Figure 11: Occupational workplace context by gender**



Source: *7 Years On: a survey of the career paths of 1995 graduates*

While only 5 per cent of women are employed in workplaces where their type of job was undertaken almost exclusively by males, the corresponding figure for men was 20 per cent. In total, over half of the young male graduates in employment in 2002/03 were working in contexts where their jobs were exclusively or mainly done by men. Over 40 per cent of women were working in jobs exclusively or mainly done by women in their workplace.

An example of a female professional working in a female-dominated workplace where, presumably, she was in an uneasy position as a professional working with a male management team and a largely female staff, is provided by a Natural Sciences graduate with a PhD in addition to her first degree, who had moved from the food manufacturing industry to a post working for a government agency as a Civil Servant:

R *I think that if I had been not a woman then in [my last company] they would certainly have rewarded me more because the role I was taking was project management ...*

I 'Was it a male-dominated organisation?'

R *It was predominantly female but it was predominantly junior administrative staff and the managing director was male, the finance director was male, the research manager was male, the production manager was male and there was nobody female on the board of directors ...so overall, the figures looked like it was equality - in fact going the other way, because they had more women employed than men. But most of them were part time; most of them were in secretarial or junior administrative roles. I certainly feel that for the salary I was getting, I had a lot of responsibility and I was given a lot of opportunities that I wouldn't have expected, based on the job title and the salary that I was earning'.*  
(Food Science Research Team Leader)

The gender profile of occupations - especially professional and administrative work - has changed radically in the last quarter of the 20th century, and although the majority of the 1995 graduate sample worked in areas where people doing the same job as them were likely to be the same sex as they were, we saw that around 40 per cent worked in contexts where their job was equally often done by both sexes. Despite this, the gendered context of the workplace correlates with earnings, having taken account of a wide variety of other factors that could have given rise to this effect. Male and female graduates who work in male dominated workplaces earn more, *ceteris paribus*, than those who work in female dominated workplaces. Further exploration of why we find highly-qualified women and men working in contexts where 'people who do their jobs' are the same sex, revealed that those with androgynous occupational skills are more likely to be recruited to 'gender appropriate' vacancies: males and females both becomes human resource managers, but relatively well-paid human resource management posts in manufacturing industry are more likely to be filled by men, and somewhat less highly-paid public sector HRM posts by women (Purcell and Elias, forthcoming).

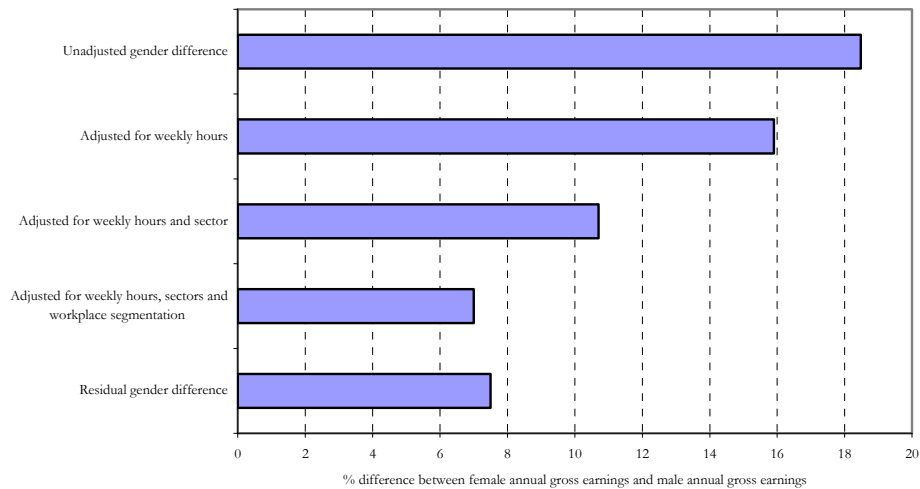
*The combined effects on the gender difference in pay*

The combined influence on the gender difference in pay of factors outlined above is shown in Figure 12. The uppermost bar on this chart shows the unadjusted difference in the earnings of male and female graduates in full-time employment seven years after graduation, as was shown in Figure 6. Each bar beneath this shows the effect on the gender difference in pay of introducing statistical controls for various factors. The adjustment for weekly hours alone reduces the gender differential to 15.9 per cent from 18.5 per cent. Next, adjustments are added for the sector of employment (SIC Divisions and the public/private sector distinction). This has a major impact on the gender difference in pay. Introduction of these statistical controls, together with the adjustment for hours, reduces the gender difference further to 10.7 per cent. Finally, the impact of gender segmentation at the workplace as a major force in the gender difference in earnings is

revealed by noting that statistical adjustment for this factor brings the gender difference down a further 3.7 percentage points. The final bar in this chart is the gender difference remaining after all the variables shown in the regression estimates in Appendix Table A1 have been added. The fact that this is slightly higher than the gender difference adjusted simply for hours, sectors and workplace segmentation reflects that there are a number of factors which operate in favour of women’s annual gross earnings. In particular, women’s better entrance qualifications for university and their better degree results means that, when account is taken of these factors, the gender difference widens slightly.

An interesting finding from the analysis described above relates to the relative effects of subject studied and sector of employment. While these two factors are clearly related, we anticipated that it would be the subject studied which would appear as the most important set of factors in helping us to understand the gender difference in pay. In fact, it turns out that the opposite is true – sector of employment and the public/private sector distinction provides a better indicator of the gender difference in earnings than does the subject of study, although the two are clearly inter-related when we look at the occupational distribution.

**Figure 12: The combined effects of various factors on the gender difference in annual earnings of 1995 graduates seven years after graduation**



Source: *7 Years On: a survey of the career paths of 1995 graduates*

These results show that a major part of the gender difference in the earnings of graduates working in full-time employment relates to differences in weekly hours worked and the different sectors in which men and women graduates are employed. These factors alone ‘account’ for half of the gender difference in the earnings of young 1995 graduates in full-time employment seven years after gaining a first degree. Clearly this does not ‘explain’ the gender difference, given that choices of working hours, working in the public or private sector are choices made in the light of subjects studied, domestic constraints, partnership and may well reflect gender-based constraints on opportunities to vary working hours or access particular employment options. However, a very interesting result illustrated at the ‘macro’ level of this national study is that the gender difference in earnings relates also to the gendered nature of the work environment. Women graduates tend to work in jobs where people who do their kind of jobs tend to be primarily other women, and these jobs pay less than jobs in male dominated workplaces, a finding that reinforces earlier sociological studies of gender segmentation at the workplace and its association with gender inequalities in pay and promotion profiles (Wilson 1998, Reskin and Padavic 1994, Cockburn 1991, Kanter 1977). This is a phenomenon we are continuing to study in more depth, using information from detailed interviews with 200 survey respondents seven and ten years after graduation (Purcell and Elias, forthcoming).

We note also a residual difference in the earnings of men and women graduates that we fail to relate to any observed factor. In the 1995 graduating cohort, this accounted for almost 8 per cent of the difference in full-time earnings of these two groups some seven years after graduation. This difference remains after we have adjusted earnings to take account of the fact that women tend to work in jobs with shorter full-time weekly hours, in sectors which pay less (particularly in public sector jobs) and in workplaces where their kind of work is done predominantly by women - all factors which reduce the pay of women graduates relative to men. The scale of the 'unexplained' difference in pay for highly qualified men and women in their early careers requires further investigation.

In an earlier paper (Purcell and Elias 2004) we made a first attempt to explore further the complexities underlying the unexplained residual gender difference in average earnings by focusing in more closely on different types of graduate and different work contexts. Comparing women and men who had studied engineering, law and humanities degrees within each discipline group and across the discipline boundaries, it became apparent that the gender pay gap differed according to degree obtained - and the survey evidence provided some clues as to why this might be. The gap was narrowest for engineering graduates and widest for law graduates, and when we looked more closely at the kinds of jobs they had obtained, it appeared that not only salaries, but the use of disciplinary skills and knowledge in employment was different.

**Table 2: A comparison of key career outcomes for three 1995 graduate categories (young and young mature graduates only)**

Subject studied	Humanities		Law		Engineering	
	Males	Females	Males	Females	Males	Females
Subject gender ratios	44:56		50:50		90:10	
Average earnings	30,033	24,114	43,458	33,824	31,837	28,789
Gender pay gap	20%		22 %		10%	
% using degree subject knowledge	31%	37%	85%	79%	75%	50%
% using degree skills	69%	74%	94%	89%	86%	75%

The law graduates, who had the biggest gender pay gap, earned most, and the women were less likely to be using their legal skills and knowledge; the humanities graduates earned least, but had a similarly above-average gender pay gap, with the women more likely to be using their undergraduate skills and knowledge; and among the engineering graduates, with the lowest gender pay gap, the women were less likely to be working in mainstream engineering jobs. Further analysis of the survey and interview data reinforced and explicated these patterns, revealing that women with law degrees reported difficulty in accessing legal professional vacancies and less likelihood of being in the highest-paying occupational specialisms; male humanities degree holders were less likely than their female peers to work in the public sector and, particularly, to be in teaching jobs; and women in engineering reported substantial incidence of direct and indirect discrimination in the workplace, which in several cases had led them to move into less woman-unfriendly occupations. Only in the last case, however, is there a clear explanatory element to assist us in assessing why equal opportunities have not led to greater equality of outcomes. The others, and the general picture, continue to raise the question; why do gendered differences in career development persist among this highly-qualified sample? We need to shift our attention to the more difficult-to-research areas of orientations to work and non-work considerations if we are to move closer to being able to answer the question we addressed in 1988; with reference to the knowledge economy where graduates compete for employment - what are the prospects for equality at the start of the new millennium?

#### 4. Gendered orientations to work?

Thus far we have focussed upon the gendered position of graduates in the labour force, as revealed via their earnings, occupational positions, choices of subject studied and the career paths they established in the seven-year period since graduating. These provide a clear picture of the differences and similarities in the gender profiles of sample members and also give some indication of the structural and cultural variables that contribute to the gender pay gap and gender differences in career outcomes. Seven years after graduation there was some indication from the survey and interview data that gendered attitudes and expectations - their own and, more often, those of their employers and other with whom they came into contact - had affected work experiences and career trajectories. This reflects Cockburn's (*op.cit.*) finding that 'soft' ideological variables can present a greater obstacle to change than apparently 'harder' material variables such as technology. Highly-qualified women have historically been more likely than non-graduates to have continuous careers, reflecting both greater intrinsic commitment to employment and greater earning power and the ability to purchase domestic and childcare services to facilitate their participation in paid work. Women's dependency, resting on their greater propensity to earn second-earner rather than breadwinner wages, has been a fundamental brake on the achievement of greater gender equity - but the women in our sample had accessed equal opportunities to earn above-average wages and many earned high wages; some higher than their partners. Yet the average unexplained gender gap remains. Is there a greater incidence among female than male graduates, even where they have made similar choices of higher education course or career direction, to have fundamentally different career aspirations that go some way towards explaining different outcomes and earnings? Are women making rational choices to trade earnings for other advantages, in ways that reflect a different orientation to employment, career development, and the centrality of family roles (Hakim *op. cit.*) or to accommodate practical obstacles to the achievement of equal outcomes (Crompton and Lyonette 2005, McRae *op.cit.*, Ginn *et al. op.cit.*) - and whatever the ratio of structural, biological or ideological elements in the explanatory equation, how much closer are the young women in our 1995 graduate sample in accessing equal opportunities and achieving equality of outcomes than members of the equivalent age group surveyed in 1980?

In the survey of 1995 graduates, conducted in 2002, we asked a number of questions which relate to graduates' perceptions of their personalities. An interesting difference was evident between the male and female graduates concerning the extent to which they perceived themselves as ambitious. The question asked was simply 'How far do you agree or disagree with the following statement? *I am extremely ambitious*'. Respondents were asked to reply on a five point scale: 'Agree strongly'; 'Agree somewhat'; 'Not sure'; 'Disagree somewhat'; 'Disagree strongly'. 70 per cent of the young male graduates stated that they 'agreed strongly' or 'agreed somewhat' with this statement, compared with 59 per cent of young female graduates. While the direction of causality is questionable, we wanted to see whether or not this difference in perceived ambition correlates with the gender difference in earnings described in the preceding section. To achieve this, we estimated the coefficients of the same regression model; with the addition of a binary variable describing those who answered that they agreed strongly or agreed somewhat with the statement that they were extremely ambitious. Interestingly, although this variable correlates strongly with earnings, it does little to reduce the residual gender difference in earnings. Inclusion of this variable reduces the residual gender difference slightly, from 7.5 per cent to 7.2 per cent. In other words, we find little statistical support for the notion that the gender difference in earnings is essentially a function of difference in male and female graduates' levels of ambition, if we assume that subjective perceptions are a reliable indicator of these.

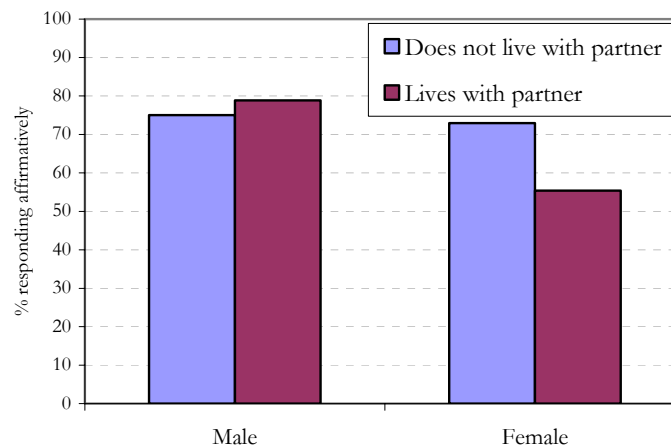
As we saw at the beginning of this paper, a big difference between the generation surveyed in 1980 for the *Women and Employment* survey and that represented by the 1995 graduate cohort is the relative ratios of men and women entering graduate employment. Contingent differences include the extent to which women graduates' early careers run parallel to men's, their postponement of family-building - and (it might be assumed) the consequently very different gender contexts and expectations that they encounter. Without attempting to engage with

nature/nurture theories, the mixed methods of research that we use enable us to move beyond the consideration of trends to obtain a better understanding of the relationship between the attitudes, experiences and choices made by graduates in the transition from young adulthood to the career establishment and family formation stage - traditionally a stage characterised by gender role divergence. We do this drawing on both survey and interview data.

In the survey, we asked a series of questions about reasons for taking current job and longer term values related to - and with implications for - work and career development. We found remarkably little difference in the work orientations and work-related aspirations of these highly-qualified males and females. The most popular reasons for taking their current jobs for both were that it provided interesting work, was exactly the kind of work they wanted, and that they wanted to work in that locality. The fourth most frequently mentioned reason for both was that the salary level had attracted them but, (not surprisingly perhaps, given the preceding evidence about the gender pay gap) this reason was given by a significantly higher proportion of the men than women. Women in this sample, although more satisfied with their current jobs and careers to date than men, were less satisfied with their earnings and promotion prospects. Compatibility with partners' careers was regarded as an important variable for 10 per cent of the women - but this was also indicated as important by 8 per cent of the men. Seven years after graduation the majority of survey respondents were living with a partner. Although only 16 per cent had embarked upon parenthood, we found in discussion with the interview sub-sample that career decisions including, crucially, decisions not to change jobs, accept promotions that involved location change, or consider jobs in different parts of the country, were made as a couple rather than an individual. We realised that careers are consequently rarely as individual as the career literature suggests, even among young graduates at the outset of their careers who, at different stages of what sometimes turned out to be serial monogamy, were making decisions that maximised shared rather than individual utilities.

However, in these couples, in general, the partners were equally likely to be highly qualified and have similar potential for career development. In the interviews, we asked respondents whether they regarded their careers or their partner's as more important, or whether they considered them of equal importance. Among these mostly pre-family-building respondents, the most common response was that their careers were of equal importance. Figure 13 nevertheless illustrates how living with a partner appeared to be correlated with lower expectations of career development for women, and had, if anything, a slight positive impact on men's expectations.

**Figure 13: Whether respondents expected to achieve a higher position within the next five years, by gender and whether or not had a partner**



Source: *Seven Years On: a survey of the career paths of 1995 graduates*

Where men were the higher earners, they tended to regard this as an obvious explanation for why their careers took precedence – but where men reported that their partners earned more,

they tended to distinguish between 'financial importance' and other aspects of career, when asked about whose career in the partnership was more important.

*'That's a hard question. I think they are equally important. Financially, obviously not! Maybe she doesn't see it the same way as I do. In terms of allowances that both of us make for each other's career and in terms of either of us saying -" I need to work late on this...." - they are equally important. She earns a lot more money than I do. We could survive if I lost my job, our lifestyle would continue in exactly the same way as it does now if I lost my job, but if she lost hers we would have to sell the house and do something else ..... the mortgage dwarfs my salary. I would be able to cover about two-thirds of it simply on my take home pay. I couldn't pay it on my own, my wife can just about pay it on her own, but we want to have children in a couple of years time, so...That's the pressure in terms of future career development, so I have to move forward quickly'*  
(Male journalist married to HRM manager)

The women of the higher-earning partners also tended to accord their partners career priority. Where women were the higher earners, as was the case in a substantial minority of partnerships, the women, conversely, tended to claim that the two careers were equally important, as illustrated by the following examples:

*'They're equally important in terms of... well... on one level, mine tends to be more important in terms of a regular wage: I've always been the main breadwinner. But, certainly in the sense of career, they're both equally important. In fact, I'd say that probably his is more important because that's all he can do, music, whereas I can transfer my skills to just about anything, just about any kind of business sector.'*  
(Female ICT business manager married to musician)

*'I think they are still pretty much equivalent to be honest with you. Yes, it's difficult for me to say because I don't know exactly what he does, but his job is a pretty key job within his organisation. Of course the difference between me and him is that he's four years younger than me, so that's maybe a slight point of difference and he doesn't earn the same amount of money but I think that's the function of employment versus contracting again.'*  
(Female Management Consultant living with Scientific Product Manager)

We found examples where career decisions were seen as negotiable, in terms of potentially alternating. For example, one couple had moved to Australia so that the male partner could accept an exciting job that would enable him to move from an accountancy job in UK to one where he used his accountancy skills to work in a sports company where he would be able to broaden his range of skills and do work that he would find considerably more interesting and fulfilling. His female partner, who was our respondent, gave up a job that she enjoyed in magazine production to go with him, and in Australia had a proof-reading job which was somewhat below her ability level and less satisfying than the job she had left. There had been an agreement, though, that after two years, should a suitable vacancy occur for her with her old employer, they would consider returning - and in fact, they were about to do so soon after the ten years on interview - to a situation where it is likely that he might be able to continue to work for the multinational company which currently employed him, in London. In this partnership, both careers were seen as equally important and the key priorities were to obtain compatible working arrangements, with equal willingness to accept compromise, and to achieve an enjoyable work/life balance.

We also found cases where the woman was the sole breadwinner, but this was seen as temporary - a reflection of complementary careers where the partners had found that they could effectively alternate as breadwinner and, in one case, home-maker.

*'At the moment I guess mine is more important because I am earning all the money. He hasn't got a career if you like because he's not working at the moment. Can't say really, I guess mine is at the moment'.*

- I Is that something you are quite happy with...that he's quite happy with?

*'Yes. I think more and more we are seeing people of our age doing different things, more flexible working arrangements, career breaks, which is something people of say my father's generation just can't understand. We have a huge programme about work life balance here - "lifestyle friendly leave", where you can take up to three months unpaid leave in a five year period. So I took three months off and went travelling around South America. That was just before I got my promotion. I think it had a small impact [on my career], probably slowed it down a little bit, but for me it was a price worth paying. **It would have been more difficult to do that in the role I've got now'***

[Researchers' emphasis].

(Female Scientific Team leader, Pharmaceuticals, partner -also scientist - currently not in employment)

The partnerships indicate, however, that where one partner (usually the male) earns more, this does not mean that the 'package' of careers is not seen as a joint project and the one with the higher priority or higher earnings is invariably deferred to. In another case, the husband of a senior public sector manager was made redundant while she was expecting their first child so took on primary parenting responsibilities. At the time of the most recent interview, he had returned to work while she took maternity leave with a second pregnancy on a temporary basis, but the plan is that he will revert to the home-maker role when she returns to work *'because it works well'*. It was, however, clearly regarded by the (female) respondent as a negotiable balance rather than a long-term division of labour.

## 5. The impact of parenthood

These examples come from a sub-sample of the 1995 graduate cohort, selected as high flyers who had clearly begun to establish successful careers when they were interviewed in 2002, seven years after graduation, whom we are currently following up in order to assess the relationship between career development and wider life/balance considerations, particularly family-building. They are in their early 30s, and when interviewed over the last year, the majority of women were in employment, but a significant number had had children or are entering the stage where they are considering doing so. As Moen and Sweet (2003) have pointed out, in two-parent households, parenthood (as well as being a relationship) is a watershed challenge to partnerships, replacing two jobs - his and hers - with an inescapable third set of responsibilities which, in effect, constitute a third job (culturally assumed to be allocated primarily to the mother). Moen (2003) has discussed how the challenge presented is concerned with the management of time, and, in analysing data from dual earner couples in the USA, presents a strong case for a rethinking of working hours and responsibilities that allow for greater flexibility in household divisions of labour. The American study identified a range of different work/life balance arrangements and divisions of labour among the couples sampled, and we found similar diversity among the 1995 young graduate parents. Among those who have had children, we interviewed full-time homemakers, women who have reduced their working hours, women who have become self-employed and women who have remained in full-time employment. We also interviewed women who are ambivalent about becoming mothers, although none had ruled it out as a possible option.

As Moen *et al* (*ibid*) discuss in detail, managing dual career households is essentially about managing time and timing: of family formation, making decisions about paid working hours and patterns of work, day-to-day balancing of public and private responsibilities and scheduling of conflicting demands on time. In terms of family formation, Cramer (1980) argued that the amount of time women spend in the labour force affects their propensity to have children and there is some evidence that delayed childbearing has contributed to the reduction in the birth rates of most developed countries, particularly among highly qualified women (Altucher and Williams 2003, Rendall and Smallwood 2003, Hewlett 2002). We found evidence that illustrates the complex way in which women's and couple's decisions to start a family were directly related to work patterns, and what they perceived as available or appropriate options for their subsequent household division of labour. We interviewed several women who had 'put their careers on the back burner' to concentrate on motherhood.

*I'd kept my options open initially. When I'd had the babies [twins] I wasn't at all sure: before I'd had them, I was quite sure I wasn't going to go back to work but for one reason or another I was quite unsure for the first couple of months. I was quite a tough time. One of my babies was born with a heart condition. I'd worked very hard at [my company] and.. I realised I couldn't invest that amount of attention and energy to work in the short term, while my babies needed me..... I was working on a really interesting project at the [European] Commission, representing [the company I worked for] and I really loved it, it was just the kind of work I wanted to do and yes, I guess the intellectual stimulus, the debates we had in the meetings....it was stretching me and I enjoyed it. But I think that just because I've stopped doesn't mean I won't be able to start again. I have that confidence, I feel I might have to start off a bit lower down the rungs and work my way up, but that doesn't worry me either, because I think in many ways, that's fair. I've made a life decision to take a break and invest that time in my family.'*

(Full-time homemaker, formerly product manager, International Finance Company)

Conversely, the following interview extract provides an example of dissatisfaction with career development leading to the decision to move on to the next stage:

*I had been [in an increasingly high-flying, well-paid job] in [an ICT company] for about seven years and I'd just outgrown the company and not only that but I wanted to be doing something that was a bit more people orientated rather than consumer based. I left in April last year I think it was, and worked my four weeks notice, and by the time I'd finished my four weeks notice I then realised I was pregnant - so a little bit funny timing. Not unexpectedly pregnant, but just happened quicker than we thought!*

(Full-time homemaker, formerly Sales and Marketing Director of an international ICT services provider)

Another graduate who had taken the decision to exit employment while her children were very young began by explaining that although she had loved her job as a teacher, she had felt that it was important to prioritise her family - but in the course of the interview, it became clear that her decision had been influenced by her negative experience of the response to her pregnancy at work, and illustrates the reflexive relationship between work and household considerations in making work/life balance decisions.

*'At the second school I'd been at, the one I left after having a baby, I felt totally and utterly unvalued by my employer. What can I say legally? [The Head] was very autocratic... she focused very much on the negative. I think it was worse for me because at my first school the principal was so supportive; he was just the other*

*end of the spectrum from her. I think now, well, if I was at my first school and I'd had my son would I have been tempted to go back part-time there? Well possibly I would've done, because I know they are supportive of families and I know the principal is a father, he has a family - whereas this Head, she didn't seem to appreciate people's family commitment and concerns'.*

[Female Primary School Teacher, married to GP]

All of the women cited above made it clear that they expected to return to employment within a few years, although only the teacher was clear that she would return to the same career, both others making reference to the desire to move to more socially-useful and less occupations. This reflects a common theme in the interviews with female graduates: dissatisfaction with 'high flying' work that was not solely related to the pressures it exerted on them, and not necessarily related to the desire or anticipation of the need for more family-friendly working conditions: the desire to do 'socially useful' work or, as one respondent put it '*work that has an impact on people's lives*'.

## 6. Long term values

As far as long-term values such as career development, job satisfaction, high financial reward, their own personal growth and family development were concerned, we asked respondents to indicate how far a range of these were important to them, on a scale of 1 (meaning 'unimportant') to 5 (meaning 'very important') - and again, the order of importance was remarkably similar for women and men, but there were two interesting differences. Men were significantly more likely to consider high financial reward as very important, and women were significantly more likely to put a high value on doing socially-useful work. Both of these variables, of course, relate to the women's significantly greater propensity to be employed in the Public sector: but are they cause or effect? The findings so far are almost eerily reminiscent of findings from an earlier sample of 1960 graduates in women's lesser concern with 'extrinsic' rewards and greater concern with social values - 'human contact and being able to help people' (Fogarty *et al.* 1971:231). They also illustrate well-established socio-psychological findings about differences between women's and men's propensity to 'generativity' - concern with creativity and responsibility in both the public and private spheres (Stewart and Vandewater 1998, Erikson 1964) and socialised tendency to be 'other-directed' (Gilligan 1982, De Beauvoir 1952). Related to this we found evidence that greater gender awareness on the part of women co-existed with similar career-centred gender identities when we asked respondents about the relative importance of various aspects of their identity 'in terms of how you feel about yourself, as a person': social class, educational level, job or employment plans, family relationships/being a parent, ethnicity and gender. Gender was a significantly more important component of identity for women than men, family relationships/being a parent were slightly more often very important for the women, but the responses on the other dimensions - including job or employment plans - were similar for both sexes.

Erikson (1968) discussed the preoccupation with settling into an occupational identity characteristic of the age group that we have been studying, but for previous generations of women, the process has been found to be complicated, to an extent that did not appear to be the case for men, by the coexisting process of seeking and achieving intimacy in stable adult relationships (Plunkett 2003:152). Further, research on previous generations of successful career women has indicated that they tended to attribute their success to serendipity rather than their own agency, and were reluctant to admit to being ambitious (e.g. Heilbrun 1988). More recent psychosocial work on the topic suggests that young highly-qualified women are less likely than their predecessors to fail to acknowledge their own efforts and abilities, but there was still a tendency to downplay them, related to a recognition of the uncertainties and conflicting options that they were faced with in the transition from young womanhood to maturity (Plunkett *op. cit.*) - and the accounts given by our respondents provide a similar picture.

The somewhat unexpected finding from the questions about job characteristics and long-term values, though, was the relatively high proportion of respondents who took the opportunity of the 'Other: PLEASE SPECIFY' category in both the questions discussed above to note either that one of the characteristics provided by their current job, or one of the long-term values that were important to them, was 'work/life balance'. This enables us to date with some precision the point at which this concept became commonly used and understood and part of the currency of employment relations, between the point at which we designed and piloted the questionnaire in 2002 and the point at which the majority filled it in at the end of that year and in the first three months of 2003. It also almost certainly reflects the stage at which these graduates had reached in their careers and the growing realisation that graduate jobs tend to be occupations that spill over from work time into non-work time, and make significant demands on their incumbents that may not be compatible with other responsibilities and 'own life' activities. Analysing the *Seven Years On* interview findings, we cited respondents in high-flying jobs reflecting that their current workloads were not sustainable and would not be compatible with the lives they envisaged leading in the future (Purcell and Elias 2004 *op. cit.*) Analysing the 1995 interviews ten years on, when several of those we spoke to earlier have crossed over the threshold into parenthood, we found this anticipation had proved accurate.

## 7. Graduate Careers Ten Years On

The 1995 cohort being studied are now mainly in their early 30s, mainly living with a partner, and at an age when major life plans about career and family development are on their agendas: They have reached adulthood in a socio-political context within which equal opportunities in education and employment are taken for granted - but uneasily, within a highly-gendered culture - and in which distinct differences between male and female career profiles remain evident and, as we have seen, a gender pay gap persists. When surveyed seven years after graduation, achieving a satisfactory work/life balance had been a high priority for most respondents of both sexes - and there was considerable evidence to support the contention that, far from being individual, a high proportion of graduate careers were essentially two-person careers where decisions about changing job, relocation, accepting or pursuing promotion were made in the context of partnership and household utilities.

Dual career partnerships are not, of course, a new phenomenon, but previous research has invariably revealed that female partners have made significantly more accommodations to their career development than males as the family life-cycle proceeded (Moen 2003, Hochschild 1997, 1989, Herz 1986, Rapoport and Rapoport 1978). Women in previous generations very often adapted to their partner's careers by developing flexible, secondary careers that were characterised by adaptability and horizontal rather than vertical career progression, resulting in women's 'asynchronous' career development to cope with life-stage transitions (Sekaran and Hall 1989), essentially reflecting 'trade offs' to complement the more 'conventionally-synchronised' linear career of the breadwinner (Bruegel 1996, Bonney and Love 1991). Previous research on dual career households has unanimously indicated that women in such partnerships took on the primary childcare and home-maker roles except in a very small minority of cases. 'Career women' routinely appear to have made career concessions to accommodate these responsibilities (Karambaya and Reilly 1992), and male partners' careers have traditionally taken priority over those of the female partners (Green and Canny 2003, Valcour and Tolbert 2003). It might be expected that the women in this generation of young adults, who have grown up in a context where equal opportunities are enshrined in legislation and they have been encouraged (rather successfully!) to compete on equal terms with their male peers, and that they would be resistant to reverting to a more gendered division of household labour.

Most of the 'high flyers' identified in the *Seven Years On* interview sample are still in employment. All the women interviewed had either had their first child, were expecting their first child or stated that having children was something they envisaged doing in the future,

although a few women saw it as a possibility rather than something they definitely aspired to do. All but one of the men had become fathers or anticipated becoming fathers and (so far) only one male respondent has stated that parenthood was definitely not something on the agenda for himself or his wife. Several of the women who had not yet had their first child expressed concern about research findings and related media concern that women who postpone childbearing beyond the age of 35 risk difficulty in conceiving children and infertility.

All of the men are in full-time employment, although - in line with the finding above about 'compound careers', we find several examples of men who have modified their career aspirations or adapted their working hours to accommodate their partner's career or to share childcare; for example, the respondents who told us:

*I work flexibly...: for example, if I work nine till twelve or nine till one then I'm willing to go back in at four o'clock in the afternoon and work in till the evening then that's quite a popular option and it means I can do some childcare in the afternoon. ...Both of us would put the children quite high up the agenda and if it means that our careers suffer a little bit then so be it, family comes first I would say.'* (Male medical laboratory scientific officer, married to part-time primary school teacher)

*I attended what was called senior management development workshop where effectively you are put through a bit of an assessment over two days and they identify your development areas and then they make suggestions for recommended moves in order to plug the gap so to speak. My feedback was very much "You need to do something that's a bit left field, that's not directly sales related", which gave me a little bit of a dilemma because the company is predominantly based in [the Midlands] and I wasn't willing to relocate... [because] my partner has a good job and we're not too far away from her family and I'm close to my family..'* (Male development manager, manufacturing, engaged to a solicitor)

We have also interviewed both men and women who regard themselves as part of a joint household career enterprise, but where one partner's career (normally that of the male partner) is regarded as more important - normally because he has greater earning power - thus constituting 'neo-traditional careers'.

*I'm not thinking of going back to work at least until [my child] goes to school, so that's a good four or five years and then if we have more children that's going to be a few years after that. So all that time his career is going to be the most important one and I guess mine is on the back burner at the moment. I don't really know about the future. I can't imagine me going back into something that was earning the money that I was earning when I was working at [ICT company]...it's more likely going to be back into the kind of social services side of things, which is part time and not as well paid as the commercial side of things.* (Female full-time homemaker, formerly Sales and Marketing Director, married to Accountant)

However, the majority of the high-flying female graduates interviewed for the ten years on investigation so far have continued in employment and aspire to continue their career development. A substantial minority earned as much as, or more than, their partners, and this included those who had become mothers. It is important to note that all of those who were successfully balancing motherhood and employment were invariably doing so in contexts where they (normally) or their partners had been able to modify their work patterns, by negotiating a measure of flexibility with their employers. We label these 'complex careers', because although the incumbents mainly aspired - in the longer term - to a relatively traditional linear career - they considered that in the short term at least, non-traditional adjustments were necessary.

## 8. Family-friendly employment?

In this penultimate section of the paper, we explore the descriptions provided by successful female graduates who defined themselves as ambitious and intend to remain in continuous employment for the foreseeable future. They generally also aspire to achieve an acceptable work/life balance and all those who had recently had children had taken advantage of the right to return to work with reduced hours. Some had found their employers more receptive to this suggestion than others, and although it is clear from the accounts given that the role-balancing involved in maintaining demanding careers and parenthood is never easy, some organisations have made the prospects for women who aspire to break through 'the glass ceiling' less daunting than others. One manager described how her employer had agreed to a change from a 35 to 32 hour contract and works a four day week as opposed to a five day week.

*'If anything, I think ...they've valued me more since I've gone back, or it feels like that, with pay increases and this promotion - than when I was there doing a full-time job. I get the feeling that they value me. There's quite a good amount of flexibility and understanding.'*

- I Was that something you knew about the organisation before you had your son and before you went on maternity leave?

*'Yes I knew there would be the ability to have flexibility but I didn't realise they were quite so accommodating, but I guess that's... I put that down to my line manager, he's very good and he's a family man himself and understands the commitments. I just thought fine, I can do that, I can do my career and have a family as well.'*

- I How satisfied are you in the role overall?

*'Very happy, I'm much more career focused since having my son. I know that when I spoke to you last time] I was going on maternity leave and I was going to see how things went, there was the intention to go back to work, but I've actually become more focused on what I want and the career is what I want. They're saying I have the talent to get to a senior management role. The conversation we've had is all about how quickly I want to get there and we've talked about a five-year plan. But it all depends about having other children and I am expecting my second, but I expressed to the company that that doesn't get in the way of where I want to be in five years and if I have to work harder when I get back to get there, then that's fine. I don't want to be taken off the radar because I'm going back on maternity leave.'*

(Female Pensions Manager, Manufacturing)

Another manager in Financial Services was enthusiastic about the way in which her employer had facilitated her employment continuity and enabled her to modify her work patterns to accommodate motherhood. Her account nevertheless hints at an element of frustration in the difficulties of making relatively demanding and responsible part-time employment work:

*'[My employer is] really flexible on these kinds of things, I think I probably had about 2 or 3 weeks just doing 2 days and then went to 3 days. They really have a good policy for maternity returners to work flexibly. I have times when I do need to bring work home, but things go on without you on the days that you're not there. In the majority of cases you work round it, but sometimes things... you don't get involved in things you should have been involved in. So I guess overall you have to make it work and also I have to manage my hours much more so I*

*have to leave the office at five or not long after, I can't stay till whenever at night, There are times I've had to be flexible in terms of doing a different day off in the week just to try and get meetings arranged and that kind of thing, but it's not been to the point that it really, really bothers ...and in terms of how they've probably viewed me, I got one of the biggest projects the department gets in the year to manage when I went back, so there's never been a question of give them all the duff stuff because you're only in three days a week! You know, you hear some people maybe think they might have gone into a career limiting thing, but no. ...It's very much project-based, you only do as many projects as you can do in your three days'.*

- I The last time we spoke you said you were very satisfied with the way your career had gone to date, is that still the case?

*I don't know about very, I think I am probably satisfied, I obviously know that things plateau a bit when you have time off and I'm not as hungry for progression as I was a few years ago, so as a result of that, things maybe stand still a bit, but then I... well, I have been annoyed at that I suppose at times, but then you balance that with "I do want the work/ life balance" so that's how it's gonna be, and that's okay. If I ever want to turn up the heat on it all again, then I can do that, but this isn't the time to be chasing work because I have more important things to worry about is how I basically try and view it. My husband's probably listening in at the background thinking, "That's not what you said half an hour ago!"*

[Female Reward Manager, Finance]

For other women, self-employment had provided a solution to the difficulties of continuing to operate at a high level in industry or commerce. The Director and joint-owner of a growing public relations company had been able to negotiate with her business partner to work four days a week on her return from maternity leave and was enthusiastic about the quality of life that being self-employed afforded, in terms of flexibility and not having to report to anyone, and being her own boss. Her flexibility was further enhanced by her husband's occupation, in the police force, which meant that his shift-working frequently allowed him to be responsible for childcare during 'office hours'.

Another graduate who had moved from employment to self-employment in order to improve her work/life balance was similarly pleased with the change.

- I When we last spoke in December 2002, you were working as a technical manager for a food processing company....

*'Goodness, that was the most terrible job on the planet! I was working 14 hour days, but it wasn't a very pleasant time, and in 2003 I decided it was time for radical action so I applied to an MBA course. I needed a bit of a quantum leap if I was going to change sectors or functions. It's worked out quite well.....Now I have a nine to five job - it's a completely different ethos; I think the fact that it's a contract job and I'm not employed by the company, I don't have to deal with any of that nonsense that people have to deal with when they work within companies, like everyone's doing appraisals at the moment, and assessments and this, that and the other. I just go in, do the things that I do, leave, I don't have to fret or think about it on a night and I'm earning much better money than I would be if I was actually working for the company. And in the medium term, heading more towards having my own business with a wider portfolio of stuff going on...and in the longer term, I like to see it as having sufficient flexibility to do what I want to do, so if I want to have kids in two years, three years, five years, then I have a*

*business that has given me sufficient cash to be able to only work three days a week or whatever I want to do.*

(Self-employed Management Consultant, currently working on contract for utility company)

These women had recognised that it was possible for them to take control and define the parameters within which they could develop their careers. For some respondents, however, self-employment had failed to provide the flexibility that they had sought, instead requiring an unacceptable degree of flexibility *from* them which imposed the opposite of work/life balance:

- I You mentioned trying to carve your own road in terms of becoming self employed and you mentioned in the previous interview that there might be possibly contract work with some of the clients you had been working for previously, did that not materialise? Was that part of the [ICT] downturn?

*'It did and it didn't. There were a few bits and bobs but a lot of them wanted a proper support contract and when you're just one person you can't offer that kind of support contract. They want to have you available on the phone all the time and be there immediately if there is a problem. When you've got several people who all expect the same thing you can't be in all the places all the time and one of the problems I had [with my previous employer] was the exceptionally long hours I had to work, I didn't want to tie myself into contracts where I'd be expected to do that again because it made me extremely unhappy working for very long hours and I never got to see my partner and things like that. I could have gone and done contract work for banks and stuff, there's always work available for them, but its doing shift work and you're working from seven in the morning until seven at night. I just took a conscious decision that it was going to be quality of life over money.'*

(Network Engineer, National Social Welfare Charity)

This example reveals one of the core findings of the qualitative data analysis: there are some industry sectors where the achievement of working conditions and patterns of employment conducive to a reasonable work/life balance, and therefore family-friendly and characterised by realisable equality of opportunity for women, are far from being realised. Paradoxically, the ICT industry and industries in which the graduate jobs held by our respondents are concerned with the manipulation of ICT appear to be among the worst, despite the fact that the new technologies inherently have the potential to make employment more flexible and adaptable to the needs of employees, and time less constraining. The account provided by one of our most enterprising respondents is instructive:

*'[My previous employer in the recruitment industry] wouldn't take me back part-time, so I was forced in to self employment in the April of 2003, worked for myself for about six months just doing a bit of headhunting, a bit of recruitment, bit of sales for my husband, whatever I could find really. Then I started working for a head-hunters down the road from here, very close by, who would let me work four days a week and I worked there for a year, but it became too tough to actually balance work and life, so I left there last November and now...I'm now self-employed and I sell property [overseas]. The guy who set up the business is a client of my husband and he asked me if I knew anyone that he could employ in the UK to set up a UK office, and I said "Yes - me!" I headhunted myself!*

*I think for me the real crux came in my last job was when my son had chicken pox and he needed to be off nursery for two weeks and I actually had to ask my sister to look after him because I wasn't allowed...well, it was frowned*

*upon [researchers' emphasis] for me to take time off - and the most important thing in my life is my son, it's not work - but I had to choose work. That was very, very difficult and it was the nail in the coffin for employment for me and why I thought I really needed full flexibility. It was sales for a start, but also it's all client-driven and clients don't understand that you have to leave the office at five thirty and not five thirty five and things like that. There are a lot of pressures, but I think, because it's a sales environment as well, you get pressures from management to hit...and it's got to be every month you have to hit those targets and because your son's got chicken pox, it doesn't mean that you get some time off, because no-one else does. I understand the logic of that, but it puts you in a situation where you can't carry on'.*

*'The fact that I'm now self-employed means I can work to suit my needs and the fact that [my husband] is self-employed means that he's doing a lot more of the childcare as well now, so he goes to pick up and drop off as well as me, we share it. Because he works for himself he has a lot more flexibility, so that gives me more flexibility. ...[but] [Having a child] is a completely life changing event, my life has been completely changed since. I haven't got time for a second child at the moment, I think it's not something we can do at the moment and that all comes down to work/life balance as well. Ideally I should be having another child because the gap is about right, but we can't actually do it for time reasons, to take time off to have another child, so the gap's going to have to be bigger. I never thought family planning was like that, but I think it is more these days, when more women work'.*

[Female Self-employed Property Developer, formerly Project Manager in Recruitment Company, husband also self-employed]

Finally, it is worth considering the accounts of two of the highest paid and most successful women interviewed in the course of the ten years on investigation. The first of these is a single parent working for one of the 'big four' financial consultancies as a senior manager - an exceptionally able graduate in Mathematics and Computing who obtained her first job with her current employer as a mature graduate who had returned to university in her mid-20s as a single parent and subsequently had an accelerated career in a job that she loves.

I 'Last time I spoke to you, you were living with your mum and your son, is that still the case?'

*'Yes, ...She's baby minder and I'm bread winner. I couldn't do it if I hadn't got her, it wouldn't be fair to my son, so it makes it possible. She looks after the house and I walk in the house and do pretty much nothing, and it works. [...]*

I Would you say that you've managed to achieve a satisfactory work/life balance?

*'I don't have a satisfactory work/life balance! No, no, I don't! It's one thing we accept, everything is a compromise, isn't it? I like what I do, you have to put in the effort and to be honest, you don't get the best out, you don't get the satisfaction if you don't put in. Plus **there's an expectation** [researchers' emphasis] that if you're there, you're there without leaving, and therefore you will put in the hours. So no, I don't have a proper balance, but I won't work weekends any more, so that is [my son's] time. I will work every hour God sends during the week if I can have a bit of free time at weekends: weekends are my time.'*

I 'Would it be possible to do your job on a part time basis?'

*'Impossible because.... well yes, I believe it would be impossible [respondent's emphasis]. We do have a female senior manager who is actually on maternity leave at the moment with her second baby. After the first one, she came back in January after her first maternity leave and has now gone off on the second. She worked for us about nine months between the two pregnancies on a part time basis - she worked full days, but did 8-4, because 8-4 and 9-5 on paper appears to be the same job, but she was quite strict on her 8-4 where there's huge flexibility on our 9-5. She probably felt it worked, but the rest of the team didn't. It meant that she had to be local as well[i.e. she couldn't be away from the office for extended periods].'*

- I 'She wasn't actually part time, was she? In theory, that a full time job?'  
*'Well she worked 8-4, but we probably do another 4-5 hours a day on top of that, which is why I was saying it wasn't quite a... in theory it was a full time job: in reality, compared to other senior team members, it was part time hours.'*
- I 'So what she was doing might technically be called working to rule?'  
*'Yes, to us it's like working to rule.'*

The second example is a woman who had just been promoted to a Director-level post at an international retail company, at the age of 32, having had her first child a couple of years ago and now expecting her second. Asked how satisfied she was with her current job, she was initially enthusiastic.

*'Umm, I'm pretty satisfied. I really enjoy my job. My challenge is my work/life balance, that's always very difficult. Part of me wishes that I wasn't quite as senior, because when I got this promotion, if I hadn't had a family I think I would have been ecstatic because it would have been - "How far can I go?" But I almost felt more pressure on now trying to really...it was going to be harder again to keep that work/life balance going...'*

*I am on a four day week. I always say I will do everything I can, but I cannot leave...you have to give me time to plan it. I cannot be spontaneous.. Lots of my peers now don't have children and that, sometimes I find quite difficult because over the years I've put in a lot of hours and worked very late and lots of the guys in my team work very long hours, but I have to leave by 5:45 every night at the latest, **so I do sometimes feel I am leaving them in the lurch...**[researchers' emphasis] I know when I've worked very late at their kind of level, anybody who gets to leave before you, you get a bit kind of miffed! But I wouldn't have got promoted if I hadn't been satisfying the requirements of the role... I know that, like this week for example, I have to get one late night in, so I have to get my husband one night a week to give me an opportunity [sic] to work late and then I will work until about eight o'clock at night just to make up for all the other bits, and I work on a Sunday night for a couple of hours and I usually do a couple of hours on a Friday night, just picking up emails and responding to the team.. I get weeks when I think I'm keeping ahead and other weeks where I feel like I'm drowning. ...my only thing is **a more personal aspect** {researchers' emphasis} because I think...I don't know how I am going to be able to do this with two children. My husband works away a lot as well and his job is doing really well and he travels quite a lot. So a lot of the time I am doing that on my own'.*

This female manager provides an example of the pattern described by Wajcman (1998) of a woman in a demanding job with a partner in an equally demanding job, working largely alongside male peers who tend to be supported by non-working or part-time working

partners who obviate their need for family-friendly hours of work. Other researchers have drawn attention to the relatively longer hours and inflexibility of management work compared to professional work (Moen and Sweet (*op.cit*) and that is apparent in our findings. It is ironic that the only woman interviewed who did not mention the lack of sustainability and stresses of senior management roles in industry and commerce was the penultimate respondent, whose mother played the wifely role of housekeeper for her.

## 9. Conclusion

Drawing together the findings from our quantitative and qualitative analyses, the picture that emerges is one where, as a result of progress towards equality of opportunity in education and employment, women are increasingly acquiring and using higher-level skills and knowledge and obtaining the kinds of jobs that previous generations of women less often had access to. However, they do not appear, even in their early career development, to have achieved equal earnings and the gender pay gap among graduates increases as graduate careers develop. The survey data enabled us to identify some elements of the explanation for this - gendered skill development, differences in the sectors where men and women work, the occupations that they adopt, the work contexts where they were employed, the average hours that they worked and some interesting attitudinal differences. The interview data throw some further light on why women find some work contexts less attractive, and employment in them less sustainable than in others - and why their working hours can be more restricted than men's, especially once they embark upon family formation.

In the interviews with male graduates and the accounts provided by women of their partnerships, we find little evidence of dramatic change in gendered attitudes to household divisions of labour, although many of the young graduate males were also concerned to promote and take advantage of work/life balance employment policies and most took it for granted that careers and employment played, and would continue to play, a significant role in their partners' identities and would require to be taken account of in their own career decision-making. We found examples of individual careers among both males and females, but we also found that most respondents visualised their career and took decisions related to their career on the basis of both their own and their partners' interests. There have been many attempts to develop classifications of careers and of dual career partnerships, but our preliminary classification of the patterns described to us has led us to conclude that all of the partnerships described fitted more or less comfortably into one of the following categories:

- *neo-traditional careers*, where one partner's (usually but not always the male's) career took precedence and their partner was described as 'not ambitious' or had taken the decision to support the main breadwinner's career rather than develop their own career, in the short term at least. The difference between these and traditional breadwinner partnerships was that in all cases, the longer term need to *also* have fulfilling, career-related work on the part of the financially-dependant partner was taken as axiomatic;
- *compound careers*, where couples worked together to maximise household interests in a way that facilitated equality rather than dependency, balancing working time and longer term plans and changes to facilitate their joint work/life balance. In these cases, there was generally a recognition that both careers were, to an extent, 'on hold' during the most intense period of children's dependency;
- *complex careers*, where both partners aspired to develop their careers and saw these as an essential and equally important component of their identities. In these cases, it is clear that, as in previous findings from research on dual career partnerships, the women made more concessions to the work-time demands of parenthood than their partners did. In this, they reflect cultural gendered expectations on the part of others and themselves, reinforcing the finding that, for women, their sex is a more central aspect of their identity than is the case for men. Consequently, there appears to be little challenge to the norm that the primary parenting role should be allocated

to mothers; but parenting was clearly important to many of these young men. The majority of the women who had been identified as 'high flyers' seven years after graduation and had embarked on motherhood were developing complex careers.

The implications of these findings are that, in the medium term at least, there is unlikely to be a dramatic change in gender divisions of labour in the private or public sphere, or in gender expectations or aspirations, that are likely to lead to greater achievement of equal outcomes. Indeed, for this graduate cohort at least, it might be expected that the graduate earnings gap will continue to grow over the next few years as more of the female graduates have children and make career adjustments to facilitate this. However, the positive findings are that for the majority of them, their skills, knowledge and career development are important dimensions of their identities and it is possible for those who aspire to, to continue in employment and to negotiate working conditions that make this feasible. We found examples of good practice: high quality part-time work, with part-time workers valued and promoted and provided with opportunities for career development; in the same sectors where employees in other organisations had met with obstacles more related to company culture than commercial imperatives. We also found that the greatest obstacles to women's ability to modify their working patterns at the early stages of their children's lives, as legislation and in most cases, company policies enabled them to do, were not the formal but the informal pressures generated by custom and practice in particular organisational cultures and also, their own gendered insecurities. We have emphasised throughout examples in women's accounts where they mention their own feelings of guilt in taking advantage of family-friendly policies and their concern to compensate their colleagues and employers for what they see as *their* shortcomings in their abilities to maintain the work intensity that they had become accustomed to prior to having children. As more women develop successful careers prior to family formation and organisations make it possible for women to develop careers via 'non-traditional' working patterns, it might be assumed that the slow progress that we have observed towards greater accessing of equal opportunities and the even slower progress towards greater male responsibility for the work associated with parenting might continue to proceed. If the women who have not yet had children continue to postpone doing so, or reject parenthood, the social implications may precipitate policy-makers into more creative attempts to persuade employers to improve the effectiveness of their work/life balance provision.

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**Table A1** Factors associated with the annual earnings of 1995 graduates in full-time employment seven years after graduation

	Coeff.	Std. Error	Sig.	Mean	
				Males	Females
Hours per week (exc. breaks but inc. o/t, unpaid)	0.009	0.000	0.000	44.2	42.3
<i>Contractual basis of current job</i>					
Permanent/open-ended	ref.			84.8%	82.1%
Fixed term contract	0.020	0.005	0.000	8.7%	9.9%
Probationary	-0.033	0.011	0.002	1.1%	1.6%
Self-employed	0.080	0.008	0.000	3.9%	3.8%
Temp (agency)	0.140	0.015	0.000	0.4%	1.0%
Other temporary or casual	-0.109	0.024	0.000	0.0%	0.5%
Other (not permanent)	-0.097	0.020	0.000	0.3%	0.5%
Degree was required to obtain current job	0.157	0.003	0.000	64.3%	69.8%
<i>Sector of current job</i>					
Agriculture, mining	-0.109	0.012	0.000	1.6%	1.1%
Manufacturing	-0.121	0.006	0.000	12.2%	6.9%
Electricity, gas, water	-0.084	0.011	0.000	2.3%	0.9%
Construction	-0.168	0.008	0.000	8.9%	1.4%
Distribution	-0.108	0.007	0.000	5.4%	4.2%
Transport	-0.142	0.011	0.000	2.4%	0.9%
Information and communications	0.005	0.005	0.384	14.3%	9.6%
Banking, finance and insurance	ref.			11.5%	7.0%
Business services	-0.027	0.006	0.000	11.2%	12.3%
Education	-0.135	0.007	0.000	9.1%	24.8%
Other public services	-0.141	0.007	0.000	12.6%	22.8%
Other	-0.151	0.007	0.000	7.2%	6.5%
Private sector	ref.			70.2%	46.8%
Public sector	-0.096	0.005	0.000	24.4%	45.6%
Not for profit sector	-0.158	0.006	0.000	4.4%	6.7%
<i>In my workplace, my type of work is done</i>					
exclusively by men	ref.			20.2%	6.3%
mainly by men	0.022	0.004	0.000	34.2%	15.4%
by equal mixture of men and women	-0.049	0.004	0.000	37.5%	40.3%
mainly by women	-0.109	0.005	0.000	6.3%	29.1%
exclusively by women	-0.126	0.008	0.000	0.5%	8.0%
<i>After first started this job, to learn to do it reasonably well took</i>					
< 1 week	-0.030	0.006	0.000	6.1%	3.4%
1 week to 1 month	-0.022	0.004	0.000	11.4%	11.5%
1 - 3 months	-0.055	0.003	0.000	24.3%	24.7%
Over 3 months	ref.			58.2%	60.4%

(contd.)

	Coeff.	Std. Error	Sig.	Mean	
				Males	Females
<i>Use of computers in current job</i>					
Do not use computers in job	ref.			1.9%	3.4%
Routine use of computers in job	0.199	0.008	0.000	51.7%	70.0%
Complex use of computers in job	0.166	0.008	0.000	28.8%	21.1%
Advanced use of computers in job	0.257	0.009	0.000	16.9%	5.1%
<i>No employed by the organisation works for</i>					
< 10 employees	ref.			5.1%	5.4%
10 - 24 employees	0.142	0.008	0.000	5.7%	6.8%
25 - 49 employees	0.145	0.008	0.000	5.7%	8.7%
50 - 199 employees	0.151	0.007	0.000	15.2%	15.2%
200 - 499 employees	0.175	0.008	0.000	9.9%	8.5%
500 - 999 employees	0.171	0.008	0.000	6.3%	8.3%
1000+ employees	0.233	0.007	0.000	51.4%	46.1%
<i>SOC(HE) classification of current job</i>					
Traditional graduate job	0.152	0.005	0.000	20.0%	26.0%
Modern graduate job	0.102	0.005	0.000	21.1%	21.1%
New graduate job	0.201	0.005	0.000	20.0%	18.5%
Niche graduate job	0.136	0.005	0.000	23.2%	20.5%
Nongraduate job	ref.			11.5%	10.8%
Not classified	0.088	0.008	0.000	4.1%	3.2%
<i>Currently employed in</i>					
Inner London	0.252	0.004	0.000	17.2%	16.8%
Outer London	0.184	0.005	0.000	7.0%	5.8%
South East	0.089	0.004	0.000	14.8%	13.1%
Male	0.075	0.003	0.000	100.0%	0.0%
Age	0.113	0.013	0.000	29.5	29.1
Age squared	-0.002	0.000	0.000	871.8	852.5
Disability	-0.089	0.010	0.000	1.7%	1.4%
Other work limiting factor	-0.105	0.008	0.000	2.1%	2.7%
Lives with partner and children	0.031	0.004	0.000	14.0%	7.9%
Lives with parents	-0.200	0.004	0.000	11.4%	7.7%
Shared accommodation	-0.100	0.004	0.000	12.1%	9.4%
Has children age 6-11	0.042	0.010	0.000	2.4%	1.2%
Fee paying school	0.039	0.004	0.000	16.2%	14.5%

(contd.)

	Coeff.	Std. Error	Sig.	Mean	
				Males	Females
<i>Class of degree obtained in 1995</i>					
First class degree				10.6%	8.0%
Upper second	-0.030	0.003	0.000	43.2%	51.0%
Lower second	-0.050	0.004	0.000	29.6%	29.3%
Third	-0.115	0.007	0.000	4.5%	2.4%
<i>Subject area of 1995 degree</i>					
Arts	-0.181	0.009	0.000	1.7%	3.2%
Humanities	-0.122	0.006	0.000	7.8%	11.8%
Languages	-0.108	0.008	0.000	1.4%	5.7%
Law	0.029	0.008	0.000	3.4%	4.1%
Social sciences	-0.037	0.005	0.000	12.9%	16.6%
Maths and computing	0.051	0.006	0.000	10.1%	4.5%
Natural sciences	-0.093	0.005	0.000	12.8%	11.1%
Medicine and related	0.057	0.007	0.000	3.9%	9.7%
Engineering	-0.018	0.006	0.002	16.8%	2.3%
Business studies	ref.			14.0%	11.3%
Education	-0.018	0.007	0.008	2.7%	10.5%
Other vocational	-0.070	0.006	0.000	9.7%	4.6%
Interdisciplinary	-0.105	0.008	0.000	2.7%	4.5%
<i>Entry qualifications for 1995 degree</i>					
24+ UCAS points	0.003	0.004	0.451	17.6%	20.7%
16-23 UCAS points	ref.			18.7%	25.1%
less than 16 UCAS points	-0.052	0.004	0.000	17.8%	18.3%
Scottish or Irish Highers	-0.002	0.005	0.753	8.8%	8.7%
Access qualifications	-0.208	0.014	0.000	1.0%	0.6%
Foundation course	0.039	0.014	0.005	0.8%	1.0%
HND/HNC	-0.026	0.005	0.000	10.6%	4.0%
GNVQ or equiv.	0.097	0.015	0.000	0.9%	0.6%
Int. baccalaureate	0.118	0.023	0.000	0.4%	0.1%
O' levels	0.153	0.026	0.000	0.3%	0.2%
BTEC, OND, ONC	-0.064	0.008	0.000	2.9%	2.4%
First degree	-0.254	0.018	0.000	0.3%	0.7%
Postgrad qual.	-0.374	0.126	0.003	0.0%	0.0%
Other qual.	-0.117	0.009	0.000	2.0%	1.7%
<i>Further education and training since 1995</i>					
Short course(s)	-0.032	0.003	0.000	24.8%	32.0%
Undergraduate degree	0.018	0.008	0.019	3.2%	2.2%
Postgraduate cert. or dip.	-0.019	0.003	0.000	16.0%	31.7%
Professional qualification	0.055	0.003	0.000	22.7%	23.5%
Master's degree	-0.040	0.003	0.000	16.1%	19.1%
Phd Programme	-0.127	0.006	0.000	5.8%	5.6%
Other	-0.020	0.005	0.000	6.9%	10.4%

(contd.)

	Coeff.	Std. Error	Sig.	Mean	
				Males	Females
Moved between regions (pre degree home and current employment)	0.014	0.003	0.000	51.9%	48.4%
<i>Parental socio-economic class:</i>					
Managerial and professional occupations	ref.			46.7%	45.6%
Intermediate occupations	-0.033	0.004	0.000	11.2%	11.3%
Small employers and own account workers	0.023	0.004	0.000	15.2%	17.6%
Lower supervisory and technical occupations	-0.016	0.006	0.004	6.0%	4.6%
Semi-routine and routine occupations	-0.027	0.004	0.000	11.4%	9.7%
Neither parent in paid employment	-0.089	0.009	0.000	1.9%	1.8%
Not determined	0.018	0.005	0.000	7.6%	9.5%
Constant	0.201				

Adjusted R<sup>2</sup> = 0.502

Weighted N = 59,956

Unweighted N = 3,286

Note: All independent variables are represented by 0, 1 values, except for age, age squared and weekly hours worked which are continuous. With the exception of these variables, mean values of the variables are displayed as the percentage in each category coded to the value 1

The dependent variable is the natural logarithm of annual gross earnings. The coefficients associated with each variable can be regarded as the percentage change in earnings associated with each variable, relative to the reference variable in each set (denoted by 'ref.')