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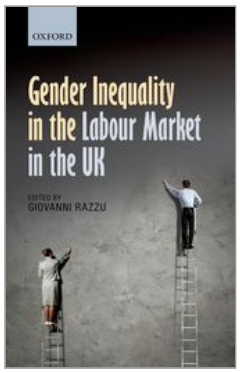

Gender Inequality in the Labour Market in the UK
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The Gender Pay Gap in the UK Labour Market

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Abstract and Keywords

This chapter spells out the nature and causes of the gender pay gap. The idea of decomposing the pay gap is used to show its key substantial drivers. Using the BHPS, the authors show how the drivers of the gender pay gap changed since the1997. The analysis draws attention to part-time work and to women's job downgrading when they return to employment after childbirth and looks briefly at the indirect factors contributing to the pay gap, such as the work career overall. Specific attention is placed on the large size of the gender residual and how it is best to think of this as the result of a structured system of institutions and norms in which gender plays a very important part.

Keywords: women's employment, pay gap, wage rates, wage regression, decomposition, bonuses, UK labour market, gender residuals

Introduction

This chapter presents two research questions. The first reviews the causes of the pay gap. The second focuses on how the drivers of the gap have had a changing influence over time. The human capital explanation that education levels drive pay levels is augmented by institutional factors, tending to show two main trends over the period 1994 to the present: first, the education of women in the UK caught up with that of men, causing a narrowing of the male pay advantage which is gradually working its way up through the age groups; second, endemic occupational segregation places many women, particularly after childbirth, in roles to which low wages are attached. Thus for women returners to employment, the pay gap is a real problem associated with job downgrading (Tomlinson et al., 2009). Most men do not have this gender-related problem.

Current Pay Gap and its History

The pay gap is defined as the percentage difference between men's average wages and women's average wages, and is usually **(p.53)** calculated in pounds-per-hour. In defining the pay gap, during the 2004–13 period the Office for National Statistics (ONS) in the UK gradually moved toward a conceptualization that peripheralized the impact of part-time work on gendered inequalities in pay.[1] Part-time work has stayed constant at over 20 per cent of the headcount of women workers throughout the period 1997–2013 (ONS, 2013a); while men continue to be less likely to work reduced hours (male part-time workers have now reached 6 per cent of the labour force). Thus it is crucial to consider part-time work when looking at pay gaps.

Male part-time employees typically earn just 58 per cent of what their male full-time counterparts earn (ONS, 2013a). For women, who represent a larger group in the labour market, part-time earnings are 67per cent of what female full-time workers earn. Our key comparisons include both part-time and full-time employees in the pay gap; given the considerable proportions of women who work part-time. Table 3.1 reveals the pay gaps amongst both full-time and part-time workers.

Table 3.1 Pay of women and men in the UK, 2012

2012	Pay of males and females	% of the workforce
Full-time median pay 2012	£13.41 males; £12.01 females	The UK labour force has 39% male and 35% female full-time workers
Part-time median pay	£7.72 males; £8.13 females	The UK labour force has 6% male and 20% female part-time workers
		100%
Total size of workforce		1.8m males work part-time
		14.0m males work full-time
		5.9m females work part-time
		7.9m females work full-time

Sources: Rows 1–2 (ONS, 2013a). Row 4 (ONS, 2013c).

The full-time gender pay gap has improved slowly over recent decades, moving from 21 per cent in 2001 to 17 per cent in 2007 (Daniels, 2008; notice this specific pair of figures are for full-time women against full-time men only). The overall gender pay gap allows for both full-time and part-time pay gaps, as shown in Table 3.1 and in Figure 3.1. Figure 3.1 shows the movement of the median pay gap for all workers during the period up to 2012. The gender pay gap in the UK is considerably worse when part-time work is taken into account as shown here. In 2006, female part-time workers earned on average 39 per cent less than full-time male workers (Low Pay Commission, 2007). **(p.54) (p.55)** By 2012, this figure had not changed much; using comparable data from ONS, the median overall pay gap had fallen from 23 per cent to 16 per cent between 1997 and 2012, as shown in Figure 3.1.

Theories of the 'Drivers' of the Gender Pay Gap

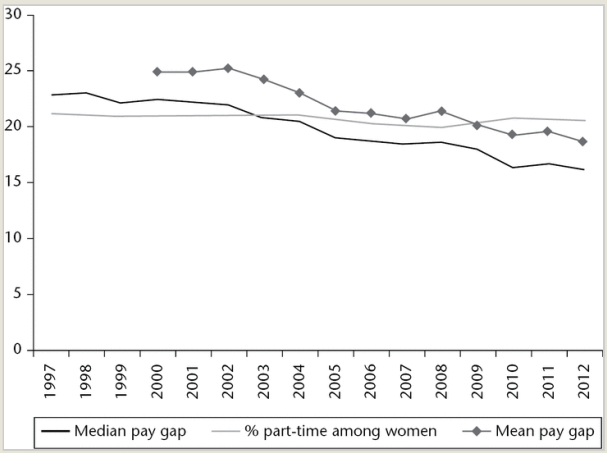

Figure 3.1 Pay gap and women's part-time work over time

Source: Median calculations based upon ONS (2013c; see also ONS, 2013b); mean pay gap data taken from ONS (2012b) via the linked data table.

A typical gender pay gap study tries to reveal the drivers behind the gender pay gap. This involves finding and modelling the determinants for the wages of females, males, and all employees. The outcomes of these models are then used to decompose the gender pay gap to its constitutive elements. Previous research into gender earnings inequality has frequently sought to determine the part of the gender wage gap that could be explained by productivity-related differences between employees. The assertion being that the less productive should earn lower wages. *Human capital theories* (Becker, 1993) predict that those with higher skills and qualifications as well as those with considerable employment experience and stable careers will be more productive and will consequently have greater labour market success. Human capital variables are frequently presented as a primary driver of gender wage inequality. For instance previous work found that 19 per cent of the 2002 gender wage gap could be attributed to work history (Olsen and Walby, 2004). A recent study by Swaffield (2007) shows, using British Household Panel Survey (BHPS) data, that full-time labour market experience in particular contributes significantly to the gender wage gap. Moreover, the more detailed the measure of work history the larger the share of the gender pay gap it explains. Education itself is found to be important for wage determination but it is

surprisingly unimportant in the decomposition of the pay gap (8 per cent of the gap in 2002 (Olsen and Walby, 2004).

While the main interest in the gender wage gap has been in its link with human capital, the *institutional context* of gender wage inequality forms another crucial element of the gender wage gap **(p.56)** (Olsen and Walby, 2004). The wage determining process can be seen as subject to a set of rules and constraints, linked to social settings at different levels: the state and its system of welfare provision, the occupational group, and sector- and workplace-specific labour markets. In this respect, Grimshaw (2000) finds important differences in the gender wage gap between the public and the private sector in the United Kingdom. The smaller gender wage gap in the public sector could be linked to the centralization of wage setting. Moreover, the narrowing of the gender pay gap in the public sector played an important role in the narrowing of the overall gender pay gap between 1986 and 1995. Trade union membership tends to reduce the pay gap (see Table 3.4). Countries whose policies encourage full-time childcare at home and thus have fewer parents working part-time turn out to have smaller pay gaps (e.g. Germany). The inactive women on zero wages do not count in the calculation. The gender segregation of the occupation people work in is an important factor. Generally, previous research about the United Kingdom has shown that people employed in occupations where women are overrepresented tend to earn lower wages (Olsen and Walby, 2004). Mumford and Smith (2007) show that both occupational segregation and workplace segregation (i.e. sitting mainly with same-sex employees within a site) contributed substantially to the gender wage gap. People who work in occupations or workplaces where the majority of the workforce is female obtain lower wages than they could get elsewhere, given their qualifications, experience, and other characteristics. These policy and structural features of the UK labour market are known as its institutional features.

Additionally, the *culture and value system* with respect to gender roles has an effect on gender inequality in wages. Women’s and men’s ideas about gender roles in the household and labour market can, to a lesser or larger degree, be stereotypical. Hence, there are important gender differences in labour market attitudes and aspirations. Some authors take these domestic labouring norms and gender stereotypes as cultural givens, but others see them as malleable and open to

policy levers (McRae, 2003). **(p.57)** In her study of the UK gender wage gap, Swaffield (2007) found that differences between women in gender role values are an important driver of the female wage. Yet she found statistically that gender stereotypical attitudes are not a main component in explaining gendered earnings differences. Decomposition methods are crucial to making this important distinction.

Procedurally, an expert might place '*part-time work*' as a cause of women's lower pay by putting this variable in a regression. (Regression examines how each cause is associated with higher pay.) However, it is inappropriate to consider part-time work as a causal factor in itself because hourly pay rates pro rata should correspond to the work done, not to the status of the worker. Similarly we would account for overtime by dividing the weekly wage by weekly hours, giving the hourly wage as a fair comparator, e.g. £10.50 per hour. The variable 'part-time worker' also introduces collinearity as it is itself an outcome that is strongly affected by having dependent children and thus it transfers the causality from labour supply itself through to creating a mis-specified wage explanation. This would cause bias in other parts of the regression so we leave 'part-time worker' out of the explanation. Another way to put this is that doing the work part-time overlaps with the real underlying causes of higher productivity. It does not add further causation.

Once the main factors that drive or explain the gender pay gap have been established, one can assess the size of the different contributing factors. In Olsen and Walby (2004) the determining factors are full-time work experience (19 per cent), interruptions to employment for childcare and other family care (14 per cent), differences in education level (8 per cent), occupational segregation (10 per cent), and other institutional factors (8 per cent). Such estimates rely on the Oaxaca method of breaking down the causes of the pay gap.[2] Mumford and **(p.58)** Smith (2007) found on the basis of the British Workplace Employee Relations Survey of 1998 that 25.7 per cent of the gender wage gap was explained by individual level productive characteristics, while up to 31.7 per cent can be explained by occupational and workplace segregation. After identifying the size of the determining factors, one is left with that proportion of the gender pay gap that remains unexplained by the drivers outlined above. Most research evidence shows that the largest part of the gender

pay gap remains unexplained (Makepeace et al., 2004; Joshi et al., 2007; Swaffield, 2007). The unexplained part amounts to 38 per cent of the gender wage gap in previous research on the BHPS sample (Olsen and Walby, 2004). The component of the gender wage gap that cannot be explained by human capital indicators is sometimes attributed to gender discrimination in the labour market. However, this is not the only possible explanation because there are always 'unobserved' individual characteristics for which we have no information in our study (Harkness, 2006). Examples of unobserved individual characteristics might be motivation at work or assertiveness in a work team. Another unobserved factor could potentially occur when individuals accept lower wages for work they regard as more pleasurable. The latter are referred to as compensating differentials. (For a good discussion of the ideas on compensating differentials, see Kilbourne et al., 1994). There are ways of taking the unobserved heterogeneity between individuals into account in the statistical analysis, by specifying an individual fixed-effects term for instance (Blinder, 1973; England et al., 1988). Nonetheless, even in such analyses, the pay gap has not been found to disappear, and England has herself drawn the overall conclusion **(p.59)** that the economic progress of women has stalled in recent years (England, 2010).

Changes in the Drivers of the Pay Gap

An interesting question relates to how the drivers of the gender wage gap have evolved over time. Is there any evidence that the drivers of the gender wage gap have changed over the last 10 to 20 years? The research evidence on this topic is fairly limited but a number of studies have employed British cohort studies to gain a better insight into the trends (Makepeace et al., 1999; Makepeace et al., 2004; Joshi et al., 2007). The most recent study by Joshi, Makepeace, and Dolton (2007) investigates the full-time gender wage gap —and its main components for people from three different cohorts—those born in 1946, 1958, and 1970 respectively. They find that gender inequality in wages for people in their early thirties has decreased over time, from a gender pay gap of 30.5 per cent for the earliest cohort to a gap of 8.2 per cent for the most recent cohort. Over time, a smaller share of the gender wage inequality is explained by human capital and work experience, even to the extent that full-time employed women of the youngest cohort (1970) should have earned

more than their male colleagues at the age of 30 given their characteristics such as qualifications and work experience. Yet, while the gender wage gap decreases over time when comparing different cohorts in their early thirties, the gender wage gap is shown to increase substantially between age 33 and age 42, and more of the gender pay gap is explained by human capital and work experience at age 42 in recent cohorts. Makepeace et al. (2004) find that the increase in the unequal treatment in wages is substantial both for low-wage and high-wage workers. This research evidence indicates that there is a life-course component to gender wage inequality that needs further research attention.

Many studies on the gender wage gap have focused on full-time employees only. Grimshaw and Rubery (2001) note **(p. 60)** that there are problems with such a research strategy, with many female part-time workers found in low-status and low paid jobs. As a result, the gender pay ratio of female wages compared to men's dropped from 80 per cent to 73 per cent once part-time work was taken into account (their figures were from the New Earnings Survey for 1995). Similarly, Harkness (1996) found that whereas the gender pay gap for female full-time employees had been closing since the 1970s, the pay gap of part-time female employees compared to men's had remained surprisingly constant. Also the Low Pay Commission (2007) found a huge part-time pay gap of 39 per cent.

The Pay Gap Seen Through the Lens of Low, Medium, and High Pay

Some economists have looked closely at how the pay gap is affected by different factors amongst the lower paid (those earning near and below the minimum wage) compared with those who earn very high wages (where bonuses play a part in pay determination). Figure 3.2 shows that the median pay differentials are large and that the top quartile ranges do not overlap for the key group of part-time working women versus full-time workers.

Thus the full-time pay gap misrepresents the situation while the distribution-based studies offer something not found in studies focused upon the mean or median (Figure 3.3).

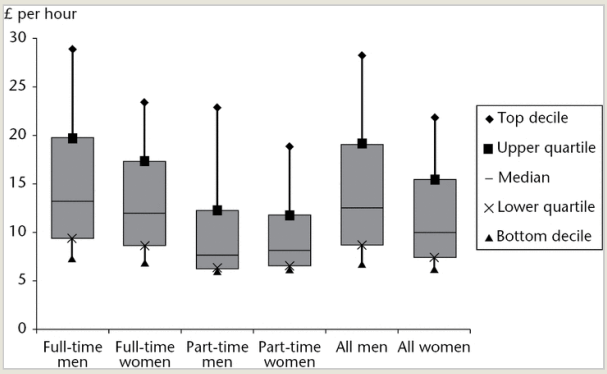

Figure 3.2 Pay distribution among part-time and full-time workers, UK, 2012

Source: ONS 2012, Figure 8.

The distribution-based studies, however, also embody market-based assumptions that may not fit well the realities of labour markets—see Juhn et al. (1993). This seminal paper showed divergence of wages over time for the USA. Methods of analysing pay gaps moved toward decomposing the factors that caused the top decile pay gap, and middle and lower paid pay gaps. In all cases Juhn et al. (1993) found evidence in support of human capital theory: skills developed in education or work were associated with higher pay. This basic facet of the capitalist economy may **(p.61)** explain the improvements in the pay gap as women have become better educated since the 1960s.

Criticism of Juhn et al.'s (1993) strategy is that the price of unobserved skills was assumed to be a market reward for saleable **(p. 62)** productivity, and thus the differentials which are

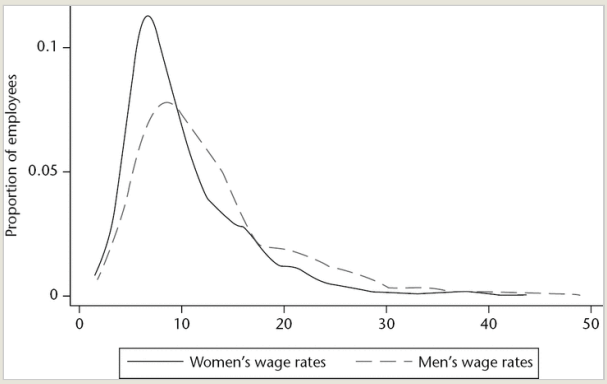

Figure 3.3 Distribution of male and female hourly wages, UK, 2007

Source: British Household Panel Survey, Wave Q, 2007/8, employees only.

usually interpreted as reflecting systematic structural discrimination were interpreted as morally laudable economic rewards. The issues are twofold: first that the evaluative interpretation was confused, and second that the model was unable to discriminate between explained and unexplained wage differences. The problem posed by the presence of unobserveable differences has riddled economic studies of wage differentials and is a perennial issue. In trying to solve it, panel data can be used and results along those lines are presented later. These show that after allowing for the accumulation of human capital and skills over time there is still a gender related pay gap. It can also be shown, however, that this pay gap is more about job downgrading after returning to work than about the actual sex of the worker. Young women prior to having children, for instance, have a small pay gap in the UK and fewer of them work part-time than do women who have small children at home. The full-time gender pay gap in 2012 declined from age 18 to age 29 and then rose among all older women (comparing like with like by age group; see ONS (2012a).

Table 3.2 The gap in weekly earnings among men and women by age group, UK, 2012

Age group	Full-time weekly earnings pay gap (%)
16–17	27
18–21	10
22–29	4
30–39	8
40–49	22
50–59	25
60+	20
Overall	18

Source: ONS 2012a, Table 10. These figures consider those working 30 paid hours per week, or 25 or more for the teaching professions.

Table 3.2 shows that the pay gap has structural determinants rooted in all the age cohorts of the UK population. Change in one age-group such as mothers returning to work gradually **(p.63)** affect the whole pay gap and can continue over time.

In general, the accumulation of human capital is widely thought to occur in a work career. Interruptions of that career can damage (‘scar’) the wage-rate. For many women it jumps downward after they have children. We look at this in detail in the next section.

Drivers of the Pay Gap

The relative prevalence of part-time work has changed over the years for both men and women. The greatest change occurred among men with a rising percentage working part-time, including both students and mature post-retirement men who return to the labour market part-time. Most researchers using UK data **(p.64)** define workers in part-time employment as those doing 5–29 hours a week, and those in full-time employment as 30+ hours a week. Previous research has consistently found part-time jobs to be of inferior quality to full-time jobs in the UK (i.e. Connolly and Gregory, 2008), with many workers found to occupationally downgrade in their pursuit of reduced hours (Tomlinson et al., 2009). The BHPS sample analysed in Figure 3.4 and Table 3.3, which includes booster samples for Wales and Scotland, confirms the tendency for part-time work to be associated with lower occupational worth than full-time work. We find part-time work less likely to be: permanent, unionized, and in the protected public sector. **(p.65)**

Results for Two Decadal Time Points

This section of the chapter decomposes the gender pay gap to reveal the explanatory factors behind gendered pay differentials. Such a decomposition of the pay gap allows us to reveal both the drivers of the pay gap and their relative size.[3] We begin with an assessment of the pay gap for the year 2007.[4]

Figure 3.4 presents the main drivers of the 2007 pay gap; additional drivers exist but have not been included in the figure as they account for such a small proportion of the pay gap. Figure 3.4 reveals the largest single cause of the gender pay gap to be ‘gender’, followed by ‘occupational gender segregation’, and ‘formal education’. We discuss each factor in turn.

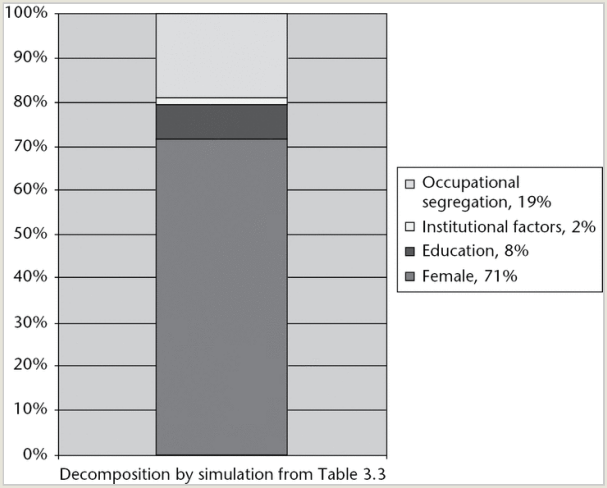

Figure 3.4 Drivers of the pay gap

Note: The decomposition by simulation gives a measure of the relative impact of each driver on the pay gap for that year. The results are also controlled for region, age, whether ever unemployed, and the standard industrial category (SIC).

Source: BHPS data for 2007, Wave Q, employees only.

The largest single cause is simply gender, with being female forming a large and unexplained part of the wage equation. Wages are 11 per cent lower for women, *after controlling for* age, education, whether they had been unemployed, firm size, job tenure, public sector, being in a trade union, region, and the industry they work in. The size of this coefficient is a source of surprise, because when a regression analysis has an R^2 = 42 per cent and N = 6,283, as our analysis does, we expect a factor like this to disappear. It would disappear if the pay gap were due **(p.66)** entirely to explanatory factors that are in the model. The gender 'residual' in the wage equation presented is the percentage of the wage level that is only explained by the variable measuring 'being female', and not by any of the other twenty-plus variables in the equation. It is therefore important to reflect on this large gender residual. Previous studies that used the Oaxaca three-term decomposition method tend to omit a discussion of the gender residual effect, thus suggesting that it is unexplained.

An explanation of the gender residual can be broken down into three components. First, and at its most basic, women may be paid less because normatively many people place a lower value on work done by women due to the belief that women's

work is inferior to that performed by men. Secondly, gendered stereotypes of women's capabilities in the workplace, held by managers and sometimes by female workers, can result in women being side-lined to inferior positions within the firm and in them being overlooked for promotion. These factors—social and cultural—could explain the large negative gender residual in wages.

On the other hand, arguments presented by neoclassical economists would suggest that the gender residual is merely a gender-patterned productivity effect. The first argument is that compensating differentials in 'female employment' account for women's lower wages, with women thought to 'purchase' pleasant working conditions through lower pay. This argument assumes that workers can choose between low paid and 'pleasant work' and highly paid and unpleasant work; and that women actively pursue low paid 'women's jobs' that allow them to engage in paid work and unpaid care work within the home. The second argument concerns the unobserved heterogeneity of workers. This asserts that we are failing to measure some underlying (and legitimate) cause of low pay that is highly correlated with being female. Such underlying causes of lower pay might include worker laziness, lack of talent, low commitment or taking too much time out of paid employment to deal with children's activities or sickness. The job search process could also be **(p.67)** restricted to a smaller area for women, more than for men, due to domestic work, childcare and secondary earner status. At present, in a cross-sectional analysis, the gender residual remains a topic for discussion rather than one based on empirical findings.

In sum, the large size of the gender residual cannot simply be assumed to reflect direct or indirect discrimination against women. It can—as shown in these arguments—arise in a socially normal way through reasonable behaviour that omits explicit discrimination. It is better to think of the gender residual as a systematic property of a structured system of institutions and norms in which gender plays a very important part.

Moving up the diagram in Figure 3.4, the next important driver of the pay gap is education. The difference in formal education, measured in years, between men and women has regularly declined over recent decades in the UK. Women now have just 0.2 years less education, on average, than men.

Nonetheless, education remains an important driver of pay. Its wage coefficient is 8 per cent (showing that for every year of education wages go up by on average 8 per cent). Thus a three-year degree would be worth a 24 per cent rise in wages. The small difference in women's and men's education is sufficient to create a significant, though relatively small, factor in the decomposed wage gap. Table 3.3 shows that this factor is just 8 per cent of the pay gap. It is only about one-seventh as important as gender itself (which explains 72 per cent of the pay gap in 2007).

The overall impact of the third main factor—occupational segregation—is large, accounting for 19 per cent of the pay gap. Table 3.3 also sets out the details of the male and female average levels of gender segregation. The measurement of this variable must be explained briefly. In each main Standard Occupational Classification job heading (of which there are 26), the percentage of workers in the UK who are male was calculated. This percentage is then applied to the workers—both male and female—who are working in that occupational group. The highest levels of male segregation are in technical occupations and primary industry. The highest levels of female segregation—involving a **(p.68)** very low percentage of male co-workers (such as 10 or 20 per cent)—are in customer services and caring work. The average level overall was 65 per cent for men, and 33 per cent for women in 2007.[5]

Finally, we turn to a range of institutional factors that are usually found to be important in gender pay gap decompositions. These cannot be seen in Figure 3.4 because their net size is small, but Table 3.3 does show their effects. Here, working in a large firm is taken to act as a proxy for institutionalized practices that affect women's and men's wages. Examples of institutionalized practices include promotion and training programmes, treatment of maternity and family-leave issues, job design, and whether people get opportunities to work outside their immediate job description. Most of these can be broadly thought of as human resources practices, although in smaller firms the human resource function is not as specialized or explicit as in larger firms. We use the term 'institutional factor' to reflect the fact that social norms underpin how these practices work, and the norms are both organizational and simply habitual or customary. The institutional effect of being in a medium-sized firm in 2007 explained 6 per cent of the pay gap, and large firms another 2

per cent. These are substantial, statistically significant, and gendered institutional factors. However two institutional factors tend to favour women—first working in the public sector, and secondly being in a trade union. A slightly higher proportion of women than men reported being a member of a trade union (29 per cent for women versus 25 per cent for men). This factor, in turn, was associated with 10 per cent higher wages. Because it tends to help women more than men, being in a union was measured as a –2 per cent factor in the decomposition of the pay gap. Working in the public sector, similarly, was **(p.69)** a –4.3 per cent factor. More women than men work in the public sector (17 per cent of women workers, 8 per cent of men workers, after allowing for sampling weights; Great Britain only). Public sector workers in 2007 earned on average, after controlling for other factors, 10 per cent more than other workers. It is worth noting that the variable measuring public sector was not significant in 1997. The public sector and unionized workplaces thus appear to be protecting women from gendered lower pay.

Table 3.3 Detailed components of the pay gap causality for Great Britain, 2007

	Men's average	Women's average	Simulation effect	Regression coefficient	Effect as a per cent of the pay gap (%)
Gender female	0	1	–0.1238	–0.1238	71.50
Education (years)	12.3473	12.1777	–0.0132	0.0781	7.70
Tenure—insider	0.8726	0.8629	–0.0011	0.1100	0.60
Tenure—outsider	0.0116	0.0139	–0.0002	–0.0939	0.10
Sex segregation scale	6.8825	3.3078	–0.0332	0.0196	19.20
Small firm 25–49	0.1295	0.1428	0.0009	0.0652	–0.50
Medium firm 50–499	0.3788	0.3086	–0.0106	0.1504	6.10
Large firm 500+	0.1839	0.1695	–0.0028	0.1941	1.60
Public sector	0.0833	0.1585	0.0074	0.0977	–4.30
In a trade union	0.2554	0.2913	0.0036	0.1002	–2.10

Source: Report by the same authors for the Government Equalities Office. Data are BHPS 2007 employees only. The simulation effect is [(men's average – women's average)*coefficient] with the exception of the segregation component which is [(5 – women's average)*coefficient].

Note: Base categories for the regressions are SIC 8; the South West region; and firms with under 25 employees. The regressions were weighted with the cross-sectional weight in the Wave Q data.

In the pay gap regression equations, we have allowed for education, age, and tenure in a particular job to represent the gradual development of human capital, skills, and experience. Education has a substantial impact showing the importance of formal qualifications for pay. The ‘tenure’ variables are named ‘insider’ (more than four years of tenure in that job) and ‘outsider’ (less than one year of tenure in that job). In 2007, women tended to be slightly less likely than men to be ‘outsiders’. A small gain in the pay gap therefore arose from the insider status of women (less than 1 per cent of the pay gap). In summary, a large unexplained element exists in the UK gender pay gap.

Decomposition of the Pay Gap

We can see small changes in the pay gap’s causation at two time points ten years apart in Table 3.4.

Table 3.4 Detailed components of the pay gap causality for Great Britain, 2007 and 1997

Factor	Simulation effect 2007	Simulation effect 1997	Effect as a % of the pay gap 2007 (%)	Effect as a % of the pay gap 1997
Female	–0.1238	–0.1727	71.50	69.90
Education (years)	–0.0132	–0.0218	7.70	8.80
Tenure—insider	–0.0011	0.0003	0.60	-0.10
Tenure—outsider	–0.0002	0	0.10	0.00
Sex segregation	–0.0332	–0.0365	19.20	14.80
Small firm 25–49	0.0009	0.0011	-0.50	-0.40
Medium firm 50–499	–0.0106	–0.0132	6.10	5.30
Large firm 500+	–0.0028	–0.006	1.60	2.40
Public sector	0.0074	0.0009	-4.30	-0.40
In a trade union	0.0036	0.0008	-2.10	-0.30

Source: See Olsen et al. (2010), which uses BHPS Data for 1997 and 2007 for employees only. The simulation effect is [(men’s average – women’s average)*coefficient] with the exception of the segregation component which is [(5 – women’s average)*coefficient].

Note: Base categories for the regressions are SIC 8; the South West region; and firms with under 25 employees.

Table 3.4 shows the Oaxaca decomposition elements for 1997 and 2007. The female residual had a huge role which was slightly larger in 1997 than in 2007. At 72 per cent of the pay gap causality, this factor overrode all the other factors completely, and was five times as large as the effect of occupational segregation. The remaining factors did not change much but the role of trade union membership grew as a protective factor. The role of working in the public sector also changed. The public sector was important in Northern Ireland in the 1990s (Figure 3.4 for Great Britain does not cover Northern Ireland, whereas other results and the ASHE data for the UK do include Northern Ireland). **(p.70)**

In Table 3.5, we introduce a measure of the work-life history into a wage regression for each of six years to test the hypothesis that the positive impact of human capital on wages is felt mainly by full-time workers. The regression of wages is carried out with men and women together, so Table 3.5 contains coefficients showing the percentage effect of each factor on wages.[6] Age is a control in each regression using age and age-squared.

Model 1 shows a rising negative effect of women's unemployment but a declining female residual over time. The latter is likely to be the basis of improvements in the pay gap. Comparing model 2 with model 1, the female residual is smaller once the work-life history has been allowed for. To compile work-life **(p.71)** histories, monthly data for each year back to 1991 when BHPS started, and then even further back to the start of the job held in 1991, was closely studied in terms of the labour-force status. The work-life history thus consists of the part which is experience of **(p.72)** domestic family care work (14 per cent lower wages if any was done); the years worked full-time (3 per cent higher wages per year worked full-time); and years worked part-time which are negatively associated with current wage rates. The table shows dramatically the impact of integrating panel data on life histories with the cross-sectional wage regression.

In model 2 if the work-life history were fully proxied by age, then the female residual would remain large. But it does decrease relative to model 1. (Age is in both models as a control.) Table 3.5 reveals substantial support for the hypothesis that the positive impact of human capital occurs mainly through full-time work. Women's residual wage gap

will appear to be less if their part-time work histories are allowed for. In model 2 when the full-time work histories are put in, the gender residuals go down by 2–4 percentage points, for example from –9 per cent to –6 per cent in 2006. The impact of having ever done family care work was highly negative, for example –14 per cent in 2006. The coefficient on having worked full-time was positive in the later **(p.73)** periods, but had been negative in the mid-1990s. The part-time work experience never had a positive coefficient.

Table 3.5 Regression slope coefficients, wages, annually 1995–1997 and 2004–2006

Model	Variables included	1995	1996	1997	2004	2005	2006
Model 1	Coefficient on female	–0.18	–0.18	–0.17	–0.11	–0.09	–0.11
Age, education, other controls, and no work history.							
	Coefficient on ever-unemployed	–0.07	–0.06	–0.07	–0.13	–0.13	–0.12
Model 2	Coefficient on female	–0.18	–0.17	–0.16	–0.08	–0.06	–0.07
Age, education, other controls, and the full work history. The base-case for the work-history variables is the							

Model	Variables included	1995	1996	1997	2004	2005	2006
time spent on sickness leave.							
	Coefficient on ever-unemployed	–0.10	–0.10	–0.10	–0.12	–0.13	–0.11
	Coefficient on whether they ever did family care	–0.11	–0.16	–0.13	–0.2	–0.13	–0.14
	Coefficient on years worked full-time	0.024	–0.03	–0.02	**0.018**	**0.023**	**0.030**
	Coefficient on years worked part-time	–0.01	–0 n.s.	–0.01	–0.01	–0.01	–0.01

Notes: BHPS years 1995–97 and 2004–6. The coefficients are all significant at 5% or better. R^2 are all 41% or higher. Regressions are controlled for age, education, job tenure, sex segregation, size of firm, public/private sector, being in a trade union, time spent unemployed in the past, and industry. The age controls extract the annual rise in earnings during the life course and their gradual decline later in life. All coefficients are significant except where non-significance at 5% (n.s.) is noted. In this table, interpret each number as the percentage by which the hourly wage is reduced in the presence of that characteristic. E.g. –18% for the females in 1995. Figures in bold show the rise in wages of 1.8%, 2.3%, 3% per year of full-time paid work in 2004–6, compared with reduced wages for years of part-time work of 1% per year worked.

When interpreting these patterns it is useful to consider the co-incidence of domestic work and part-time work. By 2007/8 domestic work was just three years on average out of the average 20-year work history of a female part-time worker in the BHPS (Figure 3.5). Male domestic work without pay was insignificant in the BHPS at that time.

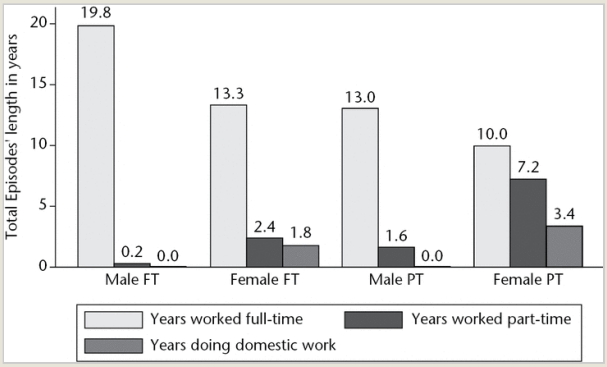

Figure 3.5 Length of work history for paid full-time and part-time work, and family care

Note: Total Work-Life History Components, 2007/8, as the sum of monthly episodes measured in years. The respondents are grouped into four clusters here according to their 2007/8 labour-force status by sex and whether their working hours were full-time or part-time (5 to 30 hours/week).

Bonus Culture Influences Men's Pay More than Women's

The pay gap debate is not over because pay differentials in the lowest and highest parts of the wage spectrum still have unexplained gender differences related to the roles women and men play in society. At the low end of the spectrum, women face job downgrading if they have children and work part-time, and also if time spent doing domestic work reduces the overall length of their full-time work career. At the high end of the spectrum, too, women are experiencing a strong difference in bonuses and perquisites associated with high pay, compared to their male full-time counterparts. At one point in 2007 just 16 per cent of UK part-time working women had bonuses, compared with 18 per cent among part-time working men; but for full-time employees this figure rises to 26 per cent among women and a high 37 per cent among men. This difference has generated a debate about whether voluntary codes of equality practice will be enough to change the

corporate tendency to reward men for long careers better than women. One counterargument is that women may not bargain their wages upward as much (or as well) as men do, but this argument is undercut by the age-group differentials which show women in their twenties earning nearly as much as men. It is not a woman's choice to earn less than a comparable man—it is a product of her circumstances. We call this systemic structural causation. **(p.74)**

Conclusions

In summarizing the causes of the pay gap, we note that the human capital explanation of wage rises over time is not falsified by the data reviewed here. However it is shown to be incomplete, with a large gender residual which can be parsed out into systemic structural and institutional factors. We summarize the drivers underpinning the pay gap here:

- sex segregation, with women in women's jobs earning less than comparable men;
- slightly lower education levels among women;
- small firms and shorter job tenure in each job on average;
- lower rates of employment in the public sector where wage equality is monitored;
- lower rates of trade unionism which tends to protect women's wages.

At the same time some offsetting factors have been driving the pay gap downward:

- rising equality of education among younger aged women;
- later age of having the first child, leading to a lower negative effect on women's paid work careers for a given age of women;
- women in the public sector being treated well in pay bargaining (this factor trailed off after about 2000).

However the detrimental effect associated with part-time work has risen over time and is also a growing negative factor in wage rates as shown in Table 3.5.

In this review we took a pluralist approach which allowed for diverse factors from economic, social, and familial aspects of workers' lives. This approach also measured change in the

drivers over time from the mid-1990s to the mid-2000s. The gradual downward movement of the pay gap can be expected to slow as the country is experiencing a reduction of public sector **(p.75)** employment and a growth of small and informal as opposed to large businesses during the UK recession. Alongside this worrying trend, the growing levels of female labour-market inactivity take those women out of the pay gap calculation but damage their long-term labour productivity and hence their wages. The picture is thus not as rosy as the gradual downward trend in the full-time pay gap might suggest.

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Notes:

([1]) Tables over this period began to define two pay gaps: one for full-time women against full-time men; and another for part-time women against part-time men. This definitional move is justified by the neoliberal idea of comparing like with like, which is embedded in the Equalities Act 2010 and other legislation. However for the labour market as a whole, as a young woman perceives it when entering it, the whole market needs to be considered together. This chapter illustrates how to take this approach. This labour market with its large part-time component mediates opportunities for women and men throughout their lives.

([2]) The Oaxaca method presents a series of terms which sum up to the whole pay gap. Each term relates to one causal factor, and each is estimated by multiplying a male–female difference by a regression slope. The result is a stackable column (see Figure 3.4) or a sum of terms. Where a factor is strongly protective of women’s wages, such as trade union membership, it would appear as a negative component. This can cause confusion. Economists accept that the effects of causes can be summed in this way. Some offset others, as they do in reality. See Oaxaca and Ransom (1994); Manning and Swaffield (2008).

([3]) The method used here is the decomposition method used in Olsen and Walby (2004), closely based upon the three-term method of Oaxaca and Ransom (1998). However it changes one counterfactual assumption in regard to sex segregation. Our method does not allow the artificial situation in which women's sex segregation 'reaches' that of men. That would be impossible. The Oaxaca–Ransom methods do make such an assumption by virtue of their mechanistic application of a formula. Furthermore papers written around the Oaxaca–Ransom methods tend to ignore the gender residual, whereas in the simulation method we consider its effect on the pay gap. See Olsen and Walby (2004). The simulation effect is [(men's average – women's average)*coefficient] where the overall wage equation coefficients are used.

([4]) The BHPS data for Wave Q cover the respondent's labour-force participation on the date of their interview. 14K interviews were held between 1 September 2007 and 31 December 2007, and 782 interviews during the early months of 2008. The recall period for income variables in wave Q was 1 September 2006 to 1 September 2007. We call this the 2007/8 dataset as this was when the data were generated. Point estimates of wages are primarily dated late 2007 in this dataset. Figures for 2005–8 arise from taking the average of four waves of which Q is the latest.

([5]) In simulating, we use the appropriate counterfactual which is for women to move to 50 per cent male-dominance in their jobs, not to 65 per cent which would be unfeasible. In this way the effect is not exaggerated. After all, if women moved to 65 per cent male jobs, men would have to move to 35 per cent male jobs and that is unreasonable.

([6]) For example, the first item, –0.182, shows women on 18 per cent lower wages than men. The variable female takes values 0 and 1, with 1 = female. Using log wages, the units are percentage points.