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Introduction

There is relatively little contemporary academic analysis of occupational pay differentials or of the challenges in comparing occupational pay. Yet pay comparisons are important to individuals, occupational groups, workplace stakeholders and citizens. The findings presented here begin to address this gap by examining the different ways in which pay comparability may be framed through analysis of relative pay data for one occupational group – teachers. The primary aim of this article is to make a contribution to debates on how pay rates are compared in practice. The key finding is that there are differing options in comparing occupational pay that produce substantively different outcomes, with significant implications for how organisational stakeholders might understand and use this information.

We first consider why comparability is important in pay and reward management and how pay comparisons are undertaken, drawing briefly on national and international literature on pay and occupational pay differentials. Some of this literature has an intra-organisational orientation and focusses on pay comparisons through the lens of systematic job evaluation. The latter measures the relative worth of particular jobs within an organisation or across connected organisations (England, 2004; Findlay et al, 2009). Yet workplace stakeholders are rarely able to undertake systematic job evaluation outside of their own organisation and are less concerned with a detailed comparison of jobs/occupations than with relative pay across similar employment, which may influence recruitment, retention and morale in particular. Much practitioner and public discussion of pay comparison relies not on detailed job analysis but on the analysis of national survey data. Given the data available, how do stakeholders such as HR professionals and union negotiators establish what constitutes similar employment and how best to measure pay for the purposes of comparison? While a wealth of practitioner salary surveys exist that benchmark salaries for particular occupational groups, the key challenge of identifying the relative comparator and the relevant comparison remains. We focus here on how meaningful occupational pay comparisons might be undertaken using national datasets on occupations, work and earnings. To illustrate these issues empirically, we focus on the relative pay of teachers in Scotland. We are, however, less concerned with what teachers earn (and so refer only briefly to debates on teachers' relative pay) and more on illustrating the challenges of identifying, measuring and assessing comparator data, a problem faced by workplace stakeholders as they position themselves in managing pay and, where relevant, bargaining over pay.

The findings derive from analysis of the Quarterly Labour Force Survey (QLFS) published by the Office of National Statistics (ONS). The analysis shows that identifying a comparator occupation for teachers is far from straightforward and that the choice of comparator significantly affects the outcome.

Moreover, different parameters can be used to make a pay comparison which also influences the outcome. Lastly, labour market factors such as sector and space influence pay comparisons. Taken together, our findings highlight that workplace and labour market stakeholders may arrive at markedly different assessments of fair (relative) pay.

Why pay comparisons matter

Pay comparability matters: to individuals, occupational groups, workplace stakeholders and society. Given the difficulty in defining fair pay, pay is often assessed relatively: relative to labour input (for example, in effort and skills), relative to previous pay or, more commonly, relative to what others earn. Longstanding research in occupational psychology highlights the positive impact of subjective perceptions of pay equity on individual motivation and job satisfaction (Adams, 1963). As Schmidt and Dworschak note, 'Normally, employees have two standards to which they can compare their current wages: the level of wages they received in the past and the wages other employees earn ...' (2006:100). Similarly, Dickinson notes that '...comparability arguments ... are most publicly deployed during pay negotiations, but it is likely that we rehearse these arguments to ourselves and others when considering our own pay and deciding whether or not we are fairly paid. Although comparability arguments have an important role in creating perceptions of fairness, they have been subject to remarkably little research' (Dickinson, 2005:165).

Pay comparability also matters to employers. Evidence-based reward management is a crucial component of effective human resource strategy and practice (Armstrong et al, 2010; 2011). Pay – absolute and relative – influences recruitment and retention (Bewley, 1999) and may also influence employee performance (Gardner et al 2010). As Bizjak et al have argued in relation to executive pay, pay benchmarking can be '... a practical and efficient mechanism used to gauge the market wage necessary to retain valuable human capital' (2008:152). Moreover, as Schmidt and Dworschak note in their analysis of mimetic wages, employers often end up 'paying what others pay', and thus reward management incorporates 'elements which are legitimated externally, rather than in terms of efficiency' (2006: 91-92).

Pay comparability is also of core concern to trade unions and often underpins pay bargaining strategies. Thus, understanding pay comparability is an important resource for unions, and pay remains crucial to their members absolutely and relatively. Perceptions of fairness, status and identity relative to other earners, within and across occupations and organisations, have real consequences. While union effectiveness in pay bargaining requires strategic consideration of labour market,

organisational and workforce factors, effective bargaining also requires optimal labour market intelligence on pay comparability.

On a societal level, pay comparability matters as a signal to individuals about the economic value of occupations and about job and career choice, training and education. Pay comparisons are also important in wider debates on poverty and inequality: '... what is perceived as fair pay is not independent of other societal influences; it depends on public discourse' (Schmidt and Dworschak, 2006: 101).

Much of the contemporary literature on pay comparability focusses on the processes through which organisations classify and reward jobs, in particular, through job evaluation. Job evaluation can take different forms, although primacy is often given to analytical or points-based job evaluation as the most reliable route to establishing internal job worth (Armstrong et al, 2005). However, market pricing (and a focus on external worth) may be replacing analytical approaches as the dominant mode of job evaluation (WorldatWork 2008). Much of the literature on pay comparability also focusses on gender pay inequality, with a focus on comparable worth in the US and equal pay or equal value in the UK and EU (England, 2004). Job evaluation remains important in considering issues of comparable worth or equal pay/value.

Looking beyond job evaluation research, while there is an extensive practitioner literature on pay benchmarking, particularly for CEOs (for example, Laschever, 2010), there is remarkably little contemporary academic literature on occupational pay comparability. This may reflect the rise of individualised forms of payment and the decline of collective bargaining coverage. Nonetheless, pay remains collectively determined for 23% of people in the UK and 44% of public sector employees (van Wanrooy et al, 2013) and pay comparisons are crucially important for pay bargaining, although we know little about how data on pay comparability is analysed and deployed.

Comparing occupational pay

If '... a company's management requires information on standards in other firms in order to match these (or to pay more or less)' (Schmidt and Dworschak, 2006: 101-102), how are appropriate pay comparisons undertaken? Comparing pay across occupations is complex and there is no one accepted approach. Three key challenges are addressed below: identifying the relevant occupational comparator/s, measuring pay and identifying factors other than occupation that influence pay.

The relevant comparator

A crucial decision in any pay comparison relates to the choice of occupational comparator/s. Identifying the closest *like for like* comparison is essential. Job evaluation systems have long made use of systematic criteria to compare jobs, identifying job components (such as knowledge requirements, physical demands, emotional labour, supervisory responsibilities and so on) and weighing these components in terms of their importance to the job and the organisation. In benchmarking occupational pay across organisations, however, broader job classifications that ‘... reduce the natural idiosyncrasy of jobs and help to identify contours of similarity and equivalence’ (Marsden, 2002:15) are often used. Marsden argues that job classifications are holistic and ‘... proceed from a totality of work to be done, and then divide that up according to certain logical principles’ (2002:16). These ‘logical principles’ can reflect either job components, individual characteristics or the interaction between individual and job components – for example, in relation to the skills of individuals that are reflected in how employers design jobs. Jobs therefore might be grouped according to their knowledge or qualifications requirements and/or in relation to job demands. Whether through systematic job evaluation or broader job categorisation for pay benchmarking, however, the starting point for any pay comparison is the identification of sufficient similarity in the features of jobs or job holders that render them appropriate comparators in order to limit the risk of self-serving bias (Babcock et al, 1996).

Measuring pay

Pay comparison requires a measure of pay over a specified time period. Gross weekly pay and gross hourly pay measures, widely collected in national surveys, are often used, although the former is more commonly used partly due to complexities in defining and measuring working hours. Neither is a perfect measure. As weekly pay is normally measured for a particular reference period, it may not include variable components such as annual bonuses. Within QLFS, different hours’ measures are collected: actual hours; usual hours; paid working hours and unpaid overtime hours. Neither of these measures factor in annual levels of holiday entitlement, pensions or other benefits. These sources of variation can influence the outcomes of pay comparisons.

Mean/average pay provides a useful and widely used measure for occupational comparisons. However, mean pay measures may mislead where the relevant pay distribution has significant outliers; hence some analysts focus on median pay which is less sensitive to extreme values (Bell, 2011). Significant outliers are less likely to exist, however, in compressed wage scales typical in the public sector. While we choose to compare mean wages, we note that the measure of earnings used may generate substantively different comparisons.

Other influencing factors

Other factors systematically influence pay. A relevant comparator may not only be occupational but also geographically specific, reflecting local labour market characteristics and conditions. Similarly, pay and other employment terms may vary systematically across the private and public sectors. Lastly, pay comparisons may vary over time, influenced by variations in economic activity and the impact of the length and timing of pay agreements.

Data and Methods

To illustrate the complexity of undertaking occupational pay comparisons we analyse the relative pay of teachers in Scotland over 2003-2011¹. There is an extensive national and international literature on teachers' earnings (Bell, 2011; IDS 2009; OECD 2012), how these relate to issues of conditions, professionalism and status, and how earnings interact with recruitment, retention and teacher effectiveness. This reflects the importance of education to individual and national socio-economic outcomes, the need to recruit and retain employees and concern over the relationship between teachers' pay and educational outcomes (Hanushek, 2011; Woessman, 2011). Much of the debate focuses on the relative under-payment of teachers (Allegretto et al, 2011; Galgóczi and Glassner, 2008) and difficulties in recruiting teachers (Chevalier et al 2007). Chevalier et al argue that the supply of teachers is responsive to relative wages with higher wages consistently identified as '... increasing the likelihood of individuals' teaching, or reducing the likelihood of teachers' exiting the profession' (2007:70). Similarly, Fredriksson argues that '... young people may be less motivated to choose a career in teaching' where other occupations generate more lucrative salaries (2008:5). Understanding teachers' relative pay clearly has utility for teachers and their employers. For our primary purpose, however, analysing teachers' pay provides more generalisable insights on pay comparability.

Analysing occupational pay is generally undertaken using national level data on pay and hours worked. There are two dominant data sources in the UK that contain individual-level data: the Annual Survey of Hours and Earnings (ASHE) and the Quarterly Labour Force Survey (QLFS). The relative merit of each data source is well rehearsed in Bell (2011). ASHE has a considerably larger sample size and hence error bands are smaller. Unlike ASHE, QLFS pay are top-coded (i.e. gross pay is capped at a ceiling of

¹ Interestingly, teachers are the only occupational group employed by Scottish local authorities not covered by job evaluation arrangements.

£2000 per week). This may underestimate the pay of high earners and in turn underestimate variation in average pay, although it will impact less on measures of median pay. QLFS draws individual respondents from a household unit and data may be reported by someone other than the main income earner. ASHE comprises responses from employers. On important factors, employers and employees may report differently on the same variable (e.g. hours worked). Employers are better able to assess the hours that they pay for. Employees, however, may have better knowledge of their actual working hours, particularly where these are not covered by paid overtime. This feature of QLFS makes it particularly useful for assessing occupational pay relative to hours of work and hence QLFS data is used here. We have chosen a 9 year time period in which to make a comparison of teachers' earnings in order to capture time dimensions that are relevant to perceptions of equity (Cosier and Dalton, 1983). While national survey data cannot compare with job evaluation for depth of analysis of jobs, it allows for comparison across a larger group of comparator occupations.

Analysis and Findings

The comparator

Teachers' pay has been compared with teachers' previous earnings and with the earnings of qualified teachers employed outside of teaching (Dolton and Chung, 2004). More commonly, however, teachers' relative pay has been compared with distinct occupations or professions. However, as Fredriksson notes, '... there is not much information available on an international basis for the comparison of teachers' salaries with the salaries of other professional groups' (2008:7). Fredriksson cites OECD reports in 2001 and 2003 that compare average teachers' salaries with those of draughtsmen, computer operators, nurses, social workers, executive officers, sanitary engineers, civil engineers, public health physicians, librarians, town planners and university lecturers. In Fredriksson's own analysis, the selected comparators for teachers are bus drivers, car mechanics, department managers, bank teller/credit clerks, secretaries/personal assistants, building labourers, skilled industrial workers, female industrial workers, cooks, department managers, electric or mechanical engineers, saleswomen, product managers and call centre agents. It is hard to identify 'logical principles' (in Marsden's terms) that connect these disparate occupations and make them relevant comparators for teachers; rather, these studies aim to give a general ranking of occupational earnings in society rather than to compare like with like. As Fredriksson notes and concurs, the OECD and ILO/UNESCO have urged that teachers' earnings should be compared with those of workers in professions or occupations requiring similar or equivalent qualifications or a similar length of

education. Yet as Allegretto et al have argued, ‘...researchers have not been able to systematically identify professions that represent proper comparison groups to the teaching profession.’ (2004: 17).

Following on from the exhortation of the OECD and others to, in effect, compare *like with like*, and bearing in mind Marsden’s job classifications, we have selected a worker component (educational attainment) and a job component (characteristics of professional work) as the key occupational similarities that provide comparators to teaching.

Focussing first on the workers component, teaching should be compared with occupations requiring similar qualifications for entry to and performance in the job. Teaching in Scotland has long been a degree profession: hence, teachers might appropriately be compared with other graduates as the possession of a tertiary degree is a defining labour market characteristic and graduates are sufficiently distinct from non-graduates to constitute a distinct labour market group.

However, graduates are stratified by pre-university qualifications, degree class, length of degree and vocational specialisation, and are employed across sectors, industries and geographies where the returns to graduate qualifications may vary. Graduates may also work in jobs where a degree is neither required nor used – sometimes a feature of depressed labour markets. To take account of these dissimilarities, we focus not only on worker components (possession of a degree) but also on job components. Teachers’ pay has been compared with categories of occupation such as professionals or associate professionals (for example, Bell, 2011). Professional jobs are distinct from non-professional jobs in requiring scientific knowledge, formal and informal training and continuing professional development, ongoing enculturation, regulation through codes of ethics and professional conduct and higher levels of task discretion and autonomy. Graduates may choose between professions in part based on the relative wages offered (Chevalier et al, 2007).

There are more complex issues in comparing teaching with associate professional (AP) occupations. Some AP occupations (eg nursing) have only recently achieved professional status and this is reflected in amendments to standard occupational classifications. However, not all AP occupations are graduate-based and even where AP occupations are recruiting graduates this may be driven by an over-supply of graduates rather than a ‘professionalization’ of the work (James et al, 2012).

Given this variation in entry routes to AP occupations, our preferred approach, following Dolton and Cheung (2004), is to compare teachers with other ‘full’ professionals by comparing teachers with occupations within the same SOC major occupational group. SOC aims to categorise occupations by both the work performed and the skills and knowledge required to deliver competent performance.

SOC major occupational groups encompass occupations that are more similar to each other than to other major occupational groups. While some previous associate professional occupations (primarily in healthcare) are classified alongside teachers in SOC2010, for most of the period under consideration here teachers have occupied a SOC category with other ‘full’ professionals.

Our approach, therefore, is to compare teachers with other occupations exhibiting similar characteristics – primarily other professionals within SOC2000 major group code 2. However, we argue that there is one outlier in the SOC 2000 2 professionals category that should be excluded. We believe that there are good grounds for excluding health professionals from a comparison with teachers. The occupations included in SOC 2000 2.2 (health professionals) are medical practitioners, psychologists, pharmacists/pharmacologists, ophthalmic opticians, dental practitioners and veterinarians. These occupations require higher university entry qualifications than for teaching and other SOC 2 occupations and longer education and training requirements. Excluding SOC 2000 2.2 from the analysis presented below leaves the following groups as the key comparators for teachers: Science & Technology professionals (SOC2.1); Teaching & Research Professionals (SOC2.3) and Business & Public Service Professionals (SOC2.4). We excluded teachers from SOC 2.3 to allow a comparison with others in this category (i.e. those in higher and further education and research professionals). For clarity, we refer hereafter to this group as HE, FE & Research professionals.

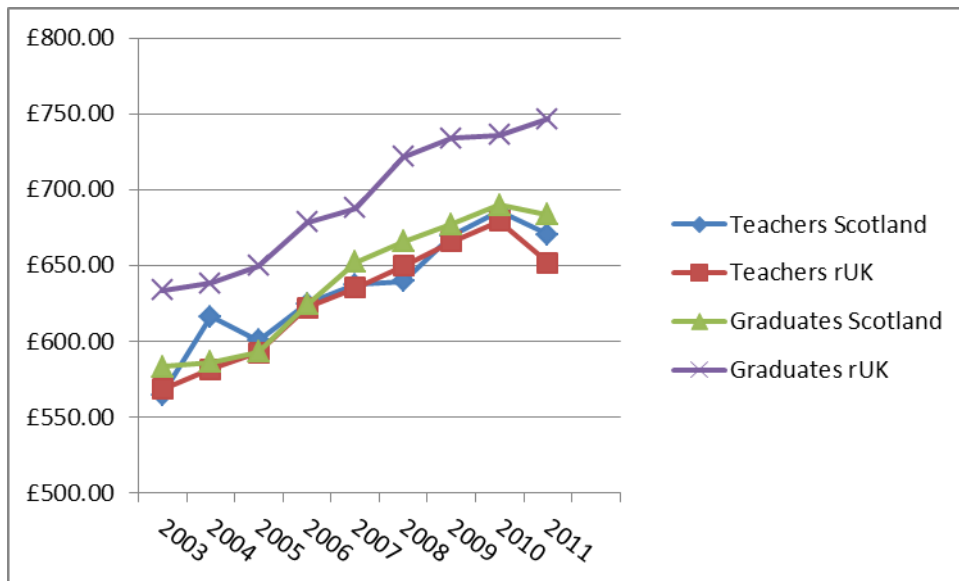
The comparison

Having defined two relevant comparator groups – graduates and professionals (excluding health professionals) – we report below on how teachers’ pay compare over a 9 year period from 2003-2011. We include data from both Scotland and the rest of the UK (rUK) to reflect the job search area of teachers, graduates and professionals.

1. The graduate comparison

Previous research suggests that teachers’ pay in the UK lags graduate pay (IDS 2009). Our analysis suggests that teachers’ mean weekly pay does lag all UK graduates but that this varies significantly by region, as Figure 1 suggests. Teachers in Scotland and rUK and Scottish graduates follow a similar nominal weekly pay trajectory throughout the period; graduates employed in rUK earn significantly more.

Figure 1: Mean Gross Weekly Pay for Teachers and Graduates in Scotland and rUK 2003-2011 (£)



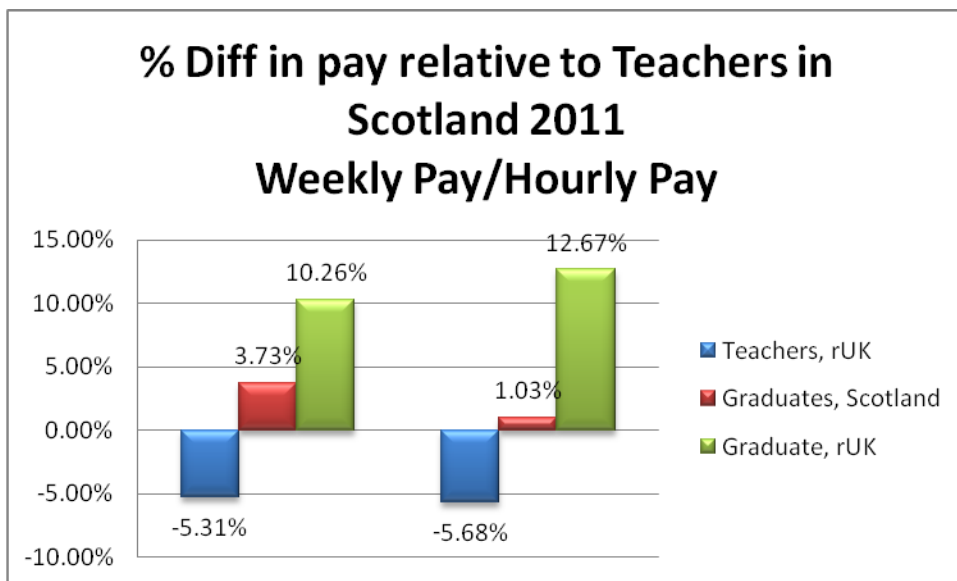
Meaningful pay comparisons require more than information on earnings, and the other side of the ‘wage-effort’ bargain must be considered. As a proxy for effort, hours of work required to earn a given wage are commonly considered. QLFS contains a derived variable on hourly pay (HourPay) calculated from gross weekly pay, number of hours of paid overtime and the usual number of hours worked including paid overtime. However, the derived hourly pay variable excludes hours of unpaid overtime. Scotland’s teachers are contracted to work 35 hours per week and do not receive paid overtime for additional hours worked. Previous research suggests that teachers work significant hours of unpaid overtime (Menter, 2006). Analysis of QLFS over the relevant time period suggests that while all graduates report hours of unpaid overtime, teachers in general (and rUK teachers in particular) worked significantly more hours of unpaid overtime in the relevant reference week than graduates, with teachers in Scotland and rUK reporting 8 or more and 12 or more hours of unpaid overtime respectively. All professionals report unpaid overtime working and levels are particularly high in HE, FE & Research.

The QLFS dataset contains a derived variable for Total Usual Hours Worked which takes into account both paid and unpaid overtime and allows for variations in the reference week; that is, it takes into account if any holidays have been taken in that week. In principle, this variable should give a more reliable indication of the hours worked by respondents work in a ‘normal’ week. We have chosen to use this variable for calculating hourly pay in order to take significant variations in hourly pay into account.

In looking at mean weekly pay throughout the discussion, we present data for the period 2003-2011 to give a sense of the relative pay rates over time. We analysed the hourly pay data in the same way and there is no evidence that the relative pay ranking changes between the occupational groups. For

this reason and given space constraints, we have not presented this comparison here. Instead, in order to give some idea of the percentage wage gap between teachers and each of the other groups when measured in weekly wages as against hourly wages, we have calculated these difference for the final year in the data set (2011)². Each table in this set shows the differences for weekly wages and then hourly wages.

Figure 2: Percentage difference in weekly and hourly pay between Teachers in Scotland and Teachers and Graduates in Scotland and rUK, 2011 (%)



Here we can see that in 2011 while weekly wages of teachers in Scotland exceeded those of teachers in rUK by 5.31%, the gap is greater (5.68%) when measured in hours, which is consistent with our analysis of hours' data which indicates that teachers in rUK worked longer hours on average than their counterparts in Scotland³. Graduates in Scotland had a 3.73% advantage in weekly wages but that reduced to just over 1% once usual hours were factored in. Graduates in rUK earned 10.26% more than teachers in Scotland in terms of weekly wages, but they earned relatively more (12.67%) in terms of hourly pay, suggesting they worked fewer hours on average than teachers in Scotland in that year.

² There is no special reason for choosing 2011 other than it is not feasible in terms of space to represent these differences for each year and more recent data is of more interest.

³ All of the differences referred to here, though sometimes small, are statistically significant at either the 1% or 5% level of significance. For reasons of space and clarity we have not noted this at each stage.

Graduate pay also varies by sector. Wage distributions are generally more compressed in the public sector. For this reason we have divided graduates by sector to compare their mean wages to that of teachers in Scotland (Figure 3).

Figure 3: Mean Gross Weekly Pay for Teachers and Graduates by Sector in Scotland 2003-2011 (£)

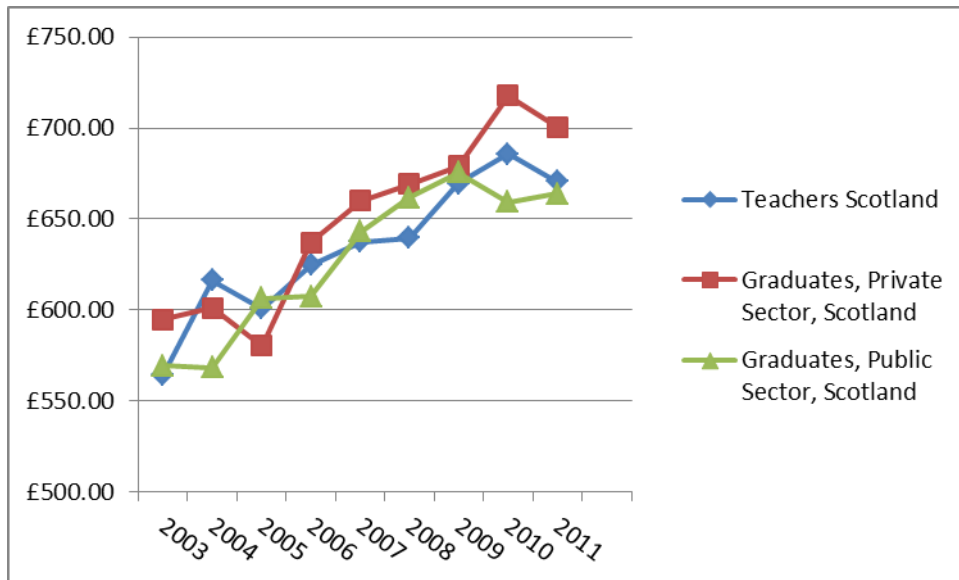
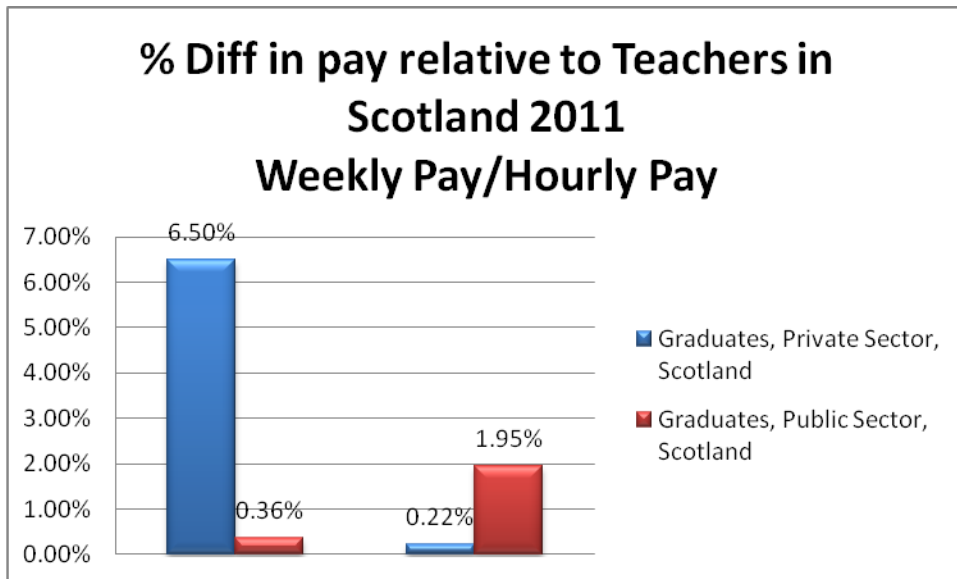


Figure 3 illustrates broad similarity in mean weekly wages between these three groups especially between 2005 and 2009. In 2010 private sector graduates increased their relative mean weekly wages and in 2011 the pay of public sector graduates in Scotland caught up with teachers' pay.

Figure 4: Percentage difference in weekly and hourly pay between Teachers in Scotland and Graduates by Sector, 2011 (%)



It is very clear from Figure 4 that it matters which comparator you use and which measure of pay you use to make that comparison⁴. The smallest gap shown in this Figure is between teachers and private sector graduates; but only if you measure it in terms of hourly pay. Measured in terms of weekly pay, the same group looks to be doing distinctly better. Similarly, graduates in the public sector in Scotland do better in relation to relative pay when teachers' longer working hours are taken into account.

We also looked at how teachers in Scotland compared with these graduates in rUK by sector (Figure 5). On mean weekly earnings, private sector graduates do consistently better than the others over the whole of 2003-2011. Teachers in Scotland have a pay profile closer to graduates in the rUK public sector, at least up to 2011.

⁴ The weekly pay figures shown in the even numbered Figures are slightly different from that shown in the odd numbered Figures due to differences in the number of valid cases for the relevant variables in the QLF data set.

Figure 5: Mean Gross Weekly Pay for Teachers in Scotland and Graduates by Sector in rUK 2003-2011 (£)

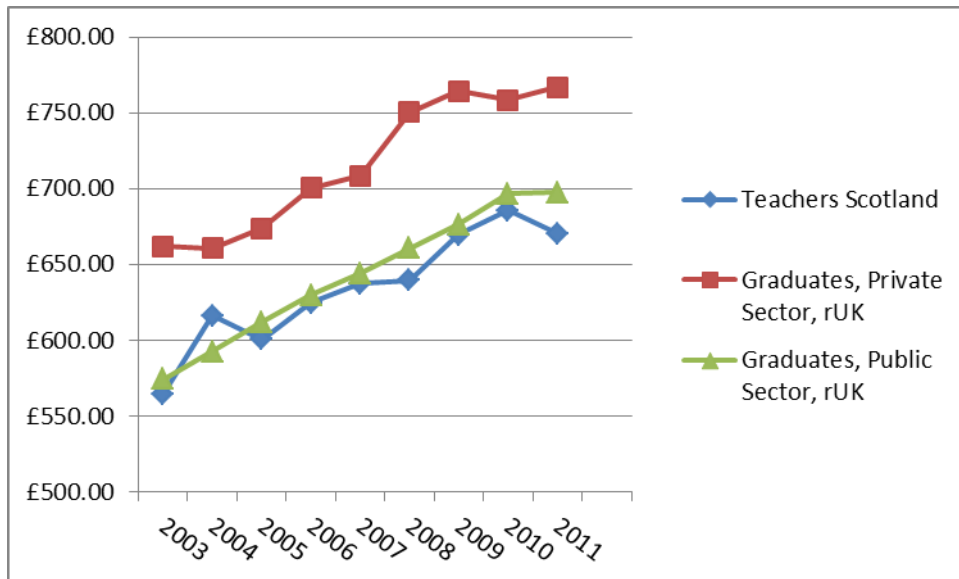
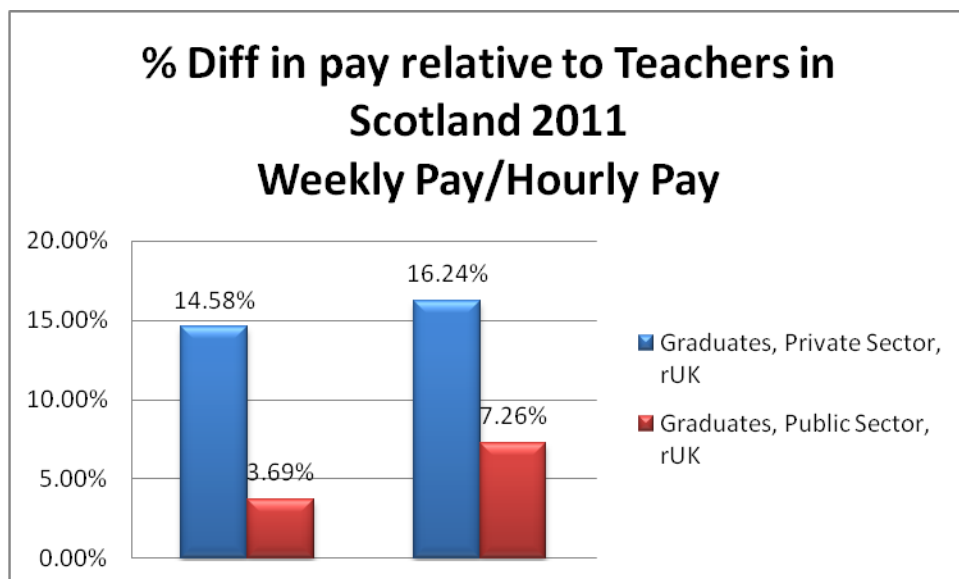


Figure 6 again shows that when you compare the relative differences of the different comparator groups using weekly pay or using hours then the extent of the difference can vary considerably. In this example it is the sectoral difference which is most notable.

Figure 6: Percentage difference in weekly and hourly pay between Teachers in Scotland and Graduates by Sector in rUK, 2011 (%)

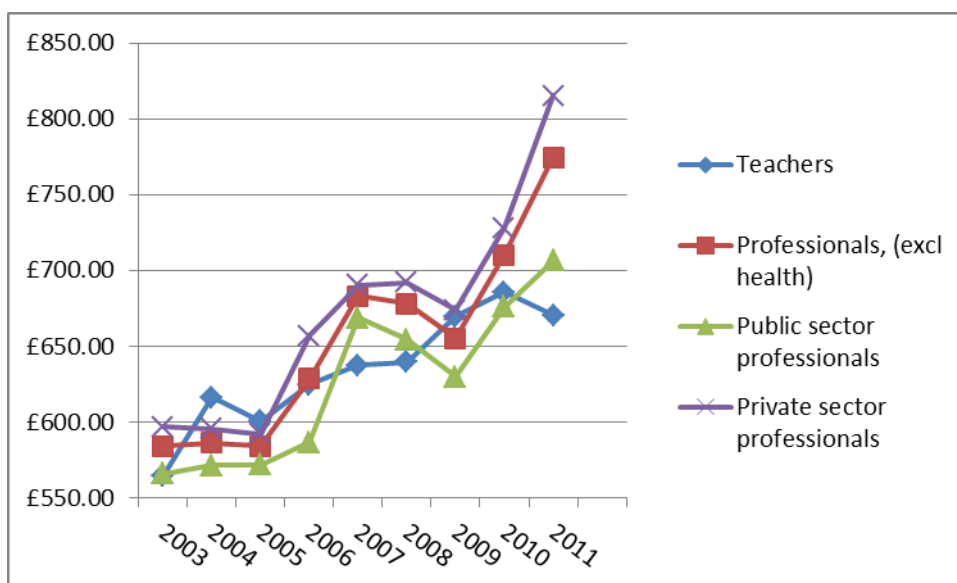


Looking at the mean weekly wages of all graduates would suggest that teachers' earnings lag graduate earnings and these lags, in most cases, increase when hours of work are taken into account. However, there are strong regional and sectoral influences at play in graduate earnings and looking at Scotland as a labour market. To summarise, while teachers' pay may lag graduate earnings overall, there are sufficient variations by region and sector to conclude that teachers are not significantly disadvantaged in earnings in relation to graduates in Scotland or graduates in the public sector in rUK. Clearly, the choice of graduate comparator, and the parameters used to measure pay, influences any conclusions on teachers' relative earnings.

2. The Professional Comparison

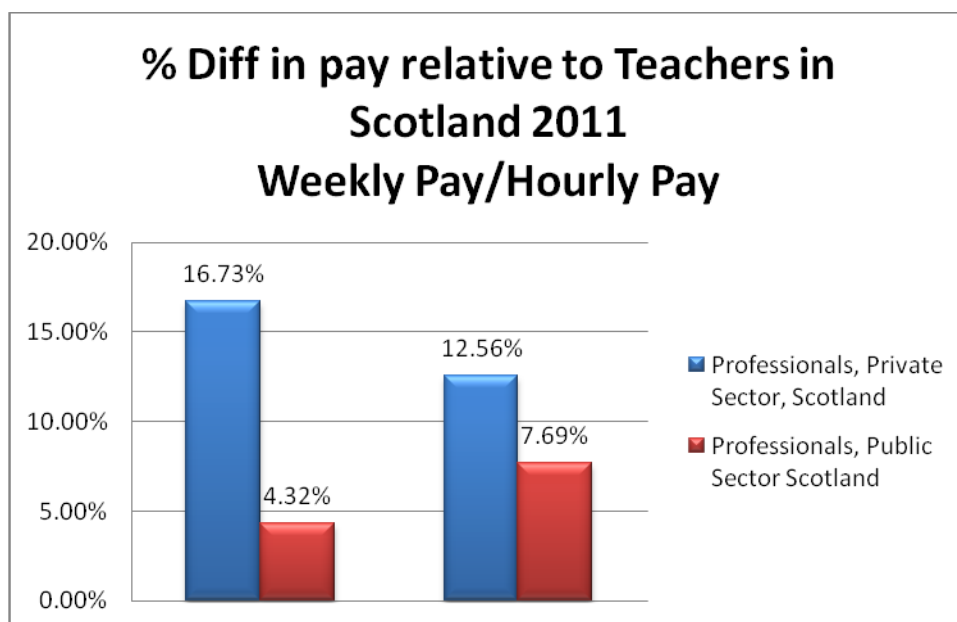
We suggested earlier that professionals' pay may be a closer comparator for teachers' pay. For brevity, we focus on Scotland alone. Figure 7 presents mean pay for teachers, all professionals and for professionals distinguished by sector. For most of the period, teachers' pay has lagged that of other professionals and the gap between them has increased markedly since 2010. Had health professional pay been included, teachers' pay would have been further adrift from the other professional groups. Unsurprisingly, private sector professionals have the highest average weekly pay while at 2011 teachers have the lowest mean weekly pay.

Figure 7: Mean Gross Weekly Pay for Public and Private Sector Professionals (excl health) in Scotland 2003-2011 (£)



It has been argued that teachers' relatively poorer earnings reflect variations in working hours (Bell, 2011) but as we have argued earlier, an hourly pay variable based on a broad definition of normal working hours allows us to account for this, at least to the extent that this variable adequately captures 'normal' working hours. Examining the relative difference in earnings measured in both weekly wages and hourly wages (Figure 8) allows us to see this clearly.

Figure 8: Percentage difference in weekly and hourly pay between Teachers in Scotland and Public and Private Sector Professionals (excluding health) in Scotland, 2011 (%)



Yet mean hourly wages for teachers in Scotland still lag earnings of professionals in both sectors, suggesting that hours worked do not account for this disparity (although taking hours into account reduces the gap between teachers and private sector professionals and increases it for public sector professionals). Teachers consistently report higher levels of unpaid overtime (which is a different measure to Total Usual Hours as indicated earlier) than other professionals combined – by a factor of two for most of the period. However, distinct professional groups vary in their reporting of high levels of unpaid overtime, with HE, FE & Research Professionals also reporting higher than average levels. Given this, it is worth thinking about the SOC 2000 major occupational groups separately (Figure 9).

Figure 9: Mean Gross Weekly Pay for Teachers and Professionals (SOC2000 Major Group 2 (excluding health)) in Scotland 2003-2011 (£)

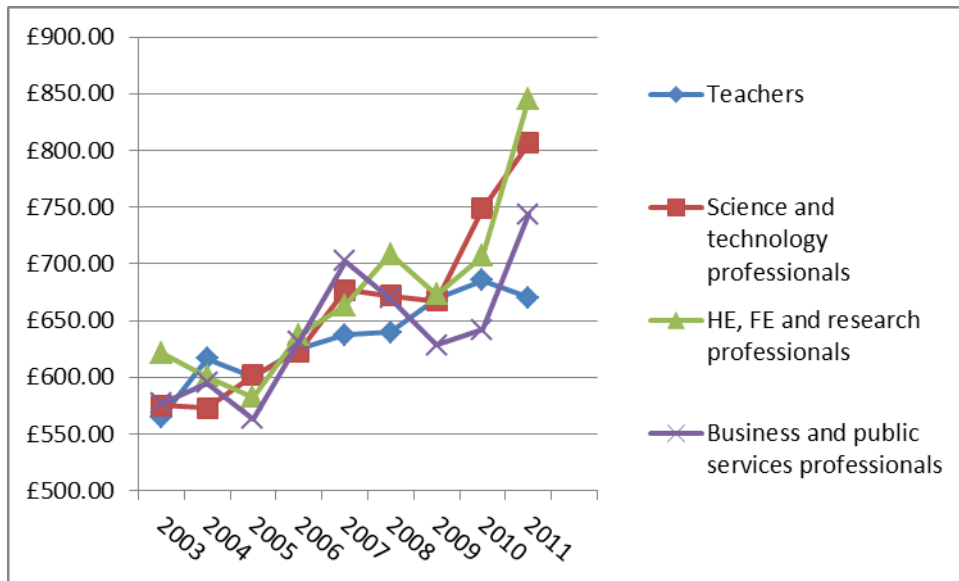
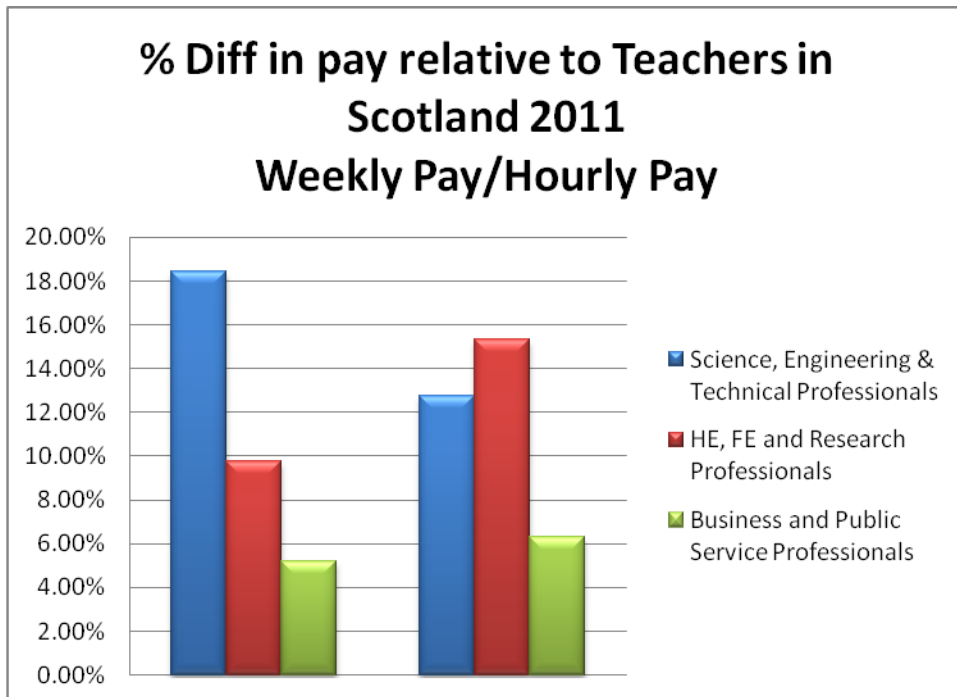


Figure 9 indicates that while teachers led mean gross weekly pay for a short period in 2004, thereafter they most commonly lagged other professional pay, particularly so in 2011. While not shown here, our analysis suggests that all groups except Science & Technology professionals experienced declining levels of mean pay after 2011. The earnings gap between teachers and Science & Technology professionals is driven by private sector pay. While the gaps are lower, the same sectoral profile holds for Business & Public services professionals. There are too few private sector research professionals in the data set for reliable comparison, but HE, FE & Research professionals pay is dominated by public sector employees.

Figure 10: Percentage difference in weekly and hourly pay between Teachers in Scotland and Professionals (SOC 2000 Major Group 2 (excluding health)) in Scotland, 2011 (%)



As Figure 10 indicates, consideration of hours worked reduces the favourable position of some professional groups (Science, Engineering and Technical) and increases it for others (HE, FE and Research professionals and Business and Public Service professionals). By 2011, teachers in Scotland received the lowest hourly pay of all professionals – as they had for most of period after 2003/4 when a ‘catch up’ pay agreement addressed existing pay disparities.⁵

Discussion and Conclusions

Pay comparability matters. It matters to workers’ perceptions of fairness and employers’ efforts to attract and retain sufficient appropriately skilled/qualified workers. However, pay comparability is more often discussed and utilised than it is understood. The outcomes which are derived from comparisons between occupations can vary substantially with the comparator group, the pay and hours data used and with other factors such as space and sector. We have used the case of teachers to show this to be the case here.

⁵ The agreement following the McCrone report into teachers’ salaries resulted in a 10.4% restorative pay settlement from 2003 over the following 3 years.

Comparator groups must be chosen to reflect significant similarities either in workers or in jobs. We have argued that for teachers the appropriate comparators are other graduates and most other professional workers. Nevertheless, the comparisons are still relatively complex in that neither graduates nor one of these professional groups in isolation (Science & Technology, HE, FE & Research and Business & Public Service) is a natural or unproblematic reference group for teachers.

Teachers and Graduates in Scotland: While previous analyses have suggested that teachers' pay lags average graduate pay, in Scotland there is little difference between the weekly pay of teachers and graduates and only small variations over time in hourly pay. Teachers' hourly pay follows private sector graduate pay fairly closely. Teachers and public sector graduate weekly pay follow a very similar longer term trend with some variation over short sub-periods. There is evidence of sectoral influences on pay.

Teachers and Graduates in rUK: Geography also matters. Teachers' pay lags rUK graduate pay on any measure. While this in part reflects sectoral pay variation (as teachers in the main lag private sector graduate pay in rUK), mean graduate pay in rUK is influenced by the (higher) pay profile of graduates in London and the South East of England. Spatial considerations which must be part of the selection criteria of an appropriate comparator also appear to differ across comparator groups. The degree to which comparisons can or should be made across space (even common spatial categories such as Scotland and rUK) will vary by occupation and will influence the choice of pay comparator.

Teachers and Professionals (excluding health): For most of the period under consideration, teachers' pay has lagged all professional pay combined (excluding health professionals), and the gap has widened since 2010. Including health professionals would have widened the pay gap further. There is a private sector effect, but not always in the same direction, as private sector professional pay has shown some volatility over the period. Distinguishing between professional groups, teachers' recent mean pay profile shows greater similarities to Business & Public Services professionals than to those in FE, HE & Research or in Science & Technology. Teachers now earn significantly less on any measure than Science & Technology professionals. This pay differential is driven by the greater pay of Science & Technology professionals in the private sector. Overall, Scotland's teachers' pay compares less favourably with professional pay than with graduate pay.

This analysis reveals insights for workplace stakeholders who rely on pay comparisons for wage setting and bargaining. The complexities of comparing occupational pay are evident from the above findings even where large scale data exists. These complexities are exacerbated by the absence of data on which to make more detailed comparisons (for example, in relation to other benefits such as holiday

entitlement and pensions). Interpreting occupational pay data is considerably more than a statistical exercise: it requires a more nuanced and informed analysis of occupational pay that takes into account issues of skills, qualifications, workforce composition, working hours, contractual arrangements and informal working practices. This is a challenge both for workplace stakeholders and for researchers. Use of a consistent comparator group may be helpful in showing the relative position of any one group of workers over time but only if the factors that motivate the choice of comparator stay constant. In constructing credible arguments around pay relativities, workplace stakeholders need a methodology for making occupational comparisons that are robust, given any data limitations, and independent of the results that can be obtained simply by selecting particular comparators. Such an approach is likely to produce results that better satisfy all stakeholders that fairness in pay is both understood and monitored.

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